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

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By Yoshiro Miwa & J. Mark Ramseyer*

Abstract: In this essay on Masahiko Aoki's recent study of Japanese corporate governance, we argue that he and others misdescribe Japan on several fundamental dimensions. First, Japanese firms and employees choose neither to arrange implicit life-time employment contracts nor to invest heavily in firm-specific skills. Instead, firms keep employees employed during economic downturns only because interventionist courts do not let them lay their employees off. Second, Japanese firms do not organize themselves into keiretsu corporate groups, do not exchange shares with other alleged group members, and do not necessarily use the money-center bank attributed to the group as their "main bank." Last, Japanese "main banks" neither agree in advance to rescue troubled debtors nor monitor firms on behalf of other creditors.

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Review Essay

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By Yoshiro Miwa & J. Mark Ramseyer*

Masahiko Aoki. *Information, Corporate Governance, and Institutional Diversity: Competitiveness in Japan, the USA, and the Transitional Economies*. Oxford: Oxford University Press, 2000. Translated by Stacey Jehlik.

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

And why not? Ostensibly at least, we write these articles to help us 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, our facts are not raw empirical phenomena. They are 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.

No matter. Among scholars combing Japan for facts on which to apply new theory, Shangri La now lies in a field one might have thought home to the most hard-nosed Chicago-school economic analysis: corporate finance and governance. Central to these new theories is the apparent empirical phenomenon of the “main bank.” And in developing the new theory to explain the “main bank system,” no one has played a bigger role than game-theorist Masahiko Aoki. Even in law, few U.S. scholars (as we note below) write about Japanese corporate governance without at least addressing -- and usually following -- his work.

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To explore the issues raised by Japanese corporate governance, we first outline the standard set of “facts” by which most scholars understand the phenomena (Section I). We then summarize the new theory Aoki advances to explain those facts (Section II), and the consequences for legal reform (Section III). Finally, we show how these facts and theory fundamentally misdescribe Japan (Section IV).

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 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. Through 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") (i) assembled its most important clients around it as a "keiretsu" group; (ii) monitored those client firms carefully; (iii) monitored those firms on behalf of other banks as well; and (iv) took control of (and often bailed out) such firms if they fell into trouble.

Curtis Milhaupt (2001: xx), for example, described Japanese corporate governance as a function of four key 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 (1995: 81, 85) 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." Mark Roe and Ronald Gilson (1999) discussed at length why Japanese firms offered employees long-term contracts, but never seriously whether they did so. They (1993) similarly 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 Itoh (1992: 116) wrote that a "firm and its main bank have a long-term relationship The firm receives help from the main bank with its finances and management ... regularly, but especially when the firm is in financial trouble." No less prominent a pair of modern theorists than Paul Milgrom and John Roberts described the Japanese economy as involving "permanent employment guarantees," "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." Within these groups, "most of the voting shares are effectively in the hands of managers" (id., 23 & 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" (id., 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" (*id.*, 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" (*id.*, 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 (1984: 245) argued that main banks offered their debtors "implicit mutual insurance" against economic downturns. And Paul Sheard (1989: 407) claimed that "the main bank provides an important substitute mechanism for what in effect is a 'missing' takeover market in Japan."

These propositions reach back in time. Already in 1976, Henry C. Wallich and Mable I. Wallich (273) 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." And they reach across disciplines. According to sociologist Ronald Dore (2000: 34), "[m]ost 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."

II. Aoki's New Theory

A. Introduction:

For scholars working on the comparative dimensions of corporate governance, Aoki promises an integrative logic. A chaired economics professor at Stanford, he is well-known not just in the U.S., though he is eminently that. 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 as well. By the mid-1990s he was president of the Japanese Economic Association, and now directs the influential economic research institute at the Ministry of Economy & 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 B, below), and moves to the ties between the shop and its "main bank" (Section C). From there, he turns to the connections between the bank and the government (Section D).

B. 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" (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 (1964) explained, 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 U.S. 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” (46). As a result, U.S. workers build only functional (general) skills; Japanese workers invest only in contextual (firm-specific) skills.

To explain this dynamic, Aoki provides an elaborate evolutionary game model (46-59), and argues that the intra-national uniformity follows from the "bounded rationality" of workers. Because of the 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" (10-11). They copy like lemmings, because copying is the cheapest way to learn.¹

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 (39-41, 45, 120-25; see Aoki, 1990a: 3-10).

Second, the distinction explains the longer worker tenure in Japan than in the U.S. (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. In order to induce their employees to invest in contextual (firm-specific) skills, Japanese firms offer “lifetime employment.”² 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). “[T]he rescue of financially distressed firms” by main banks, Aoki explains elsewhere (Aoki, Patrick & Sheard, 1994: 18), “helps to preserve the firm-specific human assets accumulated in the framework of the life-time employment system and hence provides incentives for them to be generated in the first place.”

Third, because they have exclusively contextual (firm-specific) skills, Japanese workers have strong incentives to shirk. The claim will surprise readers used to stereotypes about 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 contributions to the organization can be clearly identified” (12; see 66). Because workers produce only as part of a group, managers cannot tell whether each employee is working hard. With their effort unobserved and essentially unobservable, Japanese workers 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

¹ The intra-national 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.

One might have expected Aoki to rely on “network effects” and “path dependence” to explain the (alleged) homogeneity, much as some scholars explain the persistence of qwerty keyboards and VHS systems in the face of (allegedly) superior alternatives (but see Liebowitz & Margolis, 1990, 1995). In fact, Aoki does not do so.

² Aoki suggests that the preponderance of contextual skills in Japan dictates that employee pay be the subject of ex post bargaining (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.

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. “[T]he relative lack of freeriding in Japanese firms is attributable,” he writes, “to the relatively effective operation of the institutional mechanism for controlling it” (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 (13). It matters, because “[t]he market for corporate control does not function in Japan” (64). Shirking Japanese workers do not fear T.-Boone-Pickens look-alikes, for there are none. They fear the bank.

C. 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.³ Because banks would waste resources if they redundantly monitored the same firm, the main bank serves as their "exclusive" (79) monitor. 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 works, to Aoki, because the main bank groupings are coterminous with the “keiretsu” corporate groups (80, 97). The secondary banks defer to the main bank, in other words, because the latter are "well equipped to assess the organizational and managerial ability of firms belonging to their own keiretsu groupings” (80).

Second, the main bank takes over the firm if it “encounter[s] financial difficulties” (71). Under its "contingent governance" framework, the main bank intervenes if a debtor fails to make payments as due. It then decides whether the firm is economically viable long-term. If it is, it saves it. If not, it lets it die.⁴ At the outset, in short, a firm's main bank "implicitly" promises (again, none of this is explicit) fairly to evaluate a debtor that falls into distress. If the firm is savable, it promises to “take responsibility for paying the costs necessary for bailing out the firm,” to “guarantee the payment of debts to other banks,” and to “guarantee[] the employment of its core employees” (71).⁵

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

³ Absent the main bank system, Aoki implausibly suggests, banks might lend without monitoring at all (see 15, 82-83).

⁴ Note that the contractual terms that Aoki posits as lying behind this "contingent governance system" are not peculiar to the Japanese "main bank system." Instead, they represent the standard bank loan contract among lenders everywhere.

⁵ The argument that the main bank aids distressed but viable firms is one made more elaborately in Hoshi, Kashyap & Scharfstein (1990, 1991). For a discussion of the problems (both theoretical and empirical) with this claim, see Hayashi (2000); Miwa & Ramseyer (2001).

contextual (firm-specific) skills.⁶ If not, the bank will shut it down. Hence, even workers whose effort is unobservable will work hard.

D. 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?⁷ They believe it, Aoki argues, 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 because the government bribes it to do so (86-87).⁸

During most of the post-war years, recounts Aoki, the government capped deposit interest rates at low levels (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, claims Aoki, 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 non-viable firm for the sake of the rents. "[C]oncerned about the social consequences of bankruptcy," it used its powers to "penalize banks that liquidate[d] too frequently by dispatching managers to those banks or restricting their branch licensing" (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 install a "main bank system" rather than the "Anglo-American" corporate governance model (e.g., Aoki & Patrick, 1994; Hoshi, Kashyap & 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

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 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 (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 (79-80) argues that the monitoring expertise was first developed by the government-affiliated banks during World War II. For evidence that this was not the case, see Miwa & Ramseyer (2000a).

oversight.⁹ Although a shift away from Aoki's vision may be occurring within the Japanese academy, in other words, 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, at 133-40) urged the government to abolish the post-war 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 them was not likely 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 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 & 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.

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 U.S. 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 U.S. 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).

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 U.S. as described in these texts. They do not, of course, but that is beyond the scope of this review essay.

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 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 job long-term, 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 non-transferable 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. Perhaps, however, the right interpretation is not that they promised them implicitly. Perhaps the right interpretation is that they never promised them.

2. The role of the courts. -- Maybe a little history and law would help. During the decades before the war, labor relations in Japan were relentlessly fluid (Miwa & Ramseyer, 2000b). Employees quit, and firms laid off. Only in the late 1950s did observers start to talk about long-term employment (Abegglen, 1958). During the 1950s, the Japanese economy had grown relatively steadily, and after 1960 it grew spectacularly fast. From 1953 to 1959 growth hovered at 5 to 9 percent. It jumped to 13 percent in 1960, and stayed in that double-digit range for most of the 1960s.

In the mid-1970s, the Arab oil embargo hit. Growth fell abruptly, and soon large Japanese firms began to lay off their employees. When they did, sometimes the employees sued. Those employees that did, often won. Unless the firm could show that it would otherwise fail (something small firms could more readily show than the larger diversified firms), the courts refused to let the lay offs proceed (Milhaupt, Ramseyer & Young, 2001: 384-98; collecting cases). The courts did not claim that the employees had bargained for a no-lay-off clause in their contracts. Nor could they, for by their terms most of the contracts were straightforward at-will arrangements. Instead, the courts argued from status: if an employer laid off employees in order to keep profits up, contract or no contract it abused its power as an employer.

In stopping the bigger firms from discharging their employees, the courts engendered predictable consequences. First, because big firms cannot lay off when times are bad, they do not hire when times are good. The famously long work hours during peak demand follow. Second, because they cannot lay off, they contract for much of their production with suppliers that can. In industries like automobile production the major assemblers could seldom show a court that they would fail unless they laid off. Accordingly, rather than expand internally like Ford and GM, they buy from smaller, undiversified suppliers who can justify lay offs during slack demand (see Miwa & Ramseyer, 2000c).

The point is this: large Japanese firms do not keep their employees on the payroll because they want to keep them, much less because they promise to keep them. They keep them because courts do not let them fire them. At the large diversified companies, long-term employment is not an implicit contract -- firms and employees could have negotiated no-lay-off clauses, but adopted

at-will clauses instead. It is a choice the courts impose on parties who could have selected the deal but did not.

3. Specific investments. -- If Japanese firms do not promise long-term employment, neither do Japanese workers invest exclusively or even overwhelmingly in firm-specific skills. Aoki to the contrary notwithstanding, U.S. industries obviously vary broadly in the extent to which workers build transferable and non-transferable skills. Architectural firms hire architects for specific jobs, and fire them when through. Traditionally if perhaps no longer, law firms hired their experienced lawyers for life. This variation in tenure reflected variations in skill: architects knew how to design buildings for anyone, but good lawyers knew the detail of their own clients' businesses.

The same applies to Japan. To be sure, mean tenure is longer than in the U.S. Male U.S. employees have an average of 7.5 years at a firm (6.8 years, female), where male Japanese employees have 12.9 (7.9, female). Male U.S. employees are closer to their counterparts in other corners of the former British empire: 8.9 years at the U.K., 8.8 in Canada, and 7.1 in Australia. Japanese men are closer to the Europeans: 10.6 years in Germany, 11.0 years in France, 12.1 years in Italy, 11.0 years in Austria, and 10.4 years in Switzerland (OECD, 1997: 139; 1995 data).

Nonetheless, in both countries the mean hides the inter-industry variation. Average tenure in the U.S. 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 (*id.*).

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.¹⁰ As often as not, they do not.

At root, the keiretsu were a convenient fiction from the start (see generally Miwa & Ramseyer, 2001). They are not conglomerates. Neither are they webs of cross-shareholdings (Bergloef & Peroth, 1994), Williamsonian hostage exchanges (Gilson & Roe, 1993), defenses against hostile acquisitions (Morck & Nakamura, 1999), or interconnected networks of relational contracts (Lincoln, Gerlach & Ahmadjian, 1996).

Instead, the keiretsu are the 1960s creation of Marxist academics and populist journalists. 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 & Ramseyer, 2001).

This is not a jest. The creators of the most commonly used (but apparently never read) keiretsu roster (the Keiretsu no kenkyu; see Keizai) did nothing 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

¹⁰ An extremely common assumption -- e.g., Fukuda and Hirota (1996); Hall & Weinstein (2000); Hanazaki and Horiuchi (2000); Horiuchi, Packer and Fukuda (1988); Hoshi, Kashyap and Scharfstein (1990); Morck and Nakamura (1999); Nakatani (1984); Prowse (1990); Sheard (1989: 401); Weinstein and Yafeh (1998).

to cross-shareholdings, personnel exchanges, or relational trading ties. Instead, they simply asked where a firm borrowed the most money (Miwa & Ramseyer, 2001).

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 non-financial firms.¹¹ Of the over 1000 possible pairings among these firms, only 11 had at least a 1 percent stake in each other. Among the 48 non-financial firms of the Mitsui group and the 36 of the Sanwa, only 6 pairs exchanged 1 percent stakes. Among the 46 Mitsubishi non-financial firms 4 pairs did, among the 45 Fuji firms 3 pairs, and among the 29 Daiichi firms 2 pairs (*id.*). The occasional references in the American literature to much higher levels simply refer to all shares held by corporate investors.

Neither were there relational trades to undo. In the early 1990s, the Japanese Fair Trade Commission (Kosei, 1994: 139) surveyed trading ties among the manufacturing firms in the keiretsu groups (they used the list of firms whose presidents ate lunch with each other occasionally). All told, the firms sold 12.58 percent of their output to other keiretsu members -- 2.38 percent if one excluded the amounts they sold to their trading company, which then mostly resold the goods outside the group. The fraction ranged from 5.57 percent at the Sanwa group (excluding the trading company, 1.49 percent) to 31.67 percent at the Sumitomo (excluding the trading company, 0.61 percent). The firms bought an average of 6.71 percent of their inputs from other keiretsu members -- 2.24 percent if one excluded material bought from the group trading company. The fraction ranged from 3.67 percent at the Fuji group (excluding the trading company, 1.23 percent) to 15.87 percent 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 main-bank theorists) choices. First, they pooled the loans from all financial institutions that had been owned by the same family before the war (see Miwa & Ramseyer, 2002). 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):

Mitsui Trust Bank:	24,059
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¹¹ By the Keiretsu no kenkyu roster, definition (2). See Miwa & Ramseyer (2001).

Mitsubishi Trust Bank:	21,844
Yasuda Trust Bank:	20,975
Japan Development Bank:	16,789
Fuji Bank:	15,404

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 & Ramseyer, 2001).

This problem pervades the keiretsu rosters. Although the keiretsu rosters were based exclusively on the source of a firm's debt, in 1975 only 40 percent of the firms in the Mitsui keiretsu used the Mitsui Bank as their main bank. At the Mitsubishi group, only 42 percent used the Mitsubishi Bank as their main bank, at the Sumitomo group 48 percent used the Sumitomo Bank, at the Fuji group 56 percent used the Fuji Bank, and at the Sanwa group 62 percent used the Sanwa Bank. Of the six major keiretsu, only at the Daiichi-Kangyo group was the figure above 80 percent (see Miwa & Ramseyer, 2001).

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?¹²

If a bank did offer such an insurance arrangement (whether explicitly or implicitly), could it make money on the deal?¹³ 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 banks saved failing debtors because they wanted the regulatory rents that branch offices yielded, and the government only gave them new branches if they rescued 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 (and Aoki's and most western main-bank

¹² 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.

¹³ 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 & Ramseyer (2001).

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 percent in 1960 to 25 percent 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 U.S. 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.

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 non-financial 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 (the largest firms are listed on Section 1) firms generally, 66.8 percent of the firms maintained their main bank relationship unchanged. Among the 52 TSE-Section 1 firms with 3 or more consecutive loss years, only 60.3 percent did. Among the 62 total (i.e., TSE and other) firms with 3 years of losses, 54.9 percent did. Among the 24 firms with 4 loss years the figure was 70.8 percent, but for the 34 firms with 5 or more loss years it was 50.0.

The large money-center banks were particularly likely to abandon their troubled clients (id.). Among all TSE Section 1 firms, 41.2 percent maintained a stable relationship with a money-center bank as their main bank throughout 1973-84. Among the 52 TSE Section 1 firms with 3 or more consecutive loss years, only 25.9 percent did. Among all firms (TSE and other) with 3 consecutive loss years, 25.8 percent did. Among those with 4 loss years the figure was 25.0 percent, and with 5 or more loss years 23.5.

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 (Nihon, 1984: 162). During the same period (according to Bank of Japan data; id.), 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 multi-million 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 are not claiming that the main bank monitors more extensively 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 extensively 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 are again to 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 percent 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 percent of their loan needs (Miwa & Ramseyer, 2001).

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 U.K. 2.9 (Ongena, 2000: 30). Why the number varies so broadly from country to country remains a puzzle, but the wide workable range does suggest 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 U.S. 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, co-workers usually can (Aoki does not posit co-workers as monitors). Competing for limited promotions, if any worker does shirk their co-workers usually have an incentive to let their supervisor know.¹⁴

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

¹⁴ 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 usually 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 & Demsetz (1972); Holmstrom (1982).

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 claims about Japan, our instincts tell us that maybe the claims 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 defaulting debtors nor monitored debtors on behalf of their rivals. The keiretsu had no substance, and the government had little clout.

The truth about Japan is more logical, more mundane, more boring. Firms tried to maintain the option of discharging workers when times were bad. Banks tried to commit to punishing debtors who default. They 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 & 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 them governed, but they did not use a main-bank monitoring scheme either. Whether in the U.S. 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, on the services they buy, on the customers they face, on the technology they use, and on 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. Unfortunately, we needed better facts for the old theory.

References

- Abegglen, James C. 1958. *The Japanese Factory: Aspects of Social Organization*. Glencoe: Free Press.
- Alchian, Armen A., & Harold Demsetz. 1972. Production, Information Costs, and Economic Organization. *American Economic Review*, 62: 777.
- Aoki, Masahiko, Hugh Patrick & Paul Sheard. 1994. *The Japanese Main Bank System: An Introductory Overview*. In Masahiko Aoki & Hugh Patrick, eds., *The Japanese Main Bank System*. Oxford: Oxford University Press, pp. 1-50.
- Aoki, Masahiko, & Hugh Patrick. 1994. Introduction. In Masahiko Aoki & Hugh Patrick, eds., *The Japanese Main Bank System*. Oxford: Oxford University Press, pp. xxi-xxxii.
- Aoki, Masahiko. 1990. Toward an Economic Model of the Japanese Firm. *Journal of Economic Literature* 28: 1-27.
- Aoki, Masahiko. 1994. The Participatory Generation of Information Rents and the Theory of the Firm. In Masahiko Aoki, Bo Gustafsson & Oliver E. Williamson, eds., *The Firm as a Nexus of Treaties*. London: Sage, 26-52.
- Becker, Gary S. 1964. *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education*. New York: National Bureau of Economic Research.
- Bergloef, Erik, & Enrico Perotti. 1994. The Governance Structure of the Japanese Financial Keiretsu. *Journal of Financial Economics*, 36: 259-84.
- Demsetz, Harold, & Kenneth Lehn. 1985. The Structure of Corporate Ownership. *Journal of Political Economy*, 93: 1155-77.
- Dore, Ronald. 2000. *Stock Market Capitalism: Welfare Capitalism; Japan and Germany versus the Anglo-Saxons*. Oxford: Oxford University Press.
- Fukuda, Atsuo, & Shin'ichi Hirota. 1996. Main Bank Relationships and Capital Structure in Japan. *Journal of the Japanese and International Economies* 10: 250-61.
- Gilson, Ronald J., & Mark J. Roe. 1999. Lifetime Employment: Labor Peace and the Evolution of Japanese Corporate Governance. *Columbia Law Review* 99: 508.
- Gilson, Ronald, & Mark Roe. 1993. Understanding the Japanese Financial Keiretsu: Overlaps between Corporate Governance and Industrial Organization. *Yale Law Journal* 102: 871-920.
- Hall, Brian J., & David E. Weinstein. 2000. Main Banks, Creditor Concentration, and the Resolution of Financial Distress in Japan. In Masahiko Aoki and Gary R. Saxonhouse, eds., *Finance, Governance, and Competitiveness in Japan*. Oxford: Oxford University Press. Pp. 64-80.
- Hanazaki, Masaharu, & Akiyoshi Horiuchi. 2000. Is Japan's Financial System Efficient?. *Oxford Review of Economic Policy*, 16(2): 61-73.
- Hayashi, Fumio. 2000. The Main Bank System and Corporate Investment: An Empirical Reassessment. In Masahiko Aoki and Gary R. Saxonhouse, eds., *Finance, Governance, and Competitiveness in Japan*. Oxford: Oxford University Press. Pp. 81-97.
- Holmstrom, Bengt. 1982. Moral Hazard in Teams. *Bell Journal of Economics*, 13: 324-40.
- Horiuchi, Akiyoshi, Frank Packer & Shin'ichi Fukuda. 1988. What Role has the Main Bank Played in Japan? *Journal of the Japanese and International Economies* 2: 159-80.
- Hoshi, Takeo, & Anil Kashyap. 2001. *Japanese Corporate Finance and Governance*. Cambridge: MIT Press.

- Hoshi, Takeo, Anil Kashyap & David Scharfstein. 1990. The Role of Banks in Reducing the Costs of Financial Distress in Japan. *Journal of Financial Economics* 27: 67-88.
- Hoshi, Takeo, Anil Kashyap & David Scharfstein. 1991. Corporate Structure, Liquidity, and Investment: Evidence from Japanese Industrial Groups. *Quarterly Journal of Economics* 106: 33-60.
- Hoshi, Takeo, Anil Kashyap & Gary Loveman. 1994. Financial System Reform in Poland: Lessons from Japan's Main Bank System. In Masahiki Aoki & Hugh Patrick, eds., *The Japanese Main Bank System*. Oxford: Oxford University Press, pp. 592-633.
- Ito, Takatoshi. 1992. *The Japanese Economy*. Cambridge: MIT Press.
- Keizai chosa kai, ed. Various years. *Keiretsu no kenkyu [Research on the Keiretsu]*. Tokyo: Keizai chosa kai.
- Kosei torihiki iinkai, ed. 1994. *Saishin: Nihon no rokudai kigyo shudan no jittai [New: The Reality of Japan's Six Large Enterprise Groups]*. Tokyo: Toyo keizai shimpo sha.
- Liebowitz, S.J., & Stephen E. Margolis. 1990. The Fable of the Keys. *Journal of Law & Economics*, 22: 1-26.
- Liebowitz, S.J., & Stephen E. Margolis. 1995. Path Dependence, Lock-In, and History. *Journal of Law, Economics & Organization*, 11: 205-26.
- Lincoln, James R., Michael L. Gerlach & Christina L. Ahmadjian. 1996. *Keiretsu* Networks and Corporate Performance in Japan. *American Sociological Review* 61: 67-88.
- Macey, Jonathan R., & Geoffrey P. Miller. 1995. Corporate Governance and Commercial Banking: A Comparative Examination of Germany, Japan, and the United States. *Stanford Law Review* 48: 73.
- Milgrom, Paul, & John Roberts. 1994. Complementarities and Systems: Understanding Japanese Economic Organization. *Estudios Economicos* 9: 3.
- Milhaupt, Curtis J. 2001. Creative Norm Destruction: The Evolution of Non-legal Rules in Japanese Corporate Governance. *University of Pennsylvania Law Review*, xx: xx.
- Milhaupt, Curtis J., J. Mark Ramseyer & Michael K. Young. 2001. *Japanese Law in Context*. Cambridge: Harvard Asia Center.
- Miwa, Yoshiro, & J. Mark Ramseyer. 2000a. Seisaku kin'yu to keizai hatten: Senzenki Nihon kogyo ginko no keesu [Policy Finance and Economic Growth: The Case of the Pre-War Industrial Bank of Japan]. *Keizaigaku ronshu* 66: 2.
- Miwa, Yoshiro, & J. Mark Ramseyer. 2000b. The Value of Prominent Directors: Lessons in Corporate Governance from Transitional Japan. Harvard Law School, John M. Olin Program in Law, Economics & Business, Discussion Paper 267 (Nov. 1999).
- Miwa, Yoshiro, & J. Mark Ramseyer. 2000c. Rethinking Relationship-Specific Investments: Subcontracting in the Japanese Automobile Industry. *Michigan Law Review* 98: 2636-67.
- Miwa, Yoshiro, & J. Mark Ramseyer. 2001. The Fable of the *Keiretsu*. *Journal of Economics & Management Strategy*, forthcoming.
- Miwa, Yoshiro, & J. Mark Ramseyer. 2002. Banks and Economic Growth: Implications from Japanese History. *Journal of Law & Economics*, forthcoming.
- Miwa, Yoshiro. 1996. *Firms and Industrial Organization in Japan*. Houndmills: Macmillan.
- Morck, Randall, and Masao Nakamura. 1999. Banks and Corporate Control in Japan. *Journal of Finance* 54: 319-39.
- Nakatani, Iwao. 1984. The Economic Role of Financial Corporate Grouping. In Masahiko Aoki, ed., *The Economic Analysis of the Japanese Firm*. Amsterdam: North-Holland, pp. 227-58.

- Nihon ginko, ed. 1984. *Nihon keizai o chushin to suru kokusai hikaku tokei [International Comparative Statistics, Centered Around the Japanese Economy]*. Tokyo: Nihon ginko.
- OECD. 1997. *Employment Outlook*. Paris: OECD.
- Okura sho ginko kyoku, ed. 1969. *Kin'yu nempo [Finance Annual]*. Tokyo: Okura sho.
- Okura sho ginko kyoku, ed. 1970. *Kin'yu seido chosai kai shiryō [Materials of the Investigative Commission on the Financial System]*, v. 4. Tokyo: Kin'yu zaisei jijo kenkyu kai.
- Okura sho ginko kyoku, ed. 1971. *Kin'yu nempo [Finance Annual]*. Tokyo: Okura sho.
- Ongena, Steven. 2000. What Determines the Number of Banking Relationships? Cross Country Evidence. *Journal of Financial Intermediation* 9: 26-56.
- Prowse, Stephen D. 1990. Institutional Investment Patterns and Corporate Financial Behavior in the United States and Japan. *Journal of Financial Economics* 27: 43-66.
- Ramseyer, J. Mark, & Minoru Nakazato. 1989. The Rational Litigant: Settlement Amounts and Verdict Rates in Japan. *Journal of Legal Studies* 18: 263.
- Romano, Roberta. 1991. The Shareholder Suit: Litigation without Foundation? *Journal of Law, Economics & Organization*, 7: 55-87.
- Sheard, Paul. 1989. The Main Bank System and Corporate Monitoring and Control in Japan. *Journal of Economic Behavior and Organization* 11: 399-422.
- Sheard, Paul. 1994a. Main Banks and the Governance of Financial Distress. In Masahiki Aoki & Hugh Patrick, eds., *The Japanese Main Bank System*. Oxford: Oxford University Press, pp. 188-230.
- Sheard, Paul. 1994b. Reciprocal Delegated Monitoring in the Japanese Main Bank System. *Journal of Japanese & International Economics* 8: 1-21.
- Stigler, George J. 1964. Public Regulation of the Securities Market. *Journal of Business*, 37: 117.
- Wallich, Henry C., & Mable I. Wallich. 1976. Banking and Finance. In Hugh Patrick and Henry Rosovsky, eds., *Asia's New Giant: How the Japanese Economy Works*. Washington, D.C.: The Brookings Institution, pp. 249-315.
- Weinstein, David E., & Yishay Yafeh. 1995. Japan's Corporate Groups: Collusive or Competitive? An Empirical Investigation of *Keiretsu* Behavior. *Journal of Industrial Economics* 43: 359-76.
- West, Mark D. 2001. Why Shareholders Sue: The Evidence from Japan. *Journal of Legal Studies*, 30: 351-382.