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REFLECTIONS IN A DISTANT MIRROR: JAPANESE CORPORATE GOVERNANCE THROUGH AMERICAN EYES

Ronald J. Gilson*

For the last ten years, Japanese corporate governance has served as a distant mirror in whose reflection American academics could better see the attributes of their own system. As scholars came to recognize that the institutional characteristics of the American and Japanese systems were politically and historically contingent,1 other countries' approaches became serious objects of study, rather than just way stations on the road to convergence. One learned about one's own system from the choices made by others.

As it came to be conceived, the Japanese corporation of the 1980s represented quite a different method of organizing production. Styled the "J-form" by Masahiko Aoki, the Japanese corporation combined an interlocking set of governance arrangements that supported a different kind of industrial organization.2 The main bank relationship, coupled with cross shareholdings, supported a management commitment to lifetime employment for an

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important subset of employees who, in turn, had the proper incentives to invest in the firm specific human capital necessary for a production system geared to horizontal coordination and information sharing. A Central to the J-form was a commitment to organizational stability, consistent with what was said to be a Japanese focus on process technologies.

Corporate governance in the United States during this period stood in sharp contrast to the Japanese emphasis on commitment and stability. The American system, open to external influence through the capital market, excelled in fast response to changes in the economic environment, what Douglass North refers to as adaptive efficiency. During the 1980s, conglomerates were broken up either by successful raiders or anticipatory management sponsored spinoffs and asset sales; American corporations thereby refocused their attention on their core businesses. As part of the process, workforce levels were reduced quickly to reflect the demands of heightened global competition.

Comparative scholarship highlighted the contrasting characteristics of the two corporate governance systems. The image of the American system in the Japanese mirror appeared to reveal fundamental weaknesses. The permanence of main bank relationships gave rise, American

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3 While this description captures the system as it is said to appear in equilibrium, lifetime employment appears to have had its origins in politics, not economics, arising out of the immediate post-World War II environment and then adding complimentary characteristics through economic selection. GILSON & ROE, supra note 1, at 15-25.

4 Id. at 6-9.


7 Empirical evidence on the return to focus in U.S. industry and the impact on workers is summarized in RONALD J. GILSON & BERNARD S. BLACK, THE LAW AND FINANCE OF CORPORATE ACQUISITIONS chs. 9 & 15 (2d ed. 1995).
critics claimed, to patient capital that encouraged managers to adopt a long-term investment horizon. This compared favorably to the short-term outlook said to be associated with U.S. managers who confronting a stock market-centered capital market, feared that the stock market's fickleness would be enforced by the market for corporate control if not catered to by a focus on quarter-to-quarter earnings growth. The contrast seemed most sharp in the automobile industry. It was thought that Japanese lean production — supported both by employees rendered cooperative and inventive by lifetime employment, and close, long-term ties to suppliers — could not be matched without dramatic changes in U.S. governance arrangements.

In fact, the United States learned from examining its image in the Japanese mirror, but the lesson increasingly appears to be different than what critics expected. American manufacturers adopted lean production, but adapted it to fit their governance system, rather than adapting their governance structure to fit the production method. As has been stressed by Charles Sabel, the link between governance structure and production technology was less tight than had been imagined. The American system's adaptive efficiency turned out to be more powerful than expected.

My goal in this paper is to return the favor done for the United States by the Japanese governance system, by holding up an American mirror in whose reflection Japanese scholars may find insights into their own system. In recent years, exogenous changes have shocked each component of Aoki's J-form of organization. Increased international capital requirements and the drop in asset values with the passing of the bubble economy have weakened Japanese banks and threatened the continued maintenance of cross-holdings. In turn, the success of many Japanese companies and their increased access to international capital markets have reduced reliance on their main banks for capital and decreased the ability of the main bank to effectively monitor management performance. The movement of Japanese production offshore, the need to shrink the size of the work force in response to increased competition, and the resulting decrease in the number of positions to which lifetime employment is attached, threatens to change the incentives of the next generation of employees. When reflected in an American mirror, this wave of economic change highlights a critical uncertainty concerning the Japanese corporate governance system: What are the instruments of adaptive efficiency in a system structured to support commitment and stability?

Part I provides a brief description of Japanese corporate governance as presented in the academic literature, highlighting how each attribute of its structure is said to interact in support of commitment and stability. Part II then depicts the American system, highlighting, in contrast, its distinctive elements of adaptive efficiency. Part III catalogues the challenges changing economic conditions pose for the Japanese system, and frames the questions an American mirror reveals about the Japanese system's adaptive mechanisms. Part IV concludes with brief
comments on the role of external monitoring as a mechanism of adaptive efficiency in a system of complementary attributes.

I. JAPANESE CORPORATE GOVERNANCE: COMMITMENT AND STABILITY

The standard account of the J-form of corporate governance builds from the nature of the production process. As told by Aoki and others, Japanese production is characterized by horizontal coordination in which operating units are defined by the need for shared knowledge, rather than skill specialization. When external environments are continually evolving at a moderate pace, the flexibility and ease of adaptation of the Japanese system and its resulting strength in process innovation outperforms the hierarchical specialization of U.S. style assembly production keyed to exhausting economies of scale. In this horizontal rather than hierarchical system of organizing production, labor plays a central role. As Aoki stresses, "the J-mode of horizontal coordination based on shared learning at the factory site has emerged and developed in the last two decades or so by relying on highly qualified and diligent blue-collar workers who have formed the core of the work team."

The high quality and loyalty of blue-collar workers necessary to Japanese organization of production is said to require large investments of both firm specific and general human capital. But investment in firm specific human

12 Aoki, supra note 2, at 3-10.
13 Id. at 9.
capital creates employee job-related rents subject to opportunistic behavior by the employer, and investment in general human capital by firms creates the risk that employees will take their skills elsewhere. Thus, Japanese organization of production requires structures which protect employees' and employers' expected returns on firm specific and general human capital. Lifetime employment protects employees, and the concomitant destruction of the external labor market protects employers.\(^{16}\)

However, an additional level of protection is necessary to make credible the commitment to employment stability said to be pivotal to Japanese industrial organization. What protects employees against the risk that employers, encouraged by shareholders, may renege on the implicit promise of lifetime employment, thereby effecting a wealth transfer from labor to capital of the quasi-rents associated with firm specific investment? The threat of that expropriation is a barrier to efficient levels of investment.\(^{17}\)

A different attribute of Japanese corporate governance is said to respond to this threat. Interlocking shareholdings is a striking feature of large Japanese corporations. Paul Sheard reports that, on average, less than a quarter of a Japanese corporation's outstanding shares are held by individual investors; more than two-thirds are held by other Japanese corporations.\(^{18}\) These stable interlocking shareholdings protect management from capital market pressure to renege on the corporation's implicit contract

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ECONOMICOS 3 (1994); Gilson & Roe, supra note 1, at 6-10; Sabel, supra note 9, at 12-13.

\(^{15}\) Gilson & Roe, supra note 1, at 39.


\(^{18}\) Paul Sheard, Interlocking Shareholdings and Corporate Governance, in THE JAPANESE FIRM: THE SOURCES OF COMPETITIVE STRENGTH at 310.
with its permanent employees.¹⁹

If employees are protected from discharge by lifetime employment and managers are protected from the scrutiny of the capital market by cross-holdings, then what provides the monitoring of both management and worker performance necessary to efficient production? Without more, management and workers may share a preference for the quiet as opposed to the profitable life. It is at this point that the main bank fits into the Japanese corporate governance system.

Growing out of the allocation of defense industry companies to supervising banks during World War II,²⁰ the Japanese main bank system is said to provide "a unique contingent corporate governance system in which management control shifts between internal management and the main bank, depending on the financial state of the firm."²¹ Such a monitoring system requires two

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¹⁹ Sheard describes that a stable shareholder:

holds the shares as a 'friendly' insider sympathetic to incumbent management: agrees not to sell the shares to third parties unsympathetic to incumbent management, particularly hostile take-over bidders or bidders trying to accumulate strategic parcels of shares: agrees, in the event that disposal of the shares is necessary, to consult the firm or at least give notice of its intention to sell.

Id. at 314, 318. Garvey & Swan, supra note 14, develop a similar model of the link between employment and governance structures. Interlocking shareholdings also may serve to support product exchange among shareholders. See also Ronald J. Gilson & Mark J. Roe, Understanding the Japanese Keiretsu: Overlaps Between Corporate Governance and Industrial Organization, 102 YALE L.J. 871, 900-01 (1993).


²¹ Masahiko Aoki et al., The Japanese Main Bank System: An
characteristics: a continuing source of information concerning firm performance; and a mechanism for influencing and, in the extreme, replacing management when information discloses poor performance.\footnote{22}

The primacy of debt in the corporation's capital structure prior to the liberalization of the Japanese capital markets in the 1980s,\footnote{23} and the main bank's role as the corporation's major lender and the informal leader of the syndicate of banks providing the remainder of the corporation's financing, combined to give the main bank the power to review the corporation's capital budgeting process, a form of \textit{ex ante} monitoring.\footnote{24} Thereafter, the main bank's carrying of the corporation's major payment settlement accounts, so that it is aware on a real time basis of the corporation's cash flow condition, provides a form of \textit{interim} monitoring of ongoing performance.\footnote{25} Finally, because the main bank is typically the corporation's largest shareholder, and because it controls the corporation's access to the debt market through its informal role as syndicate manager, it can ascertain the outcome of the corporation's efforts and, if necessary, replace poorly performing management.\footnote{26} If replacement is necessary, the main bank is understood to have the informal obligation to finance any

\footnote{22Aoki et al., supra note 21, at 25-26.}  
\footnote{23In 1975, banks provided more than 90\% of Japanese public corporation debt; in 1992, the percentage had shrunk to less than 50\%, reflecting post-deregulation access to public debt markets. Takeo Hoshi \textit{et al.}, \textit{The Choice Between Public and Private Debt: An Analysis of Post-Deregulation Corporate Financing in Japan} (National Bureau of Econ. Research Working Paper No. 4421, Aug. 1993).}  
\footnote{24See Aoki et al., supra note 21, at 41; Aoki, \textit{Monitoring Characteristics of the Main Bank System, supra} note 21, at 111-19.}  
\footnote{25Aoki et al., supra note 21, at 14-15.}  
\footnote{26Aoki, \textit{Monitoring Characteristics of the Main Bank System, supra} note 21, at 111-22. See generally Aoki et al., supra note 21.}
necessary restructuring on behalf of itself and the other lenders to the corporation.  

While the standard account of the main bank's role is not without its critics, the crucial aspect of this contingent monitoring system is that it is essentially internal; that is, monitoring is assigned to an entity with a long-term, intimate relation to the company. The benefit of internal, bank-centered monitoring is said to be the quality of information available to the bank, and the ease with which rescue operations are raised in comparison to

27 Paul Sheard, Reciprocal Delegated Monitoring, in THE JAPANESE MAIN BANK SYSTEM, 8 J. JAP. & INT'L ECON. 1, 12-17 (1994). See generally Paul Sheard, Main Banks and the Governance of Financial Distress, in THE JAPANESE MAIN BANK SYSTEM 188. That obligation is said to be enforced informally:

[T]he crux of banking regulation by the Ministry of Finance in the post-war period has been to regulate severely the entries of commercial banks into the exclusive club of city banks qualified as [main banks] for major firms. It has also consistently punished liquidating banks [banks that did not bail out borrowers for whom they were the main bank] while rewarding rescuing banks by fine adjustments of the number of annual awards of branch licensing to city banks.

Aoki, The Japanese Firm as a System of Attributes, supra note 21, at 33. Main bank rescue also compliments the lifetime employment system by helping to preserve the firm-specific human capital which lifetime employment is said to encourage. Id. at 25. See also Aoki et al., supra note 21, at 18-19.


29 The argument in favor of the efficiency of bank-centered monitoring is not limited to the Japanese system. A more general efficiency claim for bank-centered systems is developed in JEREMY EDWARDS & KLASS FISCHER, BANKS, FINANCE AND INVESTMENT IN GERMANY ch. 2 (1994).
expensive U.S. style formal bankruptcy. This contrasts to the external monitoring associated with a stock market-centered capital market, where information concerning a corporation is produced by a variety of market institutions ranging from investment banks and securities analysts to stock prices which play both an **ex ante** and interim role, and where **ex post** monitoring is provided internally through an independent board of directors and externally through the market for corporate control.\(^{30}\)

The now conventional depiction of Japanese corporate governance thus describes a set of interlocking institutional attributes that serve to support a particular mode of organizing production and the commitment to stable employment such a production mode requires. A system of internal monitoring by the main bank provides the system's discipline without upsetting its stability.

**II. UNITED STATES CORPORATE GOVERNANCE: MECHANISMS OF ADAPTIVE EFFICIENCY**

The dominant characteristics of U.S. corporate governance during the 1980s contrast sharply with those of Japanese corporate governance. The U.S. system highlighted mechanisms of adaptive efficiency rather than institutional attributes that support commitment and stability.

Entering the 1980s, important segments of the U.S. economy were characterized by diversified businesses left over from conglomerate acquisitions of the 1960s and 1970s, and industries with free cash flow — cash flow in excess of that necessary for working capital and positive net present value investments. These companies were not "unprofitable" measured in terms other than opportunity cost, but their assets could be more efficiently utilized.

The development of junk bond financing provided a means to restructure these industries. Originally created to

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provide access to the public debt market to companies whose credit rating was below investment grade, the use of junk bonds was extended in the 1980s to finance hostile bust-up takeovers and leveraged buyouts that had the function of reallocating assets to companies in more closely related businesses. Looking at a sample of 62 hostile takeovers between 1984 and 1986, Andrei Shleifer and Robert Vishny report that 72 percent of all assets that changed hands in hostile takeovers ended up with publicly traded corporations in closely related businesses within three years of the transaction.31 Ronald Perelman's bitterly contested acquisition of Revlon provides an example. After Revlon expanded into health care at the expense of support for its cosmetic business, Perelman acquired Revlon for $2.3 billion in a junk bond financed transaction initiated when the pre-transaction market value of Revlon's common stock was approximately $1.2 billion.32 Thereafter, Perelman sold Revlon's health care and other noncosmetic businesses for $2.06 billion, and refocused attention on its core cosmetic business with a resulting increase in profits.33

Management buyouts and leveraged recapitalizations often served the identical purpose, although typically they were friendly transactions initiated in anticipation of a hostile takeover bid. Existing management, with the help of an outside investor like Kohlberg, Kravis, Roberts as in a management sponsored leveraged buyout, or independently as in a recapitalization, paid out large amounts to shareholders that had been raised by junk bond financing and sales of unrelated assets to third parties.34


32 Schleifer & Vishny, supra note 31, at 746-47.

33 Id. At the time of the sell-off, Perelman declined a $905 million offer for the cosmetic business, which would have resulted in total post-transaction value of $3.26 billion for assets acquired for $2.3 billion.

34 These forms of transactions are surveyed in Gilson & Black, supra
For present purposes, the important characteristic of these transactions is that they represented a form of external monitoring by the capital market. The transactions took place precisely because internal monitoring systems, essentially the board of directors, failed. This suggests an important complimentarity: Different types of governance responses should be associated with different kinds of mismanagement. In a governance system that has both internal and external governance institutions, the match between governance technique and the particular form of mismanagement should be endogenous.

There is some preliminary evidence of this kind of governance complimentarity. Randall Morck, Andrei Shleifer and Robert Vishny provide interesting empirical evidence of when a corporation's poor performance leads to an internal as opposed to an external governance response; that is, where the incumbent board replaces operating management as opposed to replacement occurring by means of the external governance response of a hostile takeover. Tracking a sample of 454 of the 1980 Fortune 500 companies over the period 1981 to 1985, the authors conclude that an internal governance response is more likely when a company performs poorly compared to industry competitors. Hostile takeovers, in contrast, are more likely when poor performance is industry wide. In short, hostile acquisitions appear to be associated with paradigmatic changes concerning the nature of a target corporation's business and industry.

On reflection, this result seems to flow from the type of information necessary to identify and evaluate the different kinds of problems. Identifying poor performance compared to competitors appears from readily available industry data and industry adjusted stock performance typically provided

note 7, ch. 11.

36 Id. at 842, 851-52.
37 Id.
to boards of directors. Industry insiders, including independent directors, are well positioned to evaluate and act upon information concerning comparative performance. In contrast, the information necessary to evaluate the structure of an entire industry is more difficult to obtain from within the industry, as is the experience necessary to accomplish the task. Anecdotal support of the distinction appears not only from the deconglomeration takeovers of the 1980s, but also from the highly publicized internally generated management changes in the 1990s. Board initiated management changes at General Motors, IBM, American Express, Westinghouse, and Kodak appear to reflect not industry wide paradigm changes, but company focused poor performance ultimately recognizable to those inside the company. 38

Thus, American corporate governance of the 1980s presented a very different emphasis than did Japanese governance. Japanese corporate governance consisted of an interlocking set of attributes that supported a credible commitment to employment stability said to be at the core of Japanese production methods. American corporate governance, in contrast, presented an array of mechanisms of adaptive efficiency, responsive to different kinds of poor performance. Essentially, one system emphasized internal monitoring to support stability, the other external monitoring to facilitate change.

III. CHALLENGES TO JAPANESE GOVERNANCE IN THE 1990S

In Part I, I characterized Japanese corporate governance as an interlocking set of attributes — assured employment,

38 Why internal monitoring took so long to respond, and what changed the culture of the American board room, is a different story which, at its center, features the rise of institutional investors as a force in corporate governance. See, e.g., ROE, supra note 1; Ronald J. Gilson & Reinier Kraakman, Reinventing the Outside Director: An Agenda for Institutional Investors, 43 STAN. L. REV. 863 (1991); Bernard S. Black, Shareholder Passivity Reexamined, 89 MICH. L. REV. 520 (1990).
protected by cross-holdings from breach by takeover, and monitored by the main bank to assure viability — that facilitated the commitment and stability necessary to Japanese production methods. We now reconsider these attributes as reflected in the distant mirror of American corporate governance. Just as comparison with the Japanese system highlighted the American system's limited capacity to credibly commit to stability, the image of the Japanese system in the American mirror now highlights the Japanese system's limited mechanisms of adaptive efficiency. It also raises a set of questions, the answers to which must be left to our Japanese colleagues, concerning how the Japanese corporate governance system will respond to economic changes in the 1990s that challenge each of the attributes that comprise the J-form system.

The American experience of the 1980s highlighted a difference between the problems to which internal and external monitoring mechanisms best responded. The external monitoring mechanism of the U.S. takeover market of the 1980s operated primarily to break up the conglomerates of the 1960s and 1970s whose principal problem was not financial peril, but excessive growth from the misuse of free cash flow. In contrast, the internal monitoring mechanism of the Japanese main bank system had little experience in or, as it turned out, aptitude for overseeing the effective utilization of free cash flow. Few Japanese companies had free cash flow prior to the 1980s; they were expanding their core businesses, reinvesting profits, and seeking bank financing for further expansion. For this purpose, the internal character of contingent monitoring functioned well.

The 1980s, however, altered both the problems confronting Japanese corporate governance and the system's capacity for dealing with it. The success of Japanese corporations allowed financing of expansion through retained earnings and the liberalization of access to the capital market allowed a shift from bank to public debt, in both cases attenuating the ability of main banks to
provide effective monitoring. Moreover, internal bank monitoring was not itself well designed to cope with the problems associated with free cash flow; the shift in financing sources particularly attenuated ex ante monitoring of project selection. The American experience suggests that internal monitoring responds to problems associated with management failure, but that external monitoring is necessary to respond to problems of success. In this regard, main bank contingent monitoring is triggered by poorly performing management. Good performance, on the other hand, frees management from bank monitoring, creating "a sort of vacuum . . . regarding the monitoring of management of these firms. . . ." Indeed, the very fact of the bubble economy and the underlying reckless financial decision-making "painfully demonstrated ex post the weakened monitoring capacity of banks in the newly emergent market environment." Viewing the Japanese corporate governance system in the reflection of an American mirror thus reveals that the internal monitoring associated with the main bank system is unlikely to effectively monitor management problems associated with success; the main bank system is not a substitute for external monitoring by the market for corporate control. The question then posed for close observers of the Japanese system is the identity of potential sources of external monitoring: what are the mechanisms of adaptive efficiency?

The mismatch between internal bank monitoring and the problems associated with success rather than failure is not the only economic change challenging the complimentary attributes of the Japanese corporate governance system. The collapse of the bubble economy and the competitive environment of the 1990s resulted in two additional challenges: the decreasing strength of the

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39 See generally HOSHI ET AL., supra note 23; Kanda, supra note 28.
40 Aoki et al., supra note 21, at 24.
41 Id. at 48.
42 Gilson & Roe, supra note 19, at 896-97.
Japanese main bank, and the change in the character of Japanese production that the main bank system served to support.

Consider first the capacity of the Japanese main bank to play the role assigned to it in the Japanese corporate governance system. If the success leading up to the bubble economy was beyond the ability of internal contingent monitoring to restrain, the consequences of the collapse of the bubble economy raises questions of the main bank's ability to monitor internally in the future. In particular, the dramatic fall in asset values left the main banks with substantial amounts of bad debts,\footnote{Jathon Sapsford, Don't be Fooled: Japan's Banks are Still in Trouble, WALL ST. J., May 3, 1996, at A8.} resulting in their being forced to pay a premium for capital in the international lending markets.\footnote{Jathon Sapsford, Dreaded Premium Resurfaces as Stock Declines Shrink Banks' Assets, WALL ST. J., Jan. 15, 1997, at A12.} The substantial drop in the Nikkei average has exacerbated this capital problem. Main banks, already short on capital, were relying upon the paper profits of their cross-holdings to meet the Bank of International Settlement's capital requirements of eight percent of loans outstanding. For example, it was estimated that Yasuda Trust & Banking Co. lost all of its stock holdings based profits when the Nikkei dropped to 18200, and that Fuji Bank would confront the same problem if the Nikkei hit 16100.\footnote{Jathon Sapsford & Robert Steiner, Loss Leaders: Japan's Banks Struggle with Many Problems, Spur Slumps in Stocks, WALL ST. J., Jan. 22, 1997, at A1; Jathon Sapsford & Robert Steiner, Japanese Stock Plunge Signals Painful Fallout of Deregulation Trend, WALL ST. J., Jan. 10, 1997, at A1; Jathon Sapsford, Nikkei's Drop Erodes Cushion of Japan Banks, WALL ST. J., Jan 9, 1997, at A8.} The need to maintain capital levels and the fear of further stock market decline puts substantial pressure on bank cross-holdings, a central feature of the Japanese corporate governance system.

At the same time that economic change has challenged the main banks' ability to discharge its internal monitoring role, a different set of economic changes have challenged
the system of permanent employment that the main bank system is said to support. The demand for labor in Japan has decreased in response to the shift of manufacturing capacity abroad, spurred by a higher yen value and increased global competition from manufacturing plants in low wage countries as well as those in the United States where restructurings in the 1980s significantly lowered labor costs. The result has been pressure on the institution of permanent employment, the linchpin of the Japanese corporate governance system.\footnote{Michael Williams, Japan's Labor System: A Two-Edged Sword, WALL ST. J., Nov. 8, 1994, at A19.} For present purposes, we need not enter into the debate over whether current conditions will cause Japanese corporations to breach their commitment to existing permanent employees through layoffs or forced retirements.\footnote{See, e.g., Seiritsu Ogura, "Voluntary' Retirement Looms in Japan, WALL ST. J., July 6, 1993, at A6; Robert Simison & Valerie Reitman, Toyota Says it May Have to Shut Down Plants in Japan; Layoffs are Possibility, WALL ST. J., May 12, 1995, at A5.} Instead, consider only the potential impact of simply shrinking through attrition the core of positions to which permanent employment attaches.\footnote{Two leading Japanese labor law scholars predict that the Japanese labor market will undergo the "dimunition and dilution of long-term employment and an increase in labour mobility. . . . In the medium to long term, workers at the core of enterprise management [permanent employees] will relatively decrease, and the rate of labour turnover will rise with growth in job changes and mid-career hirings." KAZUO SUGENO & YASUO SUWA, LABOR LAW TOWARD THE 21ST CENTURY: SUPPORTING INDIVIDUAL WORKERS IN THE LABOUR MARKET 5-6 (Japan Int'l Labour Law Forum Paper No. 7, Mar. 1996).} The resulting position more closely resembles U.S. employment patterns,\footnote{See KAZUO SUGENO & YASUO SUWA, THE INTERNAL LABOUR MARKET AND ITS LEGAL ADJUSTMENTS 1-3 (Japan Int'l Labour Law Forum Paper No. 4, Mar. 1995).}
but the crucial issue is whether the J-form system of horizontal coordination through information sharing can survive the reciprocal change in worker attitudes resulting from the proliferation of non-lifetime employees. The flexibility given employers to control the workplace, critical to horizontal coordination, is said to be the balance to permanent employment. Can flexibility survive the loss of permanent employment? Here the need is to examine Japanese production in the reflection of American adaptation of Japanese production methods to a system without a commitment to permanent employment.

IV. CONCLUSION: THE INSTITUTIONS OF ADAPTIVE EFFICIENCY

In an important article, Paul Milgrom and John Roberts stress the complementarity of different segments of the Japanese corporate governance system. When a complementarity component is added to a system, returns increase to the enlarged system by more than the additional input of the newly added component; output of pre-existing components, to which the new component is complementarity, also increases. The resulting increasing return characteristics shape the system's development by favoring the addition of components that increase the output of preexisting components. Overall, output

\[\text{Id. at 16. See Takashi Araki, Flexibility in Japanese Employment Relations and the Role of the Judiciary, in JAPANESE COMMERCIAL LAW IN AN ERA OF INTERNATIONALIZATION 249 (Hirosi Oda ed., 1994).}
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\[\text{Milgrom & Roberts, supra note 15. This approach is also pursued in Aoki, The Japanese Firm as a System of Attributes, supra note 21, at 22-23.}
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\[\text{Milgrom & Roberts, supra note 15. This increasing return phenomenon results when the complementarity exhibits "supermodularity." See also Paul Milgrom & John Roberts, Complementarities and Fit: Strategy, Structure, and Organizational Change in Manufacturing, 19 J. ACCTN'G & ECON. 179 (1995); Paul Milgrom & John Roberts, The Economics of Modern Manufacturing: Technology, Strategy and Organization, 80 AM. ECON. REV. 511 (1990).}
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\[\text{GILSON & ROE, supra note 1, trace the development of the} \]
develops rapidly as the addition of each new component leverages the contributions of the system's existing components.

Like leverage, however, complementarity has a downside. Changing a single component of a complementarity system has the potential of reducing the output of the system's remaining components. This characteristic places enormous pressure on the mechanisms of adaptive efficiency. If one component of the system is adversely affected by exogenous economic change, a prompt adjustment may be necessary across the remaining components if significant performance degradation is to be avoided. As Milgrom and Roberts note, in a complementarity system "[e]ven if a coordinate adjustment on all relevant dimensions might yield an improvement in performance, it may be that until all the features of the new pattern have been implemented, the performance of the system may be much worse than in the original position."

But adjustment of all relevant dimensions of a system is a good description of the kind of paradigmatic change that the American experience suggests must be accomplished through external monitoring mechanisms. When viewed in the reflection of the American mirror, the Japanese system appears to require external mechanisms of adaptive efficiency to respond to the set of pressures affecting all components of the governance system. The question for close students of Japanese governance is in a system whose central logic is keyed to the exclusivity of internal monitoring, from where will those external mechanisms come?

institution of lifetime employment using complimentarity as a tool.

Milgrom & Roberts, supra note 15, at 12. For example, Sugeno & Suwa note that with the opening of the external labor market, "[m]anagement will face the disincentive to invest in education and training for the cultivation of human resources." SUGENO & SUWA, supra note 48, at 6. This, in turn, requires the retooling of the educational system to provide non-employment based vocational training. Id. at 15.