
The Jerome Levy Economics Institute of Bard College

Public Policy Brief

Cooperate to Compete

Employee Participation and
Productivity: Evidence from a
New Survey of Japanese Firms

Takao Kato

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Summary

Many observers have attributed the strong economic performance by Japanese firms to Japan's system of labor-management relations, a system seen as relatively more cooperative than that in the United States. In this *Public Policy Brief*, Takao Kato, Research Associate at The Jerome Levy Economics Institute of Bard College and associate professor of economics at Colgate University, outlines the types of human resource management practices (HRMPs) used in Japan and the effect of these employee participation programs on employee productivity and economic competitiveness.

To overcome past data limitations, the author developed and administered a 1993 survey about HRMPs in Japanese firms. The survey was sent to 2,127 firms listed on Japan's three major stock exchanges. From the survey, the author was able to identify the types of HRMPs used in Japan and their distribution among firms.

Kato identifies and describes five types of HRMPs instituted in Japan. Three types—joint labor-management committees, non-union employee associations, and small group activities—involve information sharing; two types—employee stock ownership programs and profit-sharing plans—involve financial participation. All five types are widespread, and all developed and operate with only an informal role played by government.

Although some have argued that the positive effect of HRMPs on productivity is minimal, Kato offers several hypotheses to explain how HRMPs in Japan would be expected to have positive net effects on individual and collective behavior and, therefore, on performance. One hypothesis is that employee participation programs, especially those offering compensation incentives, bring the long-term interests of employees into alignment with those of the firm, thereby increasing employee performance. A second hypothesis posits that such programs, by providing employees with a voice in the firm, foster long-term commitment to the firm, thereby reducing exit costs and saving firm-specific human capital.

Moreover, Kato asserts that there appear to be complementary relationships between certain types of HRMPs. For example, the free-rider problem sometimes associated with profit-sharing plans (especially when firms are large and when monitoring costs are high) may be overcome by encouraging commitment to the firm and by having the workers do the monitoring, both of which can be accomplished with the implementation of information-sharing programs, such as labor-management committees. The existence of a union in a firm can be a complement to employee participation by lessening workers' fear of layoffs resulting from the productivity gains that might be the outcome of productivity-enhancing programs.

Kato tested his hypotheses by estimating the influence of the various employee participation programs on output. His preliminary results show a significant positive productivity effect for each type of HRMP estimated. He also found that productivity gains changed over the life of the programs; the programs added somewhat to productivity at the time of their institution, reached their highest point after a period of years, perhaps as long as 20 years, and diminished thereafter. Any further gains, then, would require that a new program be installed. Kato also found a significant complementarity in positive productivity effects between non-union employment associations and profit-sharing plans and between information-sharing programs and the presence of formal trade unions.

From these findings about the effects of HRMPs on Japanese productivity, Kato draws several conclusions for the direction that U.S. policy might take in order to raise its productivity. He advocates encouraging the diffusion of participatory HRMPs (both information-sharing and financial), fostering these programs once they are adopted, and recognizing the beneficial role of unions in employee participation.

As to the role of government in fostering these programs, Kato found that in Japan government has taken an informal and indirect role, primarily in the areas of data gathering, information dissemination, and education, rather than a direct role through interventions such as tax incentives (which are currently available to U.S. firms adopting financial HRMPs).

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Preface

The Japanese style of labor-management relations has been cited as one reason for that country's strong economic performance and high rate of productivity growth. In this *Public Policy Brief*, Takao Kato, research associate of The Jerome Levy Economics Institute of Bard College, examines several types of financial and information-sharing human resource management practices (HRMPs) used in Japan and the extent to which these employee participation programs have contributed to productivity and economic competitiveness. The programs instituted by Japanese firms to foster cooperative labor-management relations are of interest because they can serve as starting points for U.S. firms attempting to design new, more productive practices.

Programs for fostering cooperative labor-management relationships with the aim of raising productivity and improving quality are not unknown in the United States. Some U.S. firms have already implemented HRMPs and have posted substantial productivity and financial gains that they attribute,

at least in part, to new labor-management relationships. Harley-Davidson, after instituting financial and information-sharing programs, saw its share price swell from \$1 in 1986 to \$23¹/₈ (as of March 17, 1995) and its employment increase by nearly 100 percent. The more cooperative relationship between the management of Magma Copper, an Arizona mining company, and its union is credited with the firm's 86 percent jump in productivity since 1986 as well as the dramatic rise—from \$6 to \$16¹/₄ (as of March 17, 1995)—in its share price.

The increasing attention on HRMPs has generated interest among policy-makers. Congress is currently studying the feasibility of a legislative “Code of Conduct” that would encourage management and labor of U.S. firms to form more cooperative relationships with one another linked to the idea of “pay for performance” to ensure that “productivity, quality, and creativity benefit the people who are actually providing it.” The code will also call for “a commitment to giving workers the freedom to choose their own, independent form of representation—to work with management to create a more democratic workplace.”

However, despite the fact that both labor and management generally agree that cooperation and participation in the workplace are often essential in today's production processes, it is not surprising that emerging public policy aimed at fostering HRMPs is sometimes controversial. Legislation proposed in the Teamwork for Employers and Managers Act (H.R. 743) would amend the National Labor Relations Act's 60-year ban on certain types of company-sponsored labor committees. The legislation would allow employers to establish and/or support employee participation groups created “to address matters of mutual interest, including issues of quality, productivity, and efficiency.” The bill's sponsors contend the legislation is necessary because recent rulings by the National Labor Relations Board have created uncertainty about the legality of such committees. Some labor groups, however, feel the proposed legislation is unnecessary and anti-union. They assert that true labor-management cooperation groups are allowed under current law and that the proposed company-sponsored committees could be used by management to fend off union organizing drives or collective bargaining agreements.

Cultural differences between the United States and Japan also need to be taken into account when considering how HRMPs as practiced in Japan might be implemented in the United States. For example, the implicit expectation of a long-term relationship between employer and worker in Japan might make the implementation of arrangements such as employee stock ownership programs (ESOPs) much easier than in the United States, where employment is much more transitory and where the presence of ESOPs might make downsizing difficult and might hamper labor mobility. On the other hand, financial participation programs might allow employers to retain existing employees and to attract new, skilled workers, both of which result in reduced training costs to a firm.

These debates raise the question of how public policy might best foster cooperation without reducing firm flexibility or curtailing employee choice. Kato suggests that public policy in the United States be aimed at encouraging the diffusion of participatory HRMPs, fostering these programs once they are adopted, and recognizing the beneficial role of unions in employee participation. It is clear that although the idea of cooperation may be a concept agreed on in principle, there are serious disagreements concerning exactly how cooperation can and should take place, what form HRMPs might or should take in the United States, and what role public policy can or should play in the establishment and development of these programs.

Dimitri B. Papadimitriou
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April 1995

Employee Participation and Productivity: Evidence from a New Survey of Japanese Firms

Introduction

Among the most important policy questions confronting the leading Western economies today is how to raise rates of productivity growth and thus improve their economic competitiveness. In searching for the key to enhancing competitiveness, many economists and policymakers look to the case of Japan's high postwar productivity growth (Blinder 1990, Levine and Tyson 1990, MIT Commission on Industrial Productivity 1989, and Thurow 1986).

In accounting for Japan's strong economic performance, especially in manufacturing, many of these observers have emphasized Japan's system of labor-management relations, which, compared to the traditionally adversarial system characteristic of the United States, they perceive as much more cooperative and based on far more trust (Aoki 1988, Levine and Tyson 1990). The observers often stress the contributions of

particular Japanese institutions. For example, Hashimoto (1990) directs attention to the role of three institutions: the *shushin koyo* system, which guarantees long-term employment; the *nenko chingin* system, which provides for seniority wages; and enterprise unionism, in which unions, separately organized in each firm, cooperate with the firm. For Koike (1988) the key is the scope and nature of the on-the-job training received by the average Japanese worker, typically by job rotation. Also, most authorities argue that the labor market in Japan exhibits far more flexibility than the labor market in the United States.

This paper focuses on the potentially important roles of employee participation in Japan, including information-sharing devices such as joint labor-management committees and various financial participation schemes such as profit-sharing plans and employee stock ownership plans. The focus is particularly timely in light of the recent report by the Dunlop Commission for the departments of Labor and Commerce in the United States. While documenting the growing interest in employee participation and labor-management cooperation in the United States, the commission reported that “employee participation and labor-management cooperation are fragile and are difficult to sustain and diffuse in the American environment” (Commission on the Future of Worker-Management Relations 1994, 56).

In contrast to the “American environment,” which tends to limit the diffusion of employee participation and labor-management cooperation and to restrict their survival once adopted, employee participation and labor-management cooperation are widespread and deep-rooted in Japan. A closer look at the Japanese experience with employee participation and labor-management cooperation and their effects on workplace productivity and thus competitiveness appears to be of particular public policy interest.

Data Sources

Factual knowledge of the overall Japanese experience with employee participation and labor-management cooperation and their effects on productivity has been scant to date. Most studies have focused on one or two par-

ticular participatory management practices, and data limitations have inhibited researchers from a systematic investigation of a wide range of employee participation institutions and their effects on productivity.¹

It is against this backdrop of limited data that the idea of a survey concerning participatory human resource management practices in Japanese firms was conceived. First was a pilot phase in which an earlier version of the instrument was tested on human resource managers of several firms as well as on researchers of the Japan Institute of Labor, the Japan Productivity Center, and the Japan Securities Research Institute, each of whom had conducted similar though smaller surveys in the past. On the basis of what we learned from the pilot phase, the questionnaire was revised into what became the HRM Survey of Japanese Firms. The HRM Survey was administered in 1993 in collaboration with Motohiro Morishima of Keio University at Keio Economic Observatory and with the financial support of a Picker Research Fellowship of Colgate University.

The sample universe of the survey was the Toyo Keizai Kaisha Shiki Ho, which provided a catalogue of all firms listed on Japan's three major stock exchanges: Tokyo, Osaka, and Nagoya. In August 1993 the survey was mailed to each of the 2,127 firms listed.² Most of the Japanese competitors of U.S. firms in the global marketplace were included on the list. Usable responses were received from 371 firms (a response rate of 17 percent), of which 226 firms were in manufacturing. The response rate of 17 percent was comparable to most prior surveys of a similar nature in Japan.³

This paper highlights the key findings of this new survey about the nature, scope, and effects of employee participation in publicly held Japanese firms. In so doing, I hope to shed light on a central labor issue of our time, namely, identifying methods or institutions that "should be encouraged or required to enhance workplace productivity through labor-management cooperation and employee participation" (Commission on the Future of Worker-Management Relations 1994, xi).⁴

The Nature and Scope of Employee Participation in Postwar Japan

Japanese firms have facilitated employee participation and labor-management cooperation in the postwar period by establishing and refining various human resource management practices (HRMPs). These HRMPs can be divided into two major groups: information-sharing programs and financial participation plans. Important HRMPs established to facilitate the sharing of information between labor and management are joint labor-management committees (JLMCs) at the corporate level, JLMCs at the shop-floor level, non-union employee associations (NUEAs), and small group activities (SGAs). Important HRMPs created for financial participation are employee stock ownership plans (ESOPs) and profit-sharing plans (PSPs). As documented below, these participatory HRMPs are widely diffused and deeply rooted in Japan, and their institution has involved little direct government intervention. The role of public policy in this area has been mostly informal and indirect, focusing on data gathering, information dissemination, and related activities.⁵

Corporate Joint Labor-Management Committees

Corporate JLMCs are standing committees established at the corporate level in which labor and management “consult each other” on business, production, labor conditions, and fringe benefits. Typically, a JLMC at the corporate level includes labor representatives and senior managers. When the workers of a firm are represented by a union, the labor representatives of the corporate JLMC are almost always union representatives. In the absence of unions, most (about 70 percent) labor representatives are elected by employees (Koike 1978). JLMCs usually meet 11 times a year, according to our HRM Survey of Japanese Firms. Important business information, such as sales and production plans, the introduction of new technology and equipment, restructuring, and hiring and staffing plans, is shared during the meetings.⁶ Furthermore, for more direct labor issues (such as layoffs, transfers, promotion, working hours, safety and health, retirement, and compensation), JLMCs appear to go beyond simple information sharing and serve the function of prior consultation.

The HRM Survey of Japanese Firms also revealed the diffusion of corporate JLMCs. In 1950 about 20 percent of firms had corporate JLMCs. During the next two decades the institution diffused rapidly, at a rate of about 20 percentage points per decade. Thus, by 1970 close to 60 percent of firms had corporate JLMCs. During the next two decades the institution continued to diffuse steadily; by 1993 80 percent of firms had JLMCs at the corporate level.⁷ In encouraging the diffusion of corporate JLMCs, the government did not use formal public policy, such as preferential corporate tax treatment for firms that introduced the practice. Instead, the government played an informal role of data gathering, information dissemination, and related activities.

The survey also showed that corporate JLMCs were more widespread among larger firms. For instance, in 1993 close to 95 percent of firms with 5,000 or more employees reported having corporate JLMCs, whereas only 50 percent of firms with 299 or fewer employees reported such committees. Moreover, corporate JLMCs were more prevalent among unionized firms; in 1993 91 percent of unionized firms, but only 20 percent of non-unionized firms, reported having corporate JLMCs.⁸

Shop-Floor Joint Labor-Management Committees

Shop-floor JLMCs are standing committees in which supervisors and employees on the shop-floor level discuss matters such as shop-floor operations and environment. According to the HRM Survey of Japanese Firms, shop-floor JLMCs usually met about nine times a year (slightly less frequently than corporate JLMCs). The survey also showed that information shared during shop-floor JLMC meetings tended to go beyond standard shop-floor issues (such as safety and health, fringe benefits, training and development, and grievances) to include business and strategic plans. As Koike (1978) suggests, shop-floor JLMCs appear to have provided a forum in which information shared in corporate JLMCs was disseminated to the rank and file.

The HRM Survey of Japanese Firms was the first to reveal the diffusion of shop-floor JLMCs among Japanese firms in the postwar era. In 1950 only 7

percent of firms had a JLMC at the shop-floor level. During the next decade the institution did not diffuse much, with participation by only 11 percent of firms by the end of the decade. After that, however, the institution diffused steadily. In 1993 more than 40 percent of firms reported having a shop-floor JLMC, a figure substantially lower than that for corporate JLMCs (80 percent). As in the case of corporate JLMCs, the role of public policy in the diffusion of shop-floor JLMCs consisted mostly of data gathering, information dissemination, and related activities.

Like corporate JLMCs, shop-floor JLMCs were more prevalent in larger, unionized firms. Perhaps more importantly, the survey revealed that in 1993 more than 50 percent of firms with a corporate JLMC reported having shop-floor JLMCs, whereas only 30 percent of firms without a corporate JLMC reported having shop-floor JLMCs. In other words, firms with corporate JLMCs are more likely to introduce shop-floor JLMCs, which is consistent with the important function of shop-floor JLMCs to disseminate to the rank and file information shared during corporate JLMC meetings. In this way, shop-floor JLMCs complement corporate JLMCs.

Non-union Employee Associations

Aside from JLMCs and formal trade unions, many Japanese corporations have an employee association called *shain kai* or *shinboku kai*. Largely because of a lack of reliable data, the nature and scope of these non-union employee associations (NUEAs) have not been well understood. Our survey is one of the first to provide more detailed information on NUEAs. According to the survey, in 1950 only 10 percent of firms had an NUEA. Over time the proportion of firms with NUEAs grew steadily. By 1980 45 percent of responding firms reported an NUEA. The diffusion of NUEAs slowed during the last decade; by 1993 the proportion of firms reporting an NUEA had reached 50 percent. The institution was at least as widespread as shop-floor JLMCs. Also, NUEAs were more prevalent in firms without a union, with 81 percent of firms without a union, but only 48 percent of firms with a union, reporting having an NUEA in 1993. Two-thirds of firms with NUEAs reported including senior managers in the membership of their NUEAs, and close to 80 percent

reported having a company subsidy. Because their membership includes management and because they are subsidized by management, NUEAs cannot legally be considered trade unions.⁹

One function often associated with NUEAs is to organize and sponsor social and recreational activities for company employees. Some observers contend that some NUEAs play the important role of giving employees a voice, especially in the absence of formal unions (Koike 1988, Sato 1994). For example, Sato (1994) reported that in his survey approximately one-third of NUEAs were what he called “NUEAs with voice,” whereas the rest were “NUEAs for social activities.” Sato defined “NUEAs with voice” as those that engage in negotiations over employment contracts and/or those that express employee concerns about the management of the firm. Available evidence suggests that NUEAs are more prevalent in smaller, non-union firms, and when established, approximately one-third of them act like “unions.”

However, even when NUEAs do not engage in contract negotiations, they may still facilitate information sharing or effectively carry out other representational functions similar to those associated with JLMCs. Sato’s (1994) sample indicates that 41.3 percent of the NUEAs were used by management as a mechanism to inform employees of management policies and business plans, and 28.3 percent were used by management to gather information on employees’ reactions to such policies and plans. These percentages increased when NUEAs had negotiating roles. Available evidence thus suggests that NUEAs, like JLMCs, have information-sharing and consultation functions, although to a lesser degree than JLMCs.

Finally, there is some evidence that both management and labor consider union-like NUEAs to be substitutes for labor unions. Sato (1994) reports that the proportion of employers who believe that unions “do not have a place in our firm” is higher among firms with union-like NUEAs (30.5 percent) than the average for all firms (20.8 percent).

Small Group Activities

SGAs are activities in which small groups at the workplace level voluntarily make plans and set goals concerning operations and work together to accomplish these plans and goals. Examples of SGAs are quality control circles and zero defects programs. The wide use of such SGAs by Japanese firms is well known (see, for instance, Cole 1989). Our survey did not add much to the existing knowledge except regarding the diffusion of the practice over the last four decades. According to the survey, only 3 percent of firms used an SGA in 1950 and only 6 percent in 1960. The rapid diffusion of this type of HRMP began in the 1960s. By the beginning of the 1970s about 25 percent of firms reported using an SGA; by 1980 the figure reached 44 percent and by 1993 70 percent.

SGAs were clearly more popular among larger firms: 80 percent of firms with 5,000 or more employees used an SGA as opposed to 43 percent of firms with 299 or fewer employees. In addition, SGAs were more widespread among firms that were unionized. The survey also revealed that firms with either corporate or shop-floor JLMCs were more likely to adopt an SGA, pointing to a possible complementary relationship between JLMCs and SGAs. As is the case for other participatory HRMPs, the role of public policy in fostering the adoption of SGAs has been informal and educational, consisting mostly of data gathering, information dissemination, and related activities.

Employee Stock Ownership Plans

Japanese ESOPs are perhaps best understood by comparing their main features with the better-known ESOPs of the United States.¹⁰ Unlike U.S. firms, Japanese corporations do not receive any tax incentive to establish an ESOP (called *mochikabukai*). To induce individual employees to participate in an ESOP, companies offer subsidies, typically in the form of matching each employee's contribution at a rate of 5 to 10 percent. Companies also bear administrative costs. Whereas ESOPs elsewhere frequently are structured so as to encourage strong participation by top management, in Japan executives, as well as part-time and temporary employees, normally are ineligible for membership.

As is the norm elsewhere, individual participants' shares (and dividends) in an ESOP are held in trust. An unusual feature of Japanese ESOPs is that each participant has a right to withdraw his or her shares, and once withdrawn, shares are privately owned. Permission to withdraw shares is usually subject to the conditions that employees keep at least 1,000 shares in the trust and that they make withdrawals only in 1,000-share lots. It takes more than 20 years for the average participant to accumulate the 2,000 shares necessary for the participant to withdraw 1,000 shares for the first time (Nomura Securities 1990). Participants may freely exit completely from the ESOP, but reentry is restricted. Exiting employees receive their shares in 1,000-share lots and must sell shares in excess of the round lots to the trust at the prevailing market price. All ESOPs require that workers exit completely from the ESOP upon retirement.

Finally, shareholders in the ESOP are represented by a general director (*riji - cho*), who is chosen by other participants on a one-participant, one-vote basis.¹¹ At the general meeting of shareholders the general director votes the stock held by the plan, making decisions independently, rather than by tabulating votes of individual employee participants. The general director must be a participant in the ESOP and thus cannot be an executive.

Our survey showed that, among various types of Japanese HRMPs, ESOPs are a relatively recent introduction and have diffused most rapidly. In 1960 only 4 percent of firms had an ESOP. The proportion grew rapidly during the next decade, reaching 26 percent by 1970. In 1967 a special government committee on foreign capital advocated employee ownership as a way to help prevent foreign takeovers of domestic firms. The government, using informal channels, encouraged firms to set up new ESOP trusts to accommodate employee investments in their stock. The fear of foreign takeovers diminished in the 1970s, but the idea of employee stock ownership took root. Perhaps due in part to the 1967 government initiative, the 1970s were characterized by an astonishing pace of diffusion of ESOPs; by 1980 the proportion of firms with an ESOP grew to 70 percent. The diffusion continued even after 1980, and the practice became almost universal by 1993, when 97 percent of firms reported having an ESOP.

Our survey also showed that in 1993 almost 50 percent of the labor force in firms with an ESOP participated in the program. Furthermore, Jones and Kato (1995) report that in 1988 ESOPs owned stock worth 4.1 trillion yen (about \$32 billion), which amounts to 1.7 million yen (about \$14,000) per participant. Given that in 1988 the net assets of the average worker's household were 6.164 million yen (Japan Management and Coordination Agency 1988), average holdings by an ESOP participant represented about 30 percent of the total value of that household's net assets.¹²

However, Jones and Kato (1995) also point out that these plans as a whole do not own large percentages of company stock. The proportion of stock of all listed companies owned by ESOPs has varied between 0.66 percent and 1.42 percent. In 1988 the average proportion of a firm's stock held by its ESOP was less than 1 percent; holdings over 5 percent were rare. However, while the total percentage of equity owned by ESOPs was small, for 21 percent of all listed Japanese firms the ESOP was one of the ten largest shareholders (Nomura Securities 1990).

In addition, the importance of ESOPs in Japan may be illustrated by some comparisons with employee stock ownership in the United States. Most importantly, in the United States there is, on average, a substantially lower incidence of plans, especially in manufacturing, transportation, and construction. (Compare, for example, our description of Japanese ESOPs with Blasi and Kruse 1991).

Second, although the average account balance in a U.S. ESOP had grown to \$12,977 by 1987 (U.S. General Accounting Office 1990), this was still below the \$14,000 figure for Japanese ESOPs. However, participants in U.S. ESOPs nearly always included executives and often excluded nonexecutive employees. Since the average stake of a shareholder is strongly linked to earnings, it is almost certainly the case that the average nonexecutive's ownership stake in a U.S. ESOP will be substantially below that for participants in Japanese ESOPs, from which executives are excluded.

Third, rates of participation in ESOPs by nonexecutive employees in U.S. and Japanese manufacturing firms that had ESOPs seemed to be broadly comparable. Blasi and Kruse (1991) assembled data for firms listed on U.S.

stock exchanges that were at least 4 percent employee-held. They estimated that in 1988–89, on average, 50 percent of employees were participants in ESOPs. But, since individual firms that were at least 4 percent employee-held must have had more ESOP activity than the level of activity among all firms with ESOPs as a whole, the participation rate among *all* firms with ESOPs (as opposed to only firms with “strong” ESOPs) must have been below 50 percent. By comparison, for all manufacturing firms quoted on Japanese stock exchanges with ESOPs in 1988, on average, 46 percent of employees were participants in the ESOP (National Conference Board of Securities Exchanges 1988).

Fourth, there has been much attrition of participation in ESOP plans by U.S. firms and recently there has been a dramatic increase—from 15 percent between 1979 and 1985 to 30 percent between 1981 and 1987—in the termination rate for U.S. plans (U.S. General Accounting Office 1990).¹³ The termination figures contrast sharply with the situation in Japan, where the rates of termination have been negligible.

Last are the implications of employee ownership for employee influence in the governance of the enterprise. Insofar as in neither the United States nor Japan do ESOPs, on average, own large percentages of the market value of public corporations, their situations are quite similar. Blasi and Kruse (1991) estimated that the total value of U.S. ESOPs was less than 3 percent of the market value of all public companies, as compared with the Japanese figure of 0.85 percent (National Conference Board of Securities Exchanges 1988). However, for the 1,000 U.S. public corporations with ESOPs in which employee ownership is strongest, the median proportion of ESOP ownership was estimated to be almost 10 percent (Blasi and Kruse 1991). But even for these top 1,000 U.S. ESOPs, nonmanagerial employee involvement and influence via ESOPs was typically modest. Blasi and Kruse (1991) estimated that in fewer than 1 percent of these 1,000 firms nonmanagerial employees representing employee shareholders served on a board of directors and that only 5 percent of firms were judged to have a “participatory” culture.

Profit-Sharing Plans

PSPs are a pay system in which pay is linked to some measure of firm performance. The Japanese bonus payment system has attracted considerable attention, and there has been considerable controversy over the extent to which that system is a form of PSP (see, for example, Freeman and Weitzman 1987). In light of the ongoing debate between those who stress the profit-sharing aspect of the Japanese bonus system (Freeman and Weitzman 1987) and those who downplay it (for example, Ohashi 1989, Brunello 1991), I consider only the types of bonus payment system that are the least controversial with respect to their profit-sharing aspect, that is, bonus payment systems that have formal contracts in which the terms of a profit-sharing plan are stipulated.

According to our survey, 25 percent of firms had a PSP in 1993.¹⁴ The proportion of firms with a PSP was only 5 percent in 1960. It grew steadily to 14 percent by 1980. A significant diffusion during the 1980s raised the proportion to over 20 percent by 1990.

Our survey also revealed that PSPs were more prevalent in smaller firms. For instance, in 1993 only 11 percent of firms with 5,000 or more employees had a PSP, whereas 31 percent of firms with 999 or fewer employees had a PSP. PSPs also were more widespread among firms that were not unionized; more than 40 percent of firms without a union, compared to 23 percent of unionized firms, had a PSP in 1993. The majority (70 percent) of firms with a PSP reported separate profit-sharing plans for officers and nonofficers. Although they distinguish between officers and nonofficers, Japanese firms do not normally distinguish between union and non-union members in their plans (only one-third of firms with PSPs reported separate plans for union and non-union members). Most PSPs were companywide; only 12 percent of firms with PSPs reported having separate plans for different divisions and occupations.

Nearly all PSPs (98 percent) in Japan were cash plans, in sharp contrast to the United States, in which deferred plans were more popular (Kruse 1993). Cash plans offer no tax advantage. As in the case of other HRMPs, the role of public policy in establishing PSPs was informal and

educational, consisting largely of data gathering, information dissemination, and related activities.

The majority of Japanese PSPs (55 percent) did not have set formulas for how contributions should be tied to profits; in the United States only 22 percent of PSPs did not have a set formula (Kruse 1993). Because cash plans without a set formula appear to be the most effective type of PSP in terms of increasing productivity (Kruse 1993), the Japanese system appears to have greater potential for strong positive productivity effects than the U.S. system.

Predicted Productivity Effects of Employee Participation

Formal economic theory is ambiguous as to the expected effect of participatory HRMPs on productivity (for reviews, see the essays in Blinder 1990). However, in the context of the Japanese firm (Aoki 1990) it can be argued that the introduction of these practices can be expected to have net positive effects on individual behavior, collective behavior, and, ultimately, organizational performance (Ben-Ner and Jones 1992). The following are two hypotheses that focus on individual motivation and performance to predict positive productivity effects.

Goal Alignment Effects of Employee Participation

Goal alignment is said to have occurred when the interests, or goals, of the work force are brought into alignment with the interests of the firm. For example, for firms with an ESOP the success of the firm is reflected in a higher price of its equity and thus in greater wealth for employees who own stock. In such cases, the interest of the work force has clearly become more aligned with the interest of the firm. Goal alignment by Japanese ESOPs can be expected to be very significant, especially when compared to goal alignment by ESOPs in other countries. As reported above, ESOPs elsewhere are often structured to encourage strong participation by top management, but Japanese ESOPs normally make executives ineligible for

membership. In the United States ESOPs are frequently designed to prevent participation by some groups of nonexecutive employees, especially union members (Blasi 1988); in Japan, typically all full-time nonexecutive employees are eligible for membership and, based on interviews with managers of several Japanese manufacturing corporations, it appears that blue-collar workers actively participate in ESOPs. Moreover, the average ESOP participant owns a substantial amount of stock, worth \$14,000 on average. The differences in membership composition and stake, then, imply that the goal alignment effects of Japanese ESOPs can be expected to be greater than the goal alignment effects of U.S. ESOPs.

An almost identical argument can be made for PSPs, although the fact that Japanese PSPs are mostly cash plans in which regular payments are made based on short-term performance suggests that they tend to align short-term (annual) goals (such as short-term profitability) rather than longer-term goals (such as long-term growth of the firm).

The goal alignment effects of information sharing via JLMCs, NUEAs, and SGAs are more subtle, but not necessarily weaker. As Morishima (1991a, 1991b) argues, these participation programs provide valuable opportunities for management and labor to learn about each other in a more cooperative atmosphere than that of traditional collective bargaining settings and thus to develop stronger trust. Management's sharing of vital business information with labor can help convince workers that it is in their interest to improve productivity and firm performance.

Human Capital Effects of Employee Participation

JLMCs, NUEAs, and SGAs may play an important role in giving employees a voice in the firm, and in the absence of unions these information-sharing arrangements may be the sole mechanism to do so.¹⁵ In the presence of unions these arrangements may supplement the direct-voice mechanism of unions. Since having a voice in the firm is a factor in employees' commitment to remain with a specific firm, providing them with such a voice may reduce costs to the firm of employee exits, saving it the cost of the firm-specific training of new employees and thus contributing to the firm's productivity.

In the case of ESOPs, as explained above, for a worker to acquire private ownership of shares in a Japanese plan, he or she must stay with a firm for a significant number of years. This vesting feature would be expected to discourage employee turnover and to promote the formation of more firm-specific human capital.

Complementary Effects of Employee Participation

Several authors have suggested that financial participation plans, such as PSPs and ESOPs, and information-sharing programs are complementary. For instance, Levine and Tyson (1990) argue that successful information sharing requires financial participation schemes that assure financial rewards for continued participation in information sharing by employees.

Weitzman and Kruse (1990) argue that PSPs are subject to the “free-rider” problem. Consider someone working for a large firm, say, one with 10,000 employees. The firm adopts a PSP in which the employee’s total compensation is linked to the firm’s profitability. The employee knows that if he or she works harder, the firm’s productivity will increase, its profitability will improve, and his or her total compensation will therefore increase. Insofar as the benefit of rising compensation exceeds the cost of working harder (including the cost of having less leisure), the employee will work harder.

Assume that the benefit of working harder exceeds the cost for all employees and that monitoring each employee’s effort is relatively easy. In this case, everybody works harder and receives higher compensation. But if monitoring each employee’s effort is not easy or is prohibitively costly, our employee realizes that he or she can merely pretend to work harder and can enjoy leisure without getting caught. The employee also realizes that since his or her shirking will have little effect (only 1/10,000) on the firm’s labor productivity and overall profitability, he or she can still enjoy higher compensation without working harder. In other words, the employee thinks he or she can get a “free ride” on the effort of the remaining 9,999 employees. A problem arises because the remaining 9,999 employees can make the same calculation. When enough people decide they do not have to work harder to benefit, productivity does not rise, profitability does not improve, and nobody receives higher compensation.

If the free-rider problem is not substantially reduced, PSPs will not yield favorable incentive effects. The free-rider problem can be alleviated when workers develop a strong, long-term commitment to the company and/or when workers engage in active peer monitoring. Since information sharing is a mechanism to facilitate the development of a long-term commitment to a firm by its workers, it follows that the favorable productivity effects of financial participation are complemented by information sharing.

Another example of complementary effects is the relation between corporate and shop-floor JLMCs, mentioned earlier. Shop-floor JLMCs complement the favorable productivity effects of corporate JLMCs by helping disseminate to the rank and file the information shared in JLMC meetings.

Crowding-Out Effects of Employee Participation

In contrast to assertions that a complementary relationship exists between information-sharing and financial participation practices, an argument can be made that the plans, both being financial participation devices, are substitutes for each other and crowd out each other's favorable productivity effects. Likewise, JLMCs, NUEAs, and SGAs, all being information-sharing devices, may crowd out each other's productivity effects. For instance, introducing an SGA to a firm that has no information-sharing programs may be expected to have a substantial impact on information sharing in that firm and therefore on its productivity. However, introducing an SGA to a firm that has already established strong information sharing through a JLMC or an NUEA may result in little or no improvement in productivity.

Unions and Employee Participation

Unions can complement employee participation programs. For instance, the presence of union representatives on a corporate JLMC can reduce employees' skepticism about the committee and encourage their full participation. Moreover, unions can increase the effectiveness of information sharing by disseminating information shared during corporate JLMC meetings to the rank and file through formal and informal union meetings and newsletters.

Participation in SGAs is sometimes hampered by employees' fears that their proposals to enhance productivity may result in the elimination of their jobs. The existence of a union, which fights to protect jobs, can ease this fear and thus encourage more wholehearted participation by employees.

Evidence on the Productivity Effects of Employee Participation

To investigate the effects of employee participation on productive efficiency, Kato and Morishima (1995) estimated the extent to which output was affected by the institution of various participatory HRMPs.¹⁶ To see how the methodology works, consider a simple example in which only corporate JLMCs are included in the analysis. Suppose a firm in the sample introduced a corporate JLMC five years ago. We first estimate the extent to which the firm's total productivity changed during each successive year after the introduction of the JLMC. We next estimate the extent to which other factors that may influence productivity (such as labor and capital) changed during each successive year after the introduction of the JLMC. We then subtract the productivity changes due to changes in other factors from total productivity changes to estimate the productivity effects attributable to the JLMC. By examining how the productivity effects of the corporate JLMC changed over the five-year period, we can also learn about the dynamics of the productivity effects.¹⁷ We highlight the key findings from our preliminary analysis.

The installation of four types of participatory HRMPs (corporate JLMCs, NUEAs, ESOPs, and PSPs) was found to lead to significant positive productivity gains. Furthermore, the productivity gains were found to change as HRMPs aged. For instance, the introduction of a corporate JLMC was found to boost productivity initially by 9 percent annually. More precisely, the annual productivity for several years after the introduction of a corporate JLMC was 9 percent higher than before the introduction of the institution, other things being equal. Productivity gains were found to rise over time and reached their highest point (11 percent) 23 years after the introduction of the JLMC. After their highest point, productivity gains were found to

diminish continuously. We interpreted this life-cycle pattern of JLMCs as follows. At first, workers are not entirely committed to the new management initiative. However, as time goes by, workers' commitment increases. At the same time, both management and labor refine the JLMC through "learning by doing." As a result, the efficacy of the JLMC rises as it ages. However, after 23 years there will not be much room left for learning by doing; in addition the enthusiasm among managers and workers fades away. Eventually, the productivity gains reach a point of such low gain that the implementation of a new program for information sharing seems warranted.

A significant complementarity between NUEAs and PSPs was found. The positive productivity effects of information sharing were found to be reinforced by financial participation through PSPs. The positive productivity effects of financial participation via PSPs were complemented by information sharing.

The favorable productivity effects of information sharing were found to be reinforced by the presence of formal trade unions, pointing to a complementary relationship between information-sharing programs and unions.

Summary and Lessons for Public Policy

The key findings of this paper are:

1. Employee participation and labor-management cooperation was widely diffused and deeply rooted in Japan.
2. Employee participation tended to enhance productivity in Japan.
3. Information-sharing and financial participation programs tended to complement each other in raising the productivity of Japanese firms.
4. Japanese unions appear to have played a complementary role in employee participation in information-sharing programs.

One must be cautious in drawing any specific lessons for U.S. policy from the Japanese experience because what has worked in Japan may not work in the United States. The Japanese institutions discussed here did not evolve in isolation from Japanese culture and traditions. Moreover, the findings on the productivity effects of employee participation in Japan are still preliminary.

Having said this, a number of general lessons from the Japanese experience can still be drawn to help guide U.S. policy “to enhance workplace productivity through labor-management cooperation and employee participation” (Commission on the Future of Worker-Management Relations 1994, xi). Three of these lessons follow.

Encourage the diffusion of participatory HRMPs and foster their maintenance once they are adopted. My analysis of the Japanese experience of employee participation tends to lend support to one of the key findings of the Dunlop Commission, namely, that employee participation and labor-management cooperation, if widely diffused and sustained over time, tend to increase workplace productivity and to contribute to the nation’s competitiveness and standard of living (Commission on the Future of Worker-Management Relations 1994, 56). This finding points to a general justification for public policy that encourages the diffusion of these participatory HRMPs and their maintenance once adopted. As to the question of what forms of public policy are more desirable, the Japanese appear to have favored the informal roles of data gathering, research, information dissemination, and education over a more formal type of intervention, such as tax incentives.¹⁸

Encourage the adoption of both financial participation and information-sharing programs. Current U.S. public policy provides tax incentives for instituting financial participation programs, such as PSPs (deferred plans) and ESOPs, but not for instituting information-sharing programs. The Japanese experience points to a complementarity between information-sharing and financial participation programs. Considering the preliminary nature of the evidence on complementarity between these programs, not only in Japan but in other nations,¹⁹ it may be premature to recommend tax incentives for installing information-sharing programs. Perhaps it is better at this time to

recommend an educational role for public policy, such as data gathering, research, and dissemination of information to the public.

Recognize the potentially beneficial role of unions in employee participation. The Japanese experience suggests that unions may play a positive, complementary role in information sharing. The potentially beneficial role of unions in employee participation may need to be recognized in public policy discussion. It might be less costly and more effective to work with unions in an effort to implement employee participation than to replace unions with JLMCs or NUEAs.

Notes

1. For instance, Morishima (1991a, 1991b) used firm-level micro data and found statistically significant positive correlations between the extent of information sharing through JLMCs and productivity and between stronger JLMCs and shorter and smoother wage negotiation. For financial participation, Freeman and Weitzman (1987) used industry-level aggregate data and found statistically significant positive correlations between bonuses and the employment level. However, Brunello (1991) used firm-level micro data, from which industry-level data are aggregated, to account for a number of potential biases inherent in the use of aggregate data, and found *no* statistically significant positive correlations between bonuses and the employment level for the electric machinery, car, and steel industries. Recently, Jones and Kato (1995) used firm-level panel data and found that the introduction of an ESOP led to a 4 to 5 percent increase in productivity, that this productivity payoff did not appear immediately, and that there was a modest productivity gain from the bonus system.
2. Our sample universe was, therefore, a catalogue of virtually all listed firms in Japan. The only listed firms not included in the sample universe were about three dozen firms listed only in other local stock exchanges.
3. For instance, in June of 1991 the Rengo Research Institute of General Life Development (Rengo Sogo Seikatsu Kaihatsu Kenkyu Jo) mailed questionnaires asking about labor conditions and information sharing to 6,800 firms in Japan and received usable responses from 689 firms (a response rate of 10 percent) (Rengo Research Institute 1992). In June of 1989 the Japan Productivity Center (a private research and educational organization) mailed questionnaires asking about HRMPs to 1,030 firms in Japan and received usable responses from 203 firms (a response rate of 19.7 percent) (Japan Productivity Center 1992).
4. Other important economic effects of participatory HRMPs, profit-sharing plans in particular, are their macroeconomic effects on the employment level

and its fluctuation, which has been studied by many researchers. For a survey of prior studies on this issue, see, for instance, Jones, Kato, and Pliskin (1994).

5. The Japan Productivity Center also has played an important role in data gathering, information dissemination, and related activities in this area.
6. For instance, according to Morishima (1991a, 1991b), close to 90 percent of labor representatives reported that management provided them with confidential information on the profitability of the firm during the 1981 JLMC meetings ("confidential" being defined as information that labor would not have obtained had it not been provided during the JLMC meetings).
7. Ministry of Labor survey data show that 72 percent of the 3,800 private enterprises with 100 or more regular employees had a standing corporate JLMC in 1984 (Morishima 1991a, 1991b). Our 1984 figure of 75 percent was remarkably close to that of the larger governmental survey.
8. In 1993 84 percent of firms reported having a union.
9. According to the *Survey of Labor-Management Communications and Working Conditions (Rodo Jyoken to Roshi Communication)* by the Rengo Research Institute of General Life Development (1992), 71 percent of responding firms had an NUEA in 1991. Moreover, Sato (1994) reports that in his sample of 374 small- and medium-sized firms 63.7 percent had some type of NUEA. The figure reflects the fact that the institute's sample included many more small, non-unionized firms than did ours.
10. For institutional information on Japanese ESOPs, I draw heavily on Jones and Kato (1993, 1995).
11. In practice the general director sometimes assumes the directorship without formal election (based on interviews by Kato with the general directors and/or middle managers in charge of employee benefits of four manufacturing firms in Aichi and three nonmanufacturing firms in Tokyo, summer 1991).
12. An average worker's household is defined as one in which the head of household is a nonexecutive employee.
13. "Termination" refers to a firm's discontinuing its ESOP.
14. The figure is nearly identical to that reported by a large governmental survey called the *General Survey of Wages and Hours-Worked System (Chingin Rodojikan Seido to Sogo Chosa)* (Japan Ministry of Labor 1985).
15. In the context of trade unions, this argument was first developed by Freeman (1976).
16. Specifically, we used a fixed-effect model estimation of a production function augmented by the selected HRMPs. Our framework is similar to the one adopted by recent studies on the productivity effect of financial participation.

See, for instance, Cable and Wilson (1989, 1990), Wadhvani and Wall (1990), Kruse (1992), Kumbhakar and Dunbar (1993), and Jones and Kato (1995).

17. The fixed-effect model estimates did this calculation for all firms in the sample and tested whether the obtained productivity effects of the corporate JLMC were real (or statistically significant). The methodology required the collection of additional data on output and various factors (such as labor and capital) that might have influenced productivity and the merging of these data with the data from the HRM Survey of Japanese Firms. Unfortunately, the merging resulted in a substantial reduction of the sample size. Moreover, since many firms declined to respond to questions on shop-floor JLMCs and SGAs, including these two HRMPs in the estimate would have resulted in a further substantial reduction of the sample size. In addition, our preliminary investigation that included these practices suggested that they may be less important than other HRMPs. Thus, the focus of the analysis was narrowed to include only corporate JLMCs, NUEAs, ESOPs, and PSPs. However, we will revisit shop-floor JLMCs and SGAs in our future work where we do not have to be so parsimonious.
18. The role of the main bank as a committed, long-term supplier of capital to Japanese firms has been studied extensively in recent years. Arguably, thanks to the actions of main banks, Japanese firms may have been able to secure capital for investments in participatory HRMPs despite the fact that the outcomes of these programs are often intangible, hard to monitor, long term, and often risky. If this is the case, public policy to facilitate the financing of investments in participatory HRMPs may be desirable. Information on Japanese financial corporate groups (financial *keiretsu*) can be found in Nakatani (1984) on the economic effects of belonging to corporate groups; Hoshi, Kashyap, and Scharfstein (1990, 1991) on the effects on investment of belonging to corporate groups or having strong ties to main banks; Lichtenberg and Pushner (1992) on the effects on productivity and profitability of equity ownership of main banks; Morck and Nakamura (1992), Anderson, Jayaraman, and Mandelker (1992), and Kaplan and Minton (1993) on the influence of the main bank on board member appointments; Weinstein and Yafeh (1993) on the effects on price-cost margins of belonging to corporate groups; Montalvo and Yafeh (1993) on the effects of belonging to corporate groups on the acquisition of foreign technology; Weinstein and Yafeh (1994) on the effects of being a main bank client on the use of capital-intensive technologies and firm performance; and Kato (1995) on the difference in the level and structure of executive compensation between group firms and independent firms.
19. For evidence on complementarity in other nations, see Ben-Ner and Jones (1992), Fitzroy and Kraft (1987), Weitzman and Kruse (1990), Levine and Tyson (1990), and Jones and Pliskin (1991).

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