Book Review

Masahiko Aoki, *Information, Incentives, and Bargaining in the Japanese Economy*, Cambridge: Cambridge University Press, 1988. ISBN 0-521-35473-0, ISBN 0-521-38681-0, 1989.

This study is an attempt to unravel the mystery of the "cultural" elements which are often cited as the real factors producing the Japanese industrial miracle. It explains Japanese industrial achievements by focusing on informational and institutional practices unique to the Japanese work environment. This study is in response to the total inadequacy of the neoclassical explanation of the Japanese industrial success. The neoclassical emphasizes, the differential savings and tax rates among nations. Aoki offers a sociological explanation for the success by emphasizing the Japanese family-like ties in the workplace, which is often overlooked by Western individualists.

While the neoclassical prescribe coordinated public policies designed to alter the maximizing behavior of economic agents, the cultural sociologists prescribe either drastic cultural change or else complete protectionism! Aoki, however, sensibly positions himself among those who believe that the central feature of the work environment in Japanese firms can be adopted by Western firms without these firms having to abandon the Western individualist tradition. Furthermore, Aoki develops a larger theoretical model to explain important phenomena omitted from neoclassical models. It turns out that the Japanese family-like small-group orientation is neither a necessary nor a sufficient condition for the preservation and emulation of the Japanese system. Instead, individual integrative skills and communication technology are the crucial pillars of the Japanese system. The skills can be encouraged by a well-designed incentive and bargaining scheme and are well worth study by students of Small Business Economics because they alter the traditional emphasis on the division of labor and specialization and instead promote skill diversification rather than specialization. Such skills are among the distinctive features necessary for the survival of small business.

The book starts by connecting the Japanese firm's flexibility in adapting to technological and market changes to its reliance on decentralized, internal information systems first developed by Toyota and known as the *Kanban* system. The latter system use used to transmit, through computer terminals, sheets of schedules containing information, such as general production guidelines, orders for parts from suppliers, quality control tips and market reactions. This information structure is based on an integrated approach to honing workers' skills. This allows for (1) horizontal communication among functional units that involve knowledge sharing brought about by job rotation, and also (2) autonomous problem solving at individual work units which range from operational tasks to managerial ones, including informal personal networking with colleagues across jurisdictional boundaries. Integrated workers' skills are developed by having entry-level workers ascend through "job ladders" where they start by performing elementary tasks then move on to related but more sophisticated tasks. Once workers' skills become flexible, job rotation follows. Contrary to the "right man in the right place" method, adhered to by U.S. shop-floor managers, job ladders give rise to higher efficiency levels. Still, even rotated workers are unable to solve problems taking place during unexpected emergencies and appropriate specialists must be called in by coordinators through a hierarchically structured chain of command. In the Japanese firm, however, the independent initiatives and cross-jurisdictional communication allow for the integration of the coordinating and the operating tasks, both at the shop-floor level and between shop-floors on different levels. The role of the

Small Business Economics **4**: 333—336, 1992.

higher level management in this system is to facilitate horizontal communication among operating units and to make strategic decisions in a constituent-based manner. Such a structural pattern, according to Aoki, is effective in allowing an organization to adapt its operations to a continually changing environment in a time-efficient manner.

While a *decentralized* information structure is the mode of interaction at the operating and the coordinating levels of the shop-floor, a *centralized* system of personnel administration assesses the individual employee's progress in acquiring skills, his motivation to learn, his ability to cooperate and diligence in accordance with an overall evaluative scheme. Chapter 3 refers to this as *the duality principle.* The "ranking hierarchy" is used as an incentive to develop such integrated skills of workers whereby workers compete for promotions on the basis of then learning achievements.

In addition to seniority pay, the Japanese employee is rewarded according to merit assessments. The firm-based labor union bargains with the stockholders (with the management acting as an intermediary) on the criteria of the assessments and the rewards for each grade of employees within the ranking hierarchy.

On the myth of lifetime employment, Aoki reminds us that only a small percentage of people fulfill that expectation. In fact, an increase in the rate of discharge nearly always begins when a firm has to reduce more than 10 percent of its man hours in response to a fall in the demand for output. This, however, causes a reputation problem to employers who discharge senior level employees. Employees whose performance does not meet the required standards are also discharged. They, in turn, acquire a reputation problem by being stigmatized as "low productivity workers." In general, individuals who are potentially capable and willing to endure long-term training within a firm which have a mutual interest in maintaining a long-term association, expect their employment to be quasi-permanent. That status is maintained by collective bargaining between the management and the enterprise-based labor union and complemented by individual bargaining regarding the terms of employment over their entire careers.

Problems of corporate finance are discussed in Chapter 4. Aoki explains the decline in long-term bank financing by the liberalization of the bond market which enhanced the marketability of corporate bonds and made them more attractive to individual investors as well as to others. The implications of the latter change for the position of the individual stockholder, in particular, and for the strategic decisions for the firm, in general, are discussed in great detail in Chapters 5 and 6, respectively.

Aoki argues that, despite the stockholders' limited power over selecting, supervising or motivating the management of the firm, the individual stockholder is not an outsider controlled by the employees. Rather, the stockholder is part of a stable constituent body of the Japanese firm playing a part in an elaborate bargaining game. Using the well-known metaphors of neoclassical economics, Aoki represents the Japanese firm as an "equilibrium outcome of a bargaining game" between the body of quasi-permanent employees as represented by the enterprise-based union and the stockholders. A "gift exchange" of employee diligence for an expectation of lifetime job security is modeled as "the efficient and equilibrium resolution" of the interests of the two parties. The bargaining variables are those relevant to the payoff to the stockholders (share prices) and the payoff to the quasi-permanent employees as represented by the "collective objective function" of enterprise-based labor union. The bargaining variables also include strategic managerial variables such as investment, employment and relocation. The agreement regarding some variables defining the bargaining outcome may not be contractual but implicit agreements. The management, in this bargaining game, plays the "neutral" role of a mediator who formulates strategic management decisions agreeable to all parties. This idealized role of the Japanese management is particularly striking throughout Aoki's work. The *only* vested interest which they seem to have is the maintenance of consensus among the conflicting interests of other parties. Can this be true?

Chapter 6 begins with an analysis of the contract and what it tells us about the incentive aspects of transactions that occur between subcontractors who sell parts and services to the large manufacturers. Aoki identifies factors that affect the efficiency of the contracting process and help shape its outcome. Aoki's analysis, challenges the popular view that manufacturers have monopsonic power to force subcontractors to bear the burden of costs and demand fluctuations for the purpose of selfishly insulating themselves from the hazards of the business cycle. Instead, Aoki shows that it is the manufacturer who absorbs a great proportion of the risk involved in price fluctuations, thus acting as a de facto insurer for the subcontractor. The sharing of business risk is also manifested in the corporate groupings brought to insulate the firm from takeovers and to share the risks arising from the quasi-permanent status of employees.

Chapter 6 also analyzes innovation in the Japanese firm. The R&D laboratory in the Japanese firm, actually interacts directly with the manufacturing operations at the shop-floor level. Thus, given the custom of horizontally transmitted information, this direct communication may explain the success of Japanese commercialization. One characteristic of Japanese innovation is how much of it is done by the established firms and not by independent firms founded by scientist-entrepreneurs and financed by venture capital. However, despite the merits of the Japanese small-group orientation in adapting to changing market conditions, Western individualistic orientation is more appropriate for radical innovations that exceed mere product innovations. For radical innovations require direction and information initiated by those outside the shop-floor, who are not committed to the maintenance of established routines.

Chapter 7 studies the role of the government in balancing the interests of the various constituencies and the national interests. While an ambiguity surrounds the exact meaning of the expression, "national interest," Aoki charges that both the developmental theory of the state (the view of the state as a guardian of the national interest) and the market supremacy-pluralist theory (where each bureaucratic agency is regarded as an agent of the jurisdictional constituent and where public policy is regarded as an outcome of expensive bargaining among agencies) are one-sided representations of the nature of the Japanese government. Aoki states that the dualistic role of mediating between private interest and public interest is "intrinsic to the Japanese bureaucracy." He explains this dualistic nature of the government by comparing it to the dualistic structure of the Japanese firm. The intrabureaucratic process, he agues, reflects (1) decentralized responses to emerging problems at the place where the most relevant on-site knowledge is located, (2) coordination through bargaining rather than hierarchical direction, (3) a ranking hierarchy as an incentive scheme and (4) a constituent based leadership. Here again, Aoki represents an idealized role of the Japanese government as a guardian angel. In my opinion, this seems to conflict with the widely spread evidence of the betrayal of the public interest voiced each day in the media.

Chapter 8 concludes that, while small group-oriented teamwork contributes to the organizational practices of the Japanese firm, it alone is neither necessary nor sufficient for the formation of a viable system that can be transplanted in Western firms. Instead, the *duality principle* representing horizontal coordination and a centrally administered ranking hierarchy are the necessary elements for the formation of a Japanese-like system. The latter is designed to restrain the development of the interests of small groups which conflict with the general interests of the firm. Furthermore, workers' "intellectual skills" could be developed by shifting their tasks in order to make them more flexible in coping with emergencies. These skills could be nurtured by a carefully designed intra-firm career development program combined with a job rotation scheme. Workers' acquisition of diversified skills could be followed by an introduction of a Japanese-like information processing at the shop-floor to replace the traditional job control unionism within industries that are required to adapt faster to changing marketing conditions.

The study gives the impression to the reader that all Japanese firms have unified characteristics. This, however, may be one of the weaknesses of trying to model the behavior of firms. The researcher is tempted to overlook differences in behavior for the sake of establishing generalizations. In general, and despite Aoki's noncritical approach to examining hierarchies in firms and governments, his work is a worthwhile contribution to the literature and provides the reader with detailed information about the role of non-hierarchical coordination in modern industries. The reader may also find it useful to refer to an independent but related study of the merits of informal and spontaneous coordinative mechanisms for more effective management (See D. W. Chisolm, *Coordination with Hierarchy: Informal Structures in Multiorganizational Systems*, [Berkeley: University of California Press, 1989].

MARK K. TOMASS
Emmanuel College