

Change and Transformation in Asian Industrial Relations

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We argue that industrial relations (IR) systems change due to shifts in the constraints facing those systems and that the most salient constraints facing IR systems in Asia have shifted from those of maintaining labor peace and stability in the early stages of industrialization to those of increasing both numerical and functional flexibility in the 1980s and 1990s. The evidence to sustain this argument is drawn from seven "representative" Asian IR systems: Japan, South Korea, Singapore, Malaysia, the Philippines, India, and China. We also distinguish between systems that have smoothly adapted (Singapore, Malaysia, and the Philippines) and systems that have fundamentally transformed (China and South Korea) and hypothesize about the reasons for this difference.

JUDGING FROM THE ATTENTION PAID BY RESEARCHERS, it would seem that the 1980s and 1990s were a period of change, turmoil, and even transformation in industrial relations (IR) systems all over the world. Much of this literature has been based on evidence from the advanced industrial nations (e.g., Locke 1996; Katz 1993; Kochan, Katz, and McKersie 1986; Streeck 1988; Frenkel 1988; Bray and Haworth 1993; Armingeon 1994). While there are dissenting views about whether IR has in fact transformed in these nations (e.g., Golden, Wallerstein, and Lange 1997, Crouch 1993, Hyman 1994) and there have been attempts to make distinctions between

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transformation and nonfundamental change (e.g., Erickson and Kuruvilla 1998a), there is broad agreement on the main factor driving these changes: increasingly competitive environments caused by the integration of world markets, as well as the direction of the change: decentralization of bargaining, and a movement toward increased flexibility in wages, labor deployment, and at the workplace level.

Relatively less attention has been paid to how IR systems have changed in the developing nations of Asia, Latin America, and Africa, with some exceptions.¹ Given that several Asian countries have seen considerable changes in their IR systems in the 1990s, the goal of this article is to attempt to understand the nature of the changes and to evaluate whether or not they amount to fundamental transformations. The similarity in the timing of change in Asian IR systems with that of the West (both occurred in late 1980s and early 1990s) raises the possibility that there are universal driving forces, although idiosyncratic national forces presumably also are at work. If in fact the forces driving change in the West (primarily increased competitive pressures) operate globally, then one would expect Asian IR systems to be most likely to evidence changes (relative to African or Latin American IR systems), given that Asian nations generally are more exposed to the global economy (World Bank 1998).²

To facilitate this investigation, we first propose an argument regarding IR system change. We then examine the extent to which Asian IR systems are changing and whether the directions of change are similar to those we have seen in the advanced industrial countries outside the region. Thereafter, we characterize the key features of IR change, including whether or not the changes constitute fundamental transformations, based on recent work regarding how to judge whether a transformation has indeed taken place (Erickson and Kuruvilla 1998a).

Given that an exhaustive review of all Asian IR systems is beyond the scope of one article, we focus on representative systems. Kuruvilla and Venkataratnam (1996) argue that IR systems in Asia are typified by six distinct stylized models: the Japanese flexible-workplace model, the

¹While there are many works that examine changes in IR systems in industries and firms in developing countries, relatively few have studied IR systems change across countries. See Frenkel and Peetz (1998), Kuruvilla (1996), and Cook (1996) for some examples.

²Asia's overall trade with the advanced industrial world is higher than that of Latin America or Africa, and Asia has taken the lion's share of the foreign direct investment to date from the advanced industrial nations. Moreover, on contemporary measures of openness (e.g., average tariffs, exports/imports as a percentage of gross domestic product, and FDI as a percentage of gross fixed capital formation), Asian economies, on average, score significantly higher than their counterparts in the other developing regions. These data are available in the World Investment Report and several other publications from UNCTAD.

tripartite Singapore model, the state-employer-dominated model (Malaysia and Indonesia), the pluralist decentralized and fragmented IR model (the Philippines), the politicized multiunion model (India and the rest of South Asia), and the transitory model (a catch-all category that includes South Korea, Taiwan, China, and Vietnam). Note that the transitory model takes into account transitions from authoritarian rule to democracy (South Korea and Taiwan) as well as from closed to more open economies (China and Vietnam) during the last decades.

Therefore, we examine IR systems change in seven countries that conform closely to each of these models: Japan, South Korea, Singapore, Malaysia, the Philippines, India, and China. Not only are these countries representative of the Asian region in general terms (they constitute the majority of Asian gross domestic product and population), but they also represent the range of IR systems and they provide a good representation of the different levels of economic development within Asia (with Japan being an advanced industrialized country; South Korea and Singapore being newly industrialized countries, also known as “Tigers”; Malaysia and the Philippines being newly emerging industrial nations; and India and China having opened their doors to the world economy only recently).

Our focus is primarily on the unionized sector in each country. In most cases, this sector is a relatively small percentage of the total workforce (union densities in the countries in our sample vary from 6 to 19 percent, with China the exception at 70 percent). However, if one calculates density as a percentage of the industrialized workforce or wage and salary earners (the OECD uses this basis to calculate union density), these figures are much higher. For instance, although overall Indian union density is somewhere between 2.6 and 6 percent, it is about 38 percent when calculated as a percentage of wage and salary earners and almost 74 percent when calculated as a percentage of formal sector workers (Das 2000). Thus, despite small densities by some measures, the unionized sectors are significant (and often leading edge) parts of the economy.

Forces Driving IR Change

Most institutional frameworks used for studying IR systems identify forces that drive IR change—for example, both Dunlop (1958) and Kochan, Katz, and McKersie (1986) highlight the importance of the economic, technical, social, political, and legal environments. Although many different forces can cause change in IR systems, we argue that at any given moment, some forces will be more urgent than others. While the movement from

external influences through process to outcomes may be complicated and difficult for the actors within the system to perceive, the actors nevertheless will attempt to attend to the more salient of the external constraints (if the system is at all functional). This is not to suggest that an IR system should be treated as a single rational actor but rather that particularly urgent external influences will spur action by various different actors (based on their perception of the external influences). For example, it is possible that only one group of actors might respond "strategically" to an external influence, leaving the other actors to react to these actions. Alternatively, it is possible that intended actions often have unintended consequences but that the actors will continue to attempt to address a salient constraint in some manner until it is accommodated adequately (even if through a system "chancing" on a workable set of institutions) or otherwise becomes less salient.

A crucial aspect of the argument is that the most salient constraints facing IR systems throughout the world have shifted over time. However, it is also necessary to note that historically, IR systems have not changed all that much; i.e., there is a tendency for them to get set and remain unchanged for long periods, except for minor modifications (Katz, Kuruvilla, and Turner 1994; Erickson and Kuruvilla 1998a). Yet the last decade has been a period of upheaval in IR systems in the West as well as in Asia, suggesting the possibility that urgent pressure for change has come from the same source. We argue here that there has been change recently in both the most salient constraints and in the overall systems.

Most IR systems in the West and in Asia were institutionalized formally in the decades following World War II [see Kochan, Katz, and McKersie (1986) for the U.S. case and Erickson and Kuruvilla (1995) for several other countries]. In these first decades after the war, most governments and large companies gave priority to maintaining labor peace. For example, note that in the United States the Wagner Act was promulgated to provide a constructive structure for unions to organize in the wake of the sit-down strikes and other incidents of labor unrest during the depression, whereas the Taft-Hartley Act was designed as a counter to the powerful unions and the wave of strikes after World War II. In addition, this phenomenon was not limited to the United States. In Japan's case, for example, there seems to be support for the argument that the basis for the postwar Japanese IR system was the need for the development of strong internal labor markets in Japan in the 1950s, given the problems of strikes and high labor turnover rates (Takahashi 1997; Nakamura and Nitta 1993). In another example, DeSousa (1999) suggests that Indian labor laws were formulated with the explicit purpose of containing industrial conflict: to make it difficult for the parties to go on strike by mandating

some form of third-party dispute resolution and by attempting to foster “responsible” trade unionism rather than militant trade unionism in both colonial and postcolonial regimes.

There is evidence that the introduction of formal IR rules and regulations in many other Asian nations focused initially on the control of conflict [see Hiers and Arudsothy (1999) for Malaysia, Chew and Chew (1995) for Singapore, and Ofreño (1994) for the Philippines]. As we will discuss below, industrial peace or stability was seen as a prerequisite for economic development in many of the countries (be it a colonial view of economic development or a nationalist conception of the same). The imperative to control conflict and provide industrial stability in the postcolonial state was critical, given the adoption of industrialization as the engine for economic growth (Kuruvilla and Mundell 1999). In effect, what we are highlighting is the tendency of IR rules and regulations to focus heavily on addressing or reducing conflict at the time of their inception, although we also note that more highly developed nations such as Japan and the United States also emphasized industrial peace in the immediate postwar era. However, we also want to stress that there have been many differences in the ways the various Asian nations sought to attain this goal of industrial peace; i.e., they used differing institutional mechanisms. And it is also true that the goal of maintaining labor peace was influenced strongly by political considerations in some countries. For instance, several authors (e.g., Deyo 1989) have suggested that labor suppression in East Asia was motivated not solely by the need for economic development but as a means of political control to ensure the stability of the ruling regime.³

We argue that in Asia as in the West, as product markets became more open to foreign trade, communism weakened, and radical unions and parties declined (for various reasons); labor peace became less of a priority. At the same time, increased product market competition from overseas made cost reduction on the shop floor increasingly important. Such cost reductions often involved increased use of layoffs, temporary workers, and subcontractors. In some nations, cost reductions involved increased skills and labor reallocation within the firm. In other words, the most salient constraint has shifted over time from preservation of industrial peace and stability to the need to maintain and enhance firm-level competitiveness, and this need is driving IR systems throughout the world to focus on creating workplaces that are more flexible in both numerical and functional terms.

³Deyo (1989) suggests, for example, that in South Korea labor suppression predated rapid industrialization. This argument implies that for the South Korean government (the most powerful actor in South Korean industrial relations), the logic behind the imperative to maintain labor peace primarily was political in nature.

This did not happen overnight. In the West, the relative importance of maintaining economic competitiveness at the firm level (reducing labor costs and increasing productivity) as the most salient constraint gradually grew over the last three decades. The oil shocks, accompanying developments in consumer markets, and the increasing integration of all manner of markets led to the disappearance of rents and thus an increased emphasis on firm-level competitiveness. Some systems adapted smoothly to these changes—for example, the oil shock environment of the 1970s drove several European nations to introduce or strengthen codetermination as a means to improve the ability of firms to react flexibly to changes in the economic environment. For others, however, it took the pressures of the 1980s and 1990s, the increasing internationalization and integration of product and factor markets, and the predictions and perceptions generated by these developments to force the actors to begin seriously addressing the newly salient constraint of reducing unit labor costs and enhancing productivity. The upheavals in Western IR systems in the last decade are an indication of IR regulations and practices being changed in concrete ways to address this newly salient constraint, and in some countries, these changes amounted to fundamental transformation of the systems (Erickson and Kuruvilla 1998a).

We argue that Asian IR systems in the 1990s faced, to some extent, the same pressures. Many Asian nations have experienced continuous and unparalleled economic growth during the last 30 years (the newly industrialized countries) fueled by low-cost export-oriented industrialization strategies. But in the 1990s, given greater internationalization of product and factor markets, some of them are faced with the need to upgrade to higher value-added exports, implying a greater need for functional flexibility, as in Korea and Malaysia. In other cases, Asian nations have responded to the pressures of competition by articulating industrialization strategies that have opened their economies to a greater extent to both foreign direct investment and international trade and are confronted with the need for more functional and numerical flexibility in IR as a part of this transition. For example, in China and India, nations that have liberalized their economies only recently, the pressures to compete in the international marketplace are driving changes in IR to emphasize firm-level competitiveness. In Korea, democratization and the power of labor unions have forced Korean employers to seek new ways to maintain competitiveness, and this has forced them to change IR strategies. Thus the primary manifestation of the tightening of the firm-level competitiveness constraint can be seen in the search for more functionality and numerical

flexibility in IR. This is not to say that flexibility was not a concern earlier but more to say that it has become *the* central concern of IR actors in the 1990s in Asia.

The Concepts of Stability and Flexibility

It is important to clarify a central part of our argument: use of the terms *stability* and *flexibility* and their interrelationship. *Stability* is used here in its broadest sense, and stability-enhancing actions are interpreted to include the processes of eliminating the causes of industrial conflict, steering conflict away from the modality of strikes to the modality of compulsory third-party dispute resolution, centralized control of wage increases, and in some cases, asserting control over unions and strikes for political purposes. Each nation had a somewhat different conception of stability (as the case discussions below will show). For some actors (e.g., the government in India), stability at the time of institutionalization of the IR system focused on the control of conflict. Consequently, regulations were introduced to ensure that strikes should be withdrawn if either party requested conciliation services from the government. Similarly, the ability of employers to lay off employees was restricted by legislation to eliminate one potential source of conflict. For the government of Singapore, stability was seen as necessary for foreign investment and implied the control of strikes through mechanisms similar to those found in India; but it also implied control over wage bargaining (for nominal wage stability) through the institutional apparatus of the tripartite National Wages Council. Wage stability was seen as key in the early years of economic development. To reduce conflict, transfers, promotions, job assignments, and layoffs were declared "not bargainable subjects" in Singapore. In Singapore and Malaysia, giving the industrial arbitration court the authority to modify collective-bargaining agreements on the grounds that it did not meet the national interest was another method of ensuring some degree of stability (Kuruvilla 1996). In Malaysia, IR stability was linked with political stability, and union federations were not permitted to engage in political action. In more authoritarian regimes such as South Korea, union activity was curtailed severely and the imperative was primarily political rather than economic. Our point is that stability, broadly defined, was a central concern of the dominant actors during the inception of most IR systems in Asia.

Although stability was the most pressing constraint addressed at that time by the actors, we do not argue that these systems were not flexible. In fact, in some of the countries, the institutions that were designed to create

stability also provided a high degree of functional flexibility in particular. For example, the Singapore case suggests that while the restrictions on bargaining subjects (e.g., transfers, promotions, layoffs, and job assignments) were designed to reduce industrial disputes, they also provided employers with a considerable degree of flexibility in allocating workers. An even more powerful example is that of Japan, where the institutions that provided labor peace in the postwar era also allowed for a great deal of functional flexibility. However, in Singapore and Japan, facilitation of flexibility was not the central imperative driving the development of their IR systems at midcentury; rather, the initial achievement of labor stability provided an environment in which employers were later able to seek functional flexibility. Our argument is that the shift in constraints has created a situation where the imperative to increase various kinds of flexibility has become a central rather than a secondary concern. We now turn to a more in-depth discussion of the concept of flexibility.

Flexibility is also a multidimensional concept. As Grenier, Giles, and Belanger (1997) suggest, it is important to distinguish the institutional level at which flexibility is examined and the different types of flexibility. Thus flexibility can be examined at the level of the labor market or at the level of the firm or establishment. Flexibility at the level of the labor market refers to those economy- or industry-wide institutions that have undergone change to make the labor market function more effectively. Decentralization in wage bargaining from the industry level to the firm level would be one example of a movement toward this form of flexibility.

In this article we highlight flexibility at the level of the firm or establishment, which focuses heavily on the manner in which internal labor markets are configured to meet organizational needs (Grenier, Giles, and Belanger 1997). There are two primary strategies for achieving this form of flexibility: *functional* and *numerical*. They refer to "how" and "how much" labor is used. Functional flexibility strategies refer to those actions which modify existing internal labor markets, e.g., changes in work organization and the work process, investments in training and skills development, tying pay to performance, introducing other forms of flexible pay, and enhancing worker involvement in production decisions, and can include multiskilling, job rotation, work teams, and increases in labor-management collaboration. Numerical flexibility strategies typically involve increased use of casual and temporary labor, subcontracting, layoffs, retrenchments, and other actions that reduce employment security and the number of workers and externalize parts of the production system. Thus a decision to reduce employment and increase subcontracting is an IR system outcome, in our view. Other terms for the two types of flexibility include *static* (external) and *dynamic*

(internal) flexibility.⁴ In this article we will use the terms *numerical* and *functional flexibility*.

Because numerical and functional flexibility have different goals (one cuts labor, whereas the other tries to redeploy and motivate labor to be more productive), many have argued that they are incompatible. Yet Streeck (1988) suggests that some numerical flexibility operations such as the creative use of overtime and work sharing can coexist with functional flexibility. Grenier, Giles, and Belanger (1997) suggest that functional and numerical flexibility can coexist in a firm if the workforce is divided into a core group that is the target of functional flexibility strategies and a peripheral group that is the target of numerical flexibility strategies. It is even possible for firms that are already highly flexible internally to begin to focus on external flexibility, as we shall argue is the case in Japan. In general, however, numerical flexibility strategies appear to be followed by the search for functional flexibility,⁵ flexibility strategies predominate. Yet there are exceptions, as we note below.

Having defined numerical and functional flexibility, we will use these definitions in our characterizations of how IR systems are changing in the countries in this study. In sum, our hypothesis is that IR actors in the 1980s and 1990s have taken a number of actions to pursue numerical and/or functional flexibility in employment, IR, and human resources (HR) practices and policies as they try to adjust from older sets of salient constraints (the need for labor peace and stability) to the newer constraints (the need for the IR system to promote increasing firm-level competitiveness). Thus, to the extent that there is an underlying cause for the changes reported in the last decade in Asian IR, it is to be found in the general explanation of the shift in the salient constraints. We will attempt to characterize the types of flexibility strategies that predominated during the period of change in a given system.

Note further that we are not arguing that IR systems hinder or enhance the different types of flexibility (they can do either, depending on the nature of the specific practices). Instead, the argument is that the actors (and thus the systems) are now emphasizing numerical and/or functional flexibility as goals and are trying out various methods by which to gain this flexibility. One method toward achieving this is to change some of the institutions,

⁴See Grenier, Giles, and Belanger (1997), Streeck (1988), Piore and Sabel (1984), and Deyo (1997) for further discussion on different types of flexibility. Some authors suggest that wage flexibility should be a separate flexibility category, but we see the use of pay as a key component of internal labor markets.

⁵In part, in Asia, we view numerical flexibility strategies as a precursor to functional flexibility strategies due to the nature of the development of competitive advantage. In general, where competitive advantage is based on low costs, numerical flexibility strategies tend to predominate. Where competitiveness is based on high productivity and skills, functional flexibility strategies predominate.

rules, and practices. These are the major themes we shall investigate in the case studies that follow.

As we write this article, it is important to note that there have been 2 years of severe economic crisis in East and Southeast Asia. In this article we will take into account the short-term reactions of Asian IR systems to this crisis. Our results here are consistent with the view that the short-term reactions are fundamentally in conjunction with longer-term movements (i.e., precrisis) toward increased numerical and functional flexibility in IR and workplace arrangements throughout Asia (Erickson and Kuruvilla 1998b). If anything, the economic crisis has only accelerated movements toward increased numerical and/or functional flexibility and provided a facilitative way out of impasse regarding negotiations over increased numerical flexibility in particular. At the same time, however, the crisis also has spurred new movements toward tripartism and collaborative structures in some of the countries.

In the country cases below, we seek to identify the underlying logic of the IR system when the system was institutionalized, followed by a brief overview of its development and the current state of IR/HR policy and practice. Space limitations permit only a brief description of each case—we do not purport our cases to be comprehensive in their coverage of IR in each country. Rather, we are looking to see if in general, the movements in IR in each country are consistent with our argument. In the section following the case studies we attempt to characterize more broadly the nature of the recent changes in Asian IR systems.

Country Cases

Japan. There is general agreement that the central features of the Japanese IR system have included workplace-focused enterprise unions, lifetime employment systems, broad-based training, and seniority-based wages. There is also agreement that one of the key outcomes of the Japanese IR system, when examined in conjunction with related Japanese institutions such as the *keiretsu* system and the system of production organization (subcontracting and quality-focused, team-based work), is the simultaneous achievement of stability in labor market terms and considerable functional flexibility in workplace-level IR through the development of internal labor markets. Our goal here is to briefly review arguments regarding the historical development of the Japanese IR system in the twentieth century

and then to discuss recent changes and the substantial disagreement over the extent to which the system is fundamentally transforming.

IR policy and practice prior to 1990s. There is disagreement on the date of institutionalization of the Japanese IR system. Taira (1970) suggests that the lifetime employment practice developed in the late 1800s in the silk industry, where employers, forced to compete for scarce labor, instituted lifetime employment to create stable employment conditions. The key practices were encouraged by the government, which institutionalized several of them during the interwar period in its Factories Act of 1938. Enterprise unionism emerged after the war based on the structure of the firms (the large employers who accounted for a significant share of employment). Jacoby (1993) and Gordon (1985) also suggest that precursors to the current system could be seen in the company unions of the 1920s, with institutionalization occurring during the interwar period. Cusumano (1985) argues that it was the early labor-management crises in the postwar period, coupled with the revolution in production management (i.e., the engineering developments under Ohno Taichi), that account for the creation of the more advanced aspects of the internal labor market in Japanese industry, whereas Okayama (1986) also credits the industrial strife of the 1950s as the most important variable in the development of the Japanese IR system, a view also held by Kenney and Florida (1994) and Takahashi (1997), who argues that “the main stimulus [for lifetime employment] was the experience of large-scale conflict between labor and capital in the early postwar years, partly in response to many workers being made redundant as the war industries shut down. Employers sought a way to end or reduce this conflict. . . . [It was] not a social or political norm impervious to pressures of economic change.”

Clearly, these authors suggest that the most salient constraint in Japan during this period was the need for labor peace. However, the institutional structures that provided stable internal labor markets also provided Japanese employers with a high degree of functional flexibility in the use of human resources as lifetime employment, firm-specific training, and enterprise-based unionism became widespread. And the interconnections among corporations given the *keiretsu* structure [cross-corporate holdings and agreements or, as Gerlach (1992) and Berggerren (1993) have termed it, “alliance capitalism”] further enhanced flexibility because workers could be transferred from one company to another when needed within the *keiretsu*. These connections also made it more possible for firms to sustain their promise of lifetime employment (Berggerren 1993). The development of internal labor markets had an impact on the wider labor market and

education systems as well, as Nakamura and Nitta (1993) suggest. Nakamura and Nitta note that the development of internal labor markets and lifetime employment systems created a highly segmented labor force with little intersegment mobility. Thus those with lifetime employment invariably were those who graduated from the best schools, and those at lesser schools were forced to enter a different segment of the labor market, from which upward mobility was not possible. This system also made education very competitive as families strove to ensure that their children did well enough to get into the best schools and thus into lifetime jobs. These linkages reinforced the core of the Japanese system well into the early 1980s. Thus the picture that emerges (Table 1) is one characterized by highly functionally flexible IR systems within firms, in a context of a fair degree of rigidity in the labor market more generally. Dore's (1986) term "flexible rigidity" sums up this phenomenon.

It is also true that there were several changes in the Japanese system during the 1970s and 1980s. Notably, there was an erosion of the seniority-based wage concept as increasingly wages began to be tied to skills acquisition and productivity, and employers started the practice of midcareer hires in white-collar and technical occupations. The practice of *shukko*—transferring employees to other parts of the *keiretsu* during downturns—had gained in prominence over the last two decades. However, as we shall see in the next section, the changes in the 1990s were even more far-reaching.

Recent changes. Our argument is that in the 1990s there has been an acceleration of changes already underway, as well as changes in other practices that constitute the core of the Japanese system. This has been due

TABLE 1
JAPANESE IR PRE-1990

Union density and union voice	Union structure	Bargaining structure	Dominant IR and HR issues
Density declined steadily from approx. 25% in 1970s to 18.6% in 1995. Unions have had strong voice at workplace level as well as national level through labor federations (Rengo).	Largely enterprise-based, but each union is affiliated with major national labor federations.	Largely enterprise-based, with some informal coordination on wage bargaining through the spring Shunto	Highly developed internal labor markets at big firms (with lifetime employment and firm-specific training) that resulted in stability and functional flexibility, but some rigidity in external labor market terms.

in large part to the effect of the recession of the 1990s, as Berggeren (1993) argues, which has been the deepest one since the war. Thus, in the 1990s, there has been a significant questioning of the lifetime employment concept, with severe declines in job security on an unprecedented scale, changes in hiring practices from schools and universities, a dramatic increase in outsourcing strategies, the introduction of limited-term employment contracts for some occupations, increased wage flexibility, and some degree of union restructuring, along with evidence of the breakup of some *keiretsus*. By themselves, any one of these changes might suggest a gradual adaptation to new economic circumstances (and indeed, as noted earlier, some of this happened in the 1970s and 1980s), but all of this happening together in the 1990s suggests the critical importance of the recession of the 1990s in forcing employers to question their existing practices and act to change them. We discuss evidence of these facets of change below.

One facet of change is the decline in job security and lifetime employment, as well as changes in hiring practices. Berggeren (1993) reported the massive declines in capacity utilization, particularly in the automobile and electronics sectors, as Japanese manufacturers located more and more production in Southeast Asia in response to cost pressures. Shimokawa (1998) and Toyonaga (1998) report similar excess capacity problems in the automobile and electrical industries. In the electrical industry, Toyonaga (1998) argues that increased outsourcing of production from Japan (overseas production in this industry increased from 11 percent in 1990 to 16.8 percent in 1996) to other Asian countries has resulted in a net decrease in employment (male employment increased from 1.3 million to 1.4 million, whereas female employment decreased from 1.16 million to 900,000).

In these industries, both layoffs and plant closures have occurred (e.g., Nissan's Zama plant, Hitachi's recent layoff of 3000 workers), apart from large job losses for casual/temporary workers and women (traditional buffer groups that sustain the lifetime employment system). In general, there has been an increase in layoffs as a function of downsizing (Yamakawa 1999), and the average tenure in large firms decreased in the 1990–1994 period (Lincoln and Nakata 1997). In 1995, 4.2 jobs were lost per 100 workers, compared with 2.1 jobs per 100 workers in 1991.

The 1990s have witnessed a sudden and dramatic increase in outsourcing *within* Japan as well, termed *work commissioning*. A Ministry of Labor survey (*Japan Labor Bulletin* 1998) finds that 45 percent of 4500 firms surveyed had increased outsourcing due to the need for increased numerical flexibility. The survey shows two mechanisms of outsourcing. Either the work itself is subcontracted outside the company, or the job is kept within the firm's premises but is done by "dispatched workers" (workers employed

