

The Japan Model and the future of employment and wage systems

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In recent years, it has often been argued both inside and outside Japan that the country's conventional labour management practices, notably the life-time employment system (LES) and the seniority-based wage system (SWS), are nearing collapse. Indeed, the media have often carried reports of reforms at major companies which bear out this view. On the other hand, influential business leaders continue to stress their commitment to job security, and official statistics point to a rising, not a declining, trend in the LES. What should one make of this apparently contradictory situation? What is really happening? And, above all, what is the future of the LES and the SWS?

To a large extent, the current controversy stems from (1) confusion over the concept of LES, (2) the indiscriminate treatment of office and factory workers or, rather, the neglect of the latter, and (3) the failure to separate shorter-term effects of protracted post-bubble and IAS-related (International Accounting Standards) adjustment measures from secular labour market trends. Unravelling this confusion as much as possible, I shall address myself to the above questions. My analysis will be based partly on insights and information gained from enterprise-level field work conducted on different occasions and partly on secondary sources. Although it is primarily focused on the automobile and other machinery manufacturing industries, I believe my argument is mostly relevant to other manufacturing industries as well.

Employment and wage systems exist to sustain and promote productive activities and they decline when they become counter-productive. I will, therefore, start with an overview of what is called the Japan Model and briefly discuss central features of its production system and the pillar of this system, *Tanôkô* (workers with multiple skills and diverse expertise), as well as the *raison d'être* of labour management practices in the model. The reader will thus gain a fairly clear idea about what to expect in the future of the LES and the SWS as regards production workers, and this will then be tested in the

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light of official employment and wage statistics. In this process it will become clear that there is a trend towards greater diversification in the wage system and, to a much lesser extent, in the employment system. In conclusion, as far as factory workers requiring substantial training are concerned, there seems to be little reason to anticipate any drastic change in either area, in sharp contrast to workers in offices and services who are the main targets of the vigorous ongoing rationalization campaign.

Overview of the Japan Model

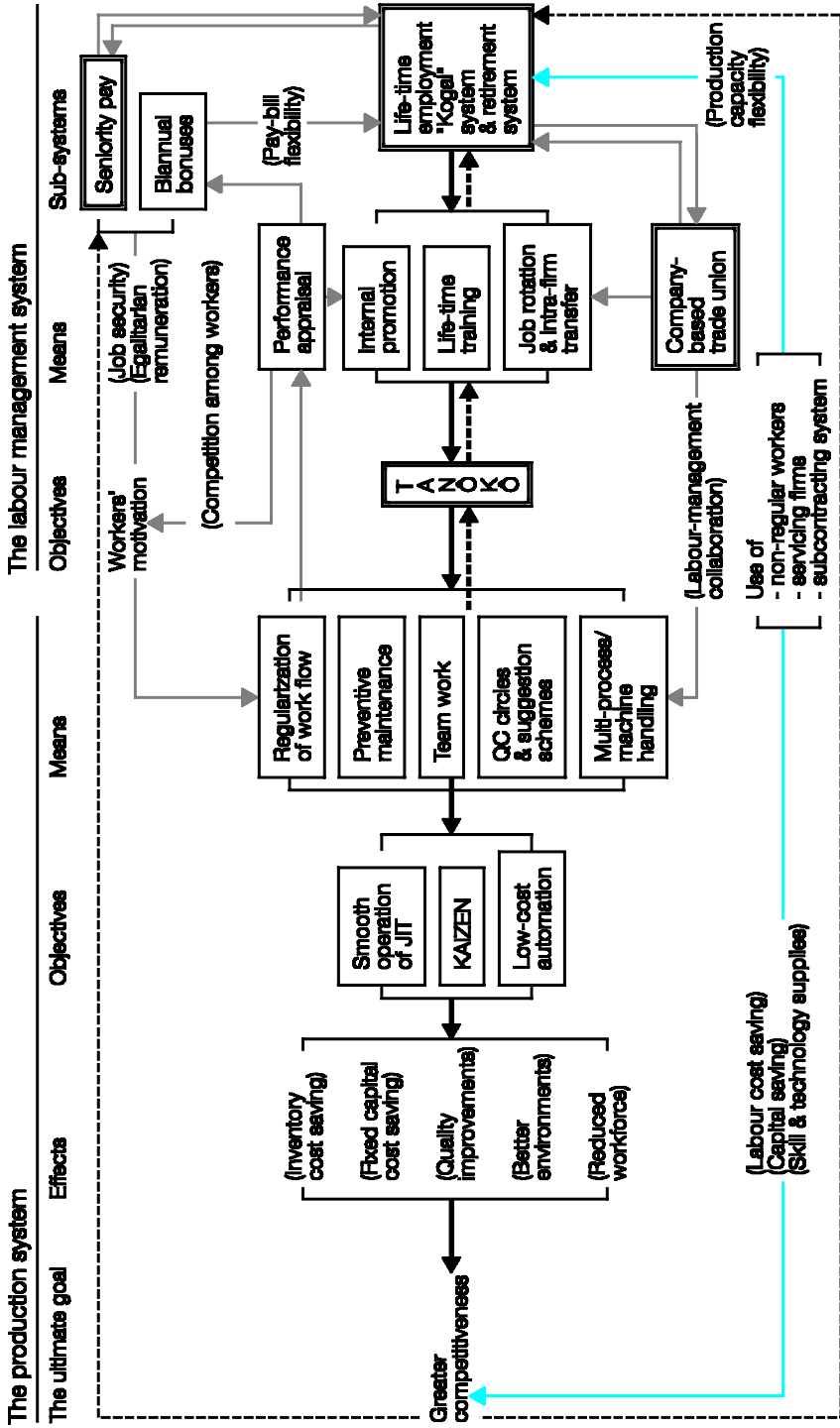
The model may be depicted graphically as in chart 1.¹ Extensively studied by Western researchers since the 1980s, its production system has been labelled “low-waste” (Oliver and Wilkinson, 1988) or “lean” (Womack et al., 1990). It broadly represents the system developed by Toyota Motor Corporation. Here, the key word is “flexibility”, which originates in *Tanôkô* teamwork, as will be shown below. The labour management system is built on the three pillars of the LES, the SWS and the company-based trade union (shown in double squares in chart 1), supported by a peculiarly Japanese personnel appraisal system. The role of this system lies in creating and accumulating *Tanôkô* within a company and in motivating them for learning and for “cooperative competition”. The key word here is “egalitarianism”.

The practical aspects of the SWS will be discussed below, but the concept of LES needs clarification here because of the confusion surrounding it, even among the Japanese. Some people argue that certain practices, such as the use of temporary workers, secondment (whereby the worker remains on the sending firm’s payroll) and inter-firm transfer, and early retirement with a premium bonus, are signs of the decline of the LES; some even maintain that the LES was an illusion from the beginning, in the light of these practices. Others, including myself, consider such practices to be integral to the LES: they are ways of reducing the cost of the LES to the employer and facilitating its survival through changing business conditions. As for secondment and inter-firm transfer, firms resort to these practices for various purposes — e.g. technical and managerial assistance, tightening of business links, workers’ capacity-building and the establishment of new subsidiaries. Labour force adjustment counts as relatively minor among these purposes (ML(a), 1995).

However, given the possibility of secondment and inter-firm transfer, as well as of early retirement, one cannot say that the LES *guarantees* employment within a company until retirement. Repeated secondment and inter-firm transfers mean that many employees of major companies spend significant parts of their careers working at other companies. Essential elements in the

¹ An earlier version of this chart appears in Watanabe (1996) in a much cruder form.

Chart 1. An overview of "The Japan Model"



LES are: (1) recruitment of inexperienced new graduates and in-house training (the *Kogai* system); and (2) the non-lay-off rule, or implicit job security, until the worker reaches contractual retirement age (but not necessarily within the same company).

In chart 1, the thick solid lines indicate directions of causal links central to the model as a whole, while the thin solid lines depict causal relationships among sub-systems within each sector. Directions of indirect or long-term effects are shown with broken lines. The causal link is not always uni-directional. For example, job rotation or planned intra-firm transfer is a means of fostering *Tanôkô*, and at the same time polyvalent workers permit the firm to adapt to business fluctuations and technological changes by means of intra-firm transfers, without resorting to lay-off or dismissal. Another example is the relationship between *Tanôkô* on the one hand and “QC circles” and teamwork on the other. The former are indispensable for the latter, but the latter help create *Tanôkô* and firms often use them for this purpose. An effect sought as a primary objective at one time may become secondary at another time, as the situation changes (hence the thick broken lines). Very few business systems or practices exist to serve just one purpose, and a given business objective is rarely pursued by only one means. This is why in chart 1 the various items under the heading of “means”, “objectives” or “effects”, as well as managerial practices, are respectively grouped together in brackets. Features shown inside round brackets (...) are effects sought either ultimately (those on the left-hand side of the chart) or tactically (those on the right-hand side).

Japanese firms’ production and managerial systems are supported by three external factors (effects shown with blue lines). First, they hire “non-regular” workers — that is, workers with contracts of under one year (since April 1999, of under three years for certain categories of workers) — such as seasonal or short-term workers and part-timers. The use of such workers helps save labour costs and enhances the firm’s adaptability to business fluctuations by limiting the number of regular employees. At major car-makers’ plants, for example, non-regular workers, mostly employed in final assembly work, account for 5-10 per cent of the total workforce during peak demand periods. Second, Japanese machinery manufacturing industries are known for their highly developed, multi-layered subcontracting systems based on stable and cooperative business relationships. For example, each automobile manufacturer directly controls roughly 200 “cooperative companies”, which supply functional components and collaborate in product development. The latter firms’ subcontractors, sub-subcontractors and parts-makers at even lower levels of the hierarchical structure help them to save labour costs and overhead costs and to meet peak demand, while some small subcontractors are there to do sophisticated, high-value-added work, such as prototype and mould production. Third, larger firms use external servicing (as opposed to manufacturing or processing) firms to meet highly specialized technical requirements, but more often to avoid employing certain types of workers

who are not required on a full-time basis or who can be employed by smaller firms at lower cost. For example, steel makers resort to such outsourcing extensively, notably for the maintenance of blast furnaces and large rolling mills, which requires highly specialized know-how, at regular intervals. In the automobile and other machinery manufacturing industries, where maintenance of facilities is conducted almost daily and requires skills similar to those used in production processes, outsourcing is limited to areas such as transportation and canteen services.

The rest of this article will be concerned mainly with the systems within individual firms.

The production system

According to its architect, Taiichi Ôno, Toyota's production system was developed in order to compete with the well-established mass production system of Western car manufacturers, while meeting the local demand pattern requiring diversified small-lot production. The company started work on this system around 1950 and had broadly completed it by the middle of the 1960s.² It was, however, only in the wake of the first oil crisis of 1973-74 that the flexibility of the system was markedly enhanced and began to attract attention from other firms (Ôno, 1978, p. i). During the high-growth 1960s Japanese car plants became highly automated, but individual production lines required more or less fixed numbers of workers regardless of the actual production levels. Toyota was no exception in this. Faced with a shrinking market, the company attempted to devise production lines which could run with a larger or smaller workforce according to the actual workload, maintaining reasonably high productivity even at a reduced rate of production (Toyota, 1978, p. 441; Ôno, 1978, pp. 208-211 and 220).

Ôno refers to the just-in-time (JIT) system and the low-cost automation system as two pillars of his company's production system. In reality, Toyota's system, just as those of other Japanese companies, has a third pillar, known

² The above-discussed production system was developed on the basis of experiences accumulated before and during the Second World War. A Japanese translation of F.W. Taylor's *The principles of scientific management* appeared as early as 1911 and F.B. Gilbreth's *Motion study* became known two years later. Nippon Nôritsu Rengôkai, one of the two founding organizations of today's Japan Management Association, helped spread these scientific management and production control techniques through its monthly journal *Sangyô Nôritsu* (literally, "industrial efficiency"), starting in 1928. Toyota's motto "Eliminate 3Ms: *Muda* (waste), *Mura* (workload fluctuations) and *Muri* (overstrain)" was a common slogan in wartime aircraft factories, where the need for process-by-process quality control and preventive maintenance was urged for the purpose of *not causing* defective products (Nomura, 1943; Hashiguchi, 1943). A suggestion scheme was introduced in Mitsui's Miike Mines as early as 1928, for almost exactly the same purposes as today's counterparts (Watanabe, 1933). The description of the Japanese product development system given by Womack et al. (1990, Chapter 5) is the very image of the world-famous Zero fighter plane development project led by Mitsubishi's engineer, Jiro Horikoshi in 1937-39 (Horikoshi, 1984, Chapters 2 and 3).

internationally as the QC circles' *Kaizen* programme. Ôno does not mention it probably because, unlike the first two, it is not an original Toyota brand. However, the company's brochure *The Toyota production system* (1998) devotes a whole section to the subject. A brief explanation of these concepts is given below, showing clearly the pivotal position of *Tanôkô*. The remaining terms in the left-hand sector of chart 1 are also explained.

The just-in-time system (JIT)

"Toyota's production system is based on the flow production method just as Ford's. Their difference lies in the fact that our system requires no storage" (Ôno, 1978, p. 174). And this difference accrues from the JIT system, whereby each production unit or process produces only what is needed, only when it is needed, and only in the amounts needed. The basic idea came from Kiichiro Toyoda who launched his automobile manufacturing business on very little capital in the mid-1930s. He wanted to apply this principle in every domain of his business in order to do away with working capital. In 1956, the idea took concrete form after Ôno travelled to the United States, where the supermarket system usefully inspired him (Toyota, 1978, pp. 64-66 and 186-187; Ôno, 1978, pp. 50-51). In the JIT system, all relevant information is conveyed to the preceding units by means of small plates called *Kanban*, all the way down from the end-product shipment unit, which initiates the whole production process according to the information received from sales offices. *Kanban* are used to synchronize the pace of work throughout a plant and, exaggerating only a little, the entire structure of the hierarchical subcontracting system working for it. *Kanban* are so crucial to the JIT system that some people call it the *Kanban* system.

As may easily be surmised, the smooth operation of this system requires absolutely reliable quality and delivery of the parts and components, and regularization of the work flow or minimization of workload fluctuations.

In order to meet the first requirement, thorough quality control is needed. And the most economical form of quality control is, of course, not to produce defective products or at least to eliminate them early in the production process. This is one of the objectives of the *Kaizen* programme which will be discussed below. Another means of guaranteeing reliable quality and delivery is the preventive maintenance (PM) scheme, whereby the production facilities are regularly checked and kept in good condition. Toyota introduced a three-shift maintenance system in the mid-1950s (Toyota, 1978, pp. 187 and 346-347). With a view to promoting such efforts among manufacturers, the Japan Management Association (Nôritsu Kyôkai) launched a PM award programme in 1964 which, since 1981, has been entrusted to an independent organization, the Japan Institute of Plant Maintenance (JIPM). The scope of the programme was enlarged in 1971 from "preventive maintenance" to "total productive maintenance (TPM)", which seeks to achieve zero accidents, zero defects and zero breakdowns throughout the entire life cycle of a

production system by involving every employee, from top management down to the front-line operators, in every area of corporate activity.³

For the minimization of workload fluctuations, each production line must be designed so as to handle products of varied specifications. Flexibility of both production facilities and workers becomes crucial. Special-purpose, mass-production lines are made flexible, e.g. by switching jigs and fixtures or by computer programming. Workers are trained to become *Tanôkô* so that they can deal with a wide range of duties, and they are organized into small teams of five to 15 members who work collectively and complement each other. This system of teamwork has another very important objective: it provides workers, especially young workers, with opportunities to learn from their colleagues, one of the main duties assigned to the team leader being the training and education of young workers.

Low-cost automation

Toyota's concept of automation rests upon a simple "stopper" device, which interrupts an automatic machine's movement the moment something starts going wrong, e.g. because of a clogged metal chip. The slightest abnormality in the movement of a high-speed automatic machine can instantly result in a large pile of defective products. A stopper not only prevents such waste, but also makes it easier to locate the source of the trouble and expedites repair work. Even more important, workers need not attend the machinery all the time but only when they are alerted by the breakdown signal connected to the stopper. After all, machining is done by the machine and not by the operator. The idea came from Kiichiro's father, Sakichi Toyoda who invented an automatic weaving loom in the 1920s. His loom was designed to stop as soon as the warp broke or the weft ran out, thus enabling the operator to attend to 40-50 machines at a time (Toyota, 1978, p. 161). Combined with rationalization efforts in other areas, such as oiling, tool grinding and changing and the PM system, the use of this simple device permitted workers at Toyota's plants to take charge of up to 17 machines around 1953 (Toyota, 1967, pp. 335-336).

In the 1950s and early 1960s, Japanese firms were extremely short of capital. In addition to stoppers, therefore, they introduced many other types of labour-saving device — especially for material-handling (loaders and unloaders), for material-transferring (chutes) and for sorting out defective parts before they are sent to the next machine (*Baka-yoké*). Usually developed and produced by workers in their QC circles' *Kaizen* programme, these low-cost automation techniques became a characteristic of Japanese industry, including small-scale cottage factories.

³ Based on an updated JIPM brochure issued in the mid-1990s. The programme is now internationally known and, as of February 1999, JIPM had 1,817 members, including subsidiaries of Ford, Lever Brothers, Motorola, Texas Instruments, Pirelli and Volvo in different parts of the world.

The labour savings accruing from the use of such devices tend to end up increasing workers' idle time, if they are doing their jobs independently. Where *Tanôkô* are working in a team, however, their number can be reduced more easily and such waste eliminated. In other words, *Tanôkô* teamwork is indispensable for low-cost automation to result in real cost reductions.

QC circles' Kaizen programme

The Japanese industrial standard regulation defines quality control (QC) as a comprehensive set of means of economically producing goods or services of the quality needed by the buyer. Here, the term "quality" is interpreted in the broadest sense to mean "anything that can be improved", including "the way people work, the way machines are operated and the way systems and procedures are dealt with" (Imai, 1986, p. 9). There is a considerable literature on the subject: for a general introduction to QC circles and why they work, see Watanabe (1991). QC circles, which usually involve seven or eight workers from the same work unit, aim not just at the satisfactory execution of duties assigned to the unit, but also at the improvement (*Kaizen*) of productivity, product quality and work environment. As noted above, low-cost automation devices are usually developed and produced by workers in their QC circles. Often, modifications to the plant layout, work procedures and even product designs are required before such devices are applied. Workers implement these changes, or propose them to the company within the framework of their suggestion scheme. Their scope being so wide, *Kaizen* programmes presuppose teamwork of *Tanôkô*, while the activities provide workers with valuable learning opportunities and motivate them to design and manage their own work.

As for the effects of these programmes, Japanese firms almost unanimously maintain that small but successive improvements originating from QC circles and suggestion schemes have a greater cumulative effect on labour productivity than major technological innovations such as microelectronics-based factory automation. In fact, low-cost automation had largely eliminated the need for multiple-axis material-handling robots from Japanese plants by the time such robots became popular in Western industries (Watanabe, 1987, pp. 66 and 182-183).

Little wonder then that QC circles are so popular in Japanese industry. According to the QC Circle Headquarters, the Japanese Union of Scientists and Engineers (JUSE), in summer 1999, the registered numbers of QC circles and participants stood at 0.4 million and 3.2 million, respectively. Toyota alone had 6,800 circles as of June 1999 (Toyota, 1999, p. 10).

The role of *Tanôkô*

Thus, the crucial role of *Tanôkô* in the Japanese production system is clear. Ôno repeatedly stresses their indispensability for reducing the number

of workers (as opposed to mere labour saving) through low-cost automation and for the flexible adjustment of labour inputs to business fluctuations (Ôno, 1978, pp. 209, 223 and 233). The first point has already been explained. Labour input adjustment is facilitated through “multi-process handling” by *Tanôkô*: that is, the number of operators on the production lines is increased (or reduced) and each operator’s range of work is narrowed (or widened) according to demand for the product, without changing his/her daily workload (Toyota, 1998, p. 23). Any meaningful operation of the JIT, QC circles’ *Kaizen* and PM schemes presupposes the existence of such workers, while the value of *Tanôkô* can be exploited more fully where they work collectively in a team, sharing their duties flexibly.

The need for *Tanôkô* tends to grow as unforeseen problem-solving work increases with the acceleration of technological progress and with the sophistication of production technology. Womack et al. are certainly right, when they argue that “high-tech plants that are improperly organized end up adding about as many indirect technical and service workers as they remove unskilled direct workers from manual assembly tasks ... [...] lean organization must come before high-tech process automation if a company is to gain the full benefit” (Womack et al., 1990, p. 94). By entrusting unpredictable problem-solving to ordinary production workers rather than to engineers or technicians, problems can be detected earlier and action can be taken more promptly, simply because more workers are on the spot. The chance of overlooking a problem is reduced for the same reason. At the same time, workers’ morale can be enhanced by providing them with opportunities for non-routine activities (Koike, 1994, pp. 44-46). The net result is the much reduced downtime of production facilities.

The role and even the very concept of *Tanôkô* change over time with the evolution of the production system of which they are an integral part.

It was in the early 1930s that Japanese industrialists first recognized their value. After the Manchurian Incident of 1931, Japanese machinery manufacturing industries faced the need for mass production for the first time in their history. Under growing supply constraints regarding skilled labour as well as capital equipment, efforts were made at absorption and application of the Ford-Taylor production control techniques (Nakamura, 1958). Individual workers’ tasks became narrowly specialized, simplified and standardized, so that they could be entrusted to people with little or no experience. Those workers were to be supported by *Tanôkô*.

Modelled on the “all-round skilled workers” of Western industries, *Tanôkô* were defined as workers who had practical experience of many facets of production technology and who understood interrelationships between the production processes. They were supposed not only to excel in the skills of their specialization but also to possess the comprehensive knowledge and skills required in all related areas of work. Their duties were to include (1) quality control with respect to unskilled, single-task operators’ work; (2) development and production of tools used by them; (3) their guidance and

training; (4) the installation, adjustment and repair of machinery; and (5) the execution of new or unexpected tasks. Two merits of *Tanôkô* were stressed in particular. First, they could help enhance the flexibility of the production system and make it more adaptable to business fluctuations, as they could be shifted from one task to another and could adapt to new types of work better than other workers. Second, they would be more loyal to the company and more willing to cooperate with management, because their long training course — seven years even at Ford — would naturally give rise to better understanding and trust between labour and management (Ôuchi, 1938, pp. 19-29).

Evidently, efforts at accumulation of *Tanôkô* did not get very far in the hectic conditions of wartime munitions factories. For one thing, time was too short to produce any tangible results before the end of the war. However, the idea was to bear fruit in post-war industries under the leadership of wartime trainees and with the help of labour management practices geared to their training. Starting from the Western model, Japanese *Tanôkô* appear to have evolved into a unique entity, in two respects at least. First, combined with the institutions deriving from the LES and the company-based union system, the training of *Tanôkô* extends over their entire career period within the company (lifetime training) and across many craft boundaries. Second, as is clear from Ôuchi (1938) and the writings of his contemporaries, Japanese firms appear to have been far more conscious of the role of *Tanôkô* in maintaining industrial peace and in the education and training of other workers, that is, junior employees and non-regular workers. Consequently, considerable attention is paid to the attitudes of workers, both at recruitment and in training.

Today, virtually all the regular production workers at major companies are considered to be *Tanôkô*, except for recent recruits, the width and the depth of their technical competence depending on the length of their service in the company and on their learning capacity. It takes about ten years in the automobile industry and roughly 20 years in the steel industry for a worker to reach the threshold of fully fledged *Tanôkô*, having acquired a sufficiently broad expertise to take up any duty within a plant such as an engine block plant or a rolling mill.

Conventionally, the training of *Tanôkô* has been done on the job, but this is now increasingly supplemented with more formal training at in-house schools. This is believed necessary to meet the rapidly changing technological requirements of high-tech industries and to create highly skilled workers with managerial abilities. Another emerging trend is to level up ordinary production workers' abilities so that they can take over simpler maintenance work from technicians to enhance the flexibility of production systems still further. This implies that production workers will acquire not only "horizontal" polyvalence, e.g. by mastering different kinds of machinery as has been the case with conventional *Tanôkô*, but also "vertical" polyvalence. Japanese firms are induced to adopt this new approach because of their renewed conviction that no machine can ever be more flexible than a human

being — a lesson they learned from their experiments with high-tech-intensive plants during the 1980s (see Kikai Shinkô Kyôkai, 1999; Imano, 1999). Another motive relates to a labour management issue and will be considered below.

The labour management system

The primary role of the LES and the SWS in the Japan Model is related both to the creation and accumulation of *Tanôkô* and to the maintenance of industrial peace. Initially, the biannual bonus system also had similar objectives, but subsequently it became more important as a means of adjusting the annual pay bill to business conditions. More recently, it has been increasingly used as a competitive incentive: the amounts of bonuses can vary much more widely within the same age group, and from one period to another, depending on an individual worker's and a group's performance, than the regular monthly wages, which tend to be kept more stable and equal for the purposes of guaranteeing reasonably stable living conditions and maintaining harmonious human relations between workers.

The performance appraisal system stimulates a sense of competition between workers through its influence on the amounts of their biannual bonuses and annual increments as well as on promotion. As they work in a team, however, it must be "cooperative competition." This is secured through a form of performance appraisal that focuses on the ability to learn and on the degree of enthusiasm for cooperating with other workers and for training younger workers (see Nohara, 1999, pp. 252-253). As to the important bearing of the enterprise-based union on the production system, one need only refer to the prevalence of teamwork, "multi-process handling", QC circles, etc. Ôno argues that the absence of craft unions made it relatively easy to replace the conventional production system based on single-skilled workers with the current system based on *Tanôkô* teamwork (Ôno, 1978, p. 27).

The role of the LES and the SWS in the Japan Model may be more easily understood against their historical background.

When modern machinery manufacturing industries began to expand after the Russo-Japanese War of 1904-05, the Government set up training schools in different parts of the country. However, major companies opted for in-house training, for various reasons: usually, they were unhappy about the quality of instruction and the training facilities in official schools; their employees exchanged labour market information at school and tended to leave the company soon after finishing the training period, as such had been the time-honoured tradition of craftsmen who "migrated" from one master to another, "stealing" their know-how; and, in view of the growth of the labour movement, employers wanted to build up peaceful labour-management relations by fostering loyal core workers through technical training allied to moral training. In organizing a systematic training programme, employers

soon found it more convenient to take in homogeneous workers with no occupational experience, at a fixed time of the year. Accordingly, they began to recruit those who had just finished school or military service, carefully selecting those who were likely to be receptive to company-specific education and training (the *Kogai* system). They more or less stopped taking in other companies' former employees, while adhering to the principle of internal promotion (Sumiya, 1971, pp. 143-184).⁴

The SWS, biannual bonus and retirement bonus systems were introduced or, more precisely, extended from the managerial staff to core production workers in the 1920s, not only as incentives for continued service in the company, but also for the purpose of promoting cooperative and peaceful labour-management relations (Sumiya, 1976, pp. 65-67). As the worker's age and length of service advanced in parallel, the SWS was also consistent with the concept of the "living wage" which was gaining popularity at that time: the wage rate ought not to be determined purely on the basis of labour market conditions but ought also to take account of the living costs incurred by the worker's family. Another development among major companies during this period was the spread of the retirement system though, in most cases, this was still confined to the managerial class (Shôwa Dôjin-kai, 1960, pp. 250-255 and 263-283), probably because there were still too few skilled workers to apply the same system to them.

It was under the wartime state-socialistic regime that the objectives of the LES and the SWS became confused. By a series of decrees issued between 1939 and 1942, the coverage of the LES was extended to all workers, including those of smaller firms, and wages began to be raised regularly once a year for all employees. These decrees were intended to guarantee certain minimum living standards for all workers and their families under the ever-tightening supply conditions, and also to prevent poaching of increasingly scarce labour. The officially promoted wage system was focused more on a worker's age than on length of service, reflecting the authorities' preoccupation with the first objective (*ibid.*, pp. 290-291 and 324-332). Those decrees were abolished at the end of the war in August 1945, but the institutions they had sought to enforce were to be firmly established in post-war industries, this time under pressure from the workers.

The LES was re-established in the 1950s as part of efforts to recover industrial peace and production in the midst of radical labour movements against dismissal and poor living conditions. It was reinforced by the Supreme Court's decisions to forbid the abuse of dismissal rights by employers in the following decade (Takanashi, 1994, pp. 24-27).

In spring 1947, the Electric Power Industry Workers' Union (Densan) managed to achieve acceptance for its model of a living wage with the support

⁴ Today, each prefectural government has an official vocational training centre, but they are mostly used by small companies and for trainees brought from abroad under a variety of Official Development Assistance schemes.

of the Central Labour Relations Commission. Based on a survey on union members' actual living costs and aimed at securing certain minimum living standards — notably daily intake of 2,400 calories for each adult — this “Densan model” is regarded as the first scientifically established wage system in the country. Fixing wages on the basis of concrete, objective factors, the model was considered to be fair, eliminating the room for arbitrariness. It was also egalitarian as it was applied equally to office and factory workers, nullifying the traditional class boundary (Ono, 1989, p. 79; Yonekura, 1993, pp. 226-229). Gaining support in many other industries, therefore, it became the prototype of most seniority-based wage systems in the country.

In this model, a worker's wage consisted of three parts: the “standard wage” composed of allowances for his and his family's living expenses, for qualifications/capabilities and length of service, as well as for regional price differentials; the “non-standard” wage, or allowances for special job content and working conditions including overtime; and biannual bonuses. The sum of the allowances for the worker's living expenses, qualifications/capabilities and length of service was called “basic wage”, which was to be used as the base for calculating various allowances, and biannual and retirement bonuses. The worker's living expenses were a function of age. When the model was launched, the living-cost elements accounted for as much as 68.2 per cent of the standard wage for the representative 30-year-old worker with 2.5 dependants, the share of each of the three elements of the basic wage being 47.5, 19.4 and 3.7 per cent.

According to Magota et al. (1970), the dominant view of the day was that a wage based on the principle of equal pay for equal work might be the goal in the future but, so long as the general wage level remained low, there was no choice but a system based primarily on the concept of a living wage, supplemented with work-based elements (p. 161). Indeed, Shōwa Dōjin-kai (1960) had argued that a shift from the seniority-based wage system to a work-based system would have to wait for another decade or so, by which time full employment would have been realized and the Japanese labour market would have become a seller's market. Then, a Western-style work-based wage system might be established across the boundaries of individual firms (pp. 334-335).

However, these expectations have been far from fulfilled even today, as will be shown below with reference to table 2. The following explanations have been propounded for the continued popularity of the SWS. First, where people work in a team, the only objective and fair criterion of wages would be the age of the employee, assuming that everyone is doing his/her best to serve the company (Galenson and Odaka, 1976, p. 610). The case is strengthened if one accepts that a worker's capabilities grow with length of service in the company. Second, the SWS can accommodate changes in workers' jobs caused by intra-firm transfers, business fluctuations or technological progress with marginal adjustments, and thus simplifies the task of labour management (Sano, 1986, p. 58). Third, it helps reduce workers' resistance

to technological progress because their wages are not affected even when they become “de-skilled” (while the LES eliminates their fear of losing employment). Another factor contributing to the persistence of the SWS is no doubt the paternalistic style of labour management accruing from the internal promotion system and resulting continuity in the flow of personnel between managerial and non-managerial classes (Ono, 1989, pp. 84 and 86-87).

Nonetheless, the SWS did change significantly with respect to both its structure and the proportion of workers it covered. From the beginning, employers were not very happy with the Densan model, which they felt contained few efficiency incentives. As economic conditions improved, therefore, the proportion of the living-cost elements was gradually reduced and that of work-related elements raised. In the meantime, economic growth of 10 per cent per annum during the 1960s caused a serious shortage of young workers, partly because of rapidly increasing enrolment in higher levels of education. Fresh high-school graduates’ wages rose tremendously, and smaller firms were obliged to augment the recruitment of mid-career and retired workers. After the late 1970s, microelectronics and other high-tech innovations reduced some conventional skilled jobs to unskilled tasks, thus blurring the relationship between length of service and level of technical capability. Consequently, younger professionals with the relevant expertise became frustrated with the SWS. Thus, companies found it more difficult to meet their rapidly expanding labour requirements in these areas with their in-house trained personnel, just as in certain cases of international business.

By far the most pervasive and enduring, however, has been the impact of the ageing of the labour force, caused by the declining birth rate and the dramatic extension of life expectation — by 30 years over the past five decades. These demographic developments have entailed a rise in the average retirement age from the conventional 55 to 60 years and now approaching 65 years. Naturally, this tends to raise the cost of the LES and the SWS to the employers, and the problem has emerged at the worst possible time. After the collapse of the four-year bubble economy in 1991, the economic growth rate remained below 1 per cent most years and was negative in 1998 and 1999. This coincided with the enormous growth of wage bills and retirement bonus payments, as workers who had joined the companies during the high-growth period of the 1960s reached the highest level in the wage scale and acquired retirement bonus entitlement. The companies’ problem was further compounded by the introduction of a new accounting system conforming to the International Accounting Standards (IAS), whereby their commitments to future retirement bonus and pension payments are treated as liability items. This system also requires a statement of consolidated accounts covering a more broadly-defined group of subsidiaries, which naturally calls for group-wide rationalization including business liquidations.

All these developments point to the need for drastic “restructuring” measures, including the reform of labour management practices. But exactly how much and in what ways have these practices really changed?

Trends in the LES

In the absence of statistics on the LES as such, the proportion of firms with a retirement system is usually used as a proxy, for which data are available for 1964 and after 1974. The proportion has always been close to 100 per cent among the firms with 1,000 or more regular employees, and in the smaller size groups continued to rise steadily and fairly rapidly until 1990 (table 1). Since the beginning of the 1990s, in the wake of the collapse of the bubble economy, the percentage has fluctuated in the two smallest groups, especially in service industries. The office in charge of the survey concerned explained this by referring to increased failure rates of smaller firms and consequent changes in the composition of the sample (personal communication to the author).

The increasing adoption of a retirement system by smaller firms is not difficult to explain. First, except for certain categories of highly trained professionals and certain types of young workers, the large majority of workers are concerned primarily with job and income security. If small firms are to satisfy their labour requirements in a situation of near full employment, they will have to meet this demand, especially because wage levels in such firms are lower than in larger firms. Second, small firms keep experienced workers (who have often been hired mid-career or after retirement from a larger firm) until they become physically incapable of work because of old age. However, these firms may find it convenient to have a retirement rule either to suppress the rate of wage increase or to terminate employment when it becomes necessary, e.g. because of depressed business conditions. The increasing supply of older jobseekers certainly reinforces this tendency, as they can easily be hired on shorter-term contracts.

As for the age of retirement, in 1974, 52.3 per cent of firms with a retirement system fixed it at 55 years and 45.7 per cent at 56-60 years. By 1985, however, 55.4 per cent had extended it to 60 years or above. In April 1998, under the revised Older Workers' Employment Promotion Act, retirement age of 60 or above became the rule at all practising firms. The same act urges firms to continue employment up to 65 years now that, under the recently revised Pension Act, the starting age for receipt of old-age pension is to be raised gradually from 60 to 65 years by the year 2025. In 1999, 99.2 per cent of the practising firms complied with the law, 6.2 per cent already having a retirement age of 65. More often than not, the extension of retirement age is accompanied by modifications to the wage system, the wage or the annual increment being frozen or reduced at or before the conventional retirement age.

Workers do not always lose their job on reaching retirement age. In the 1999 *Survey of Employment Management*, 67.8 per cent of respondents with a retirement system either kept workers on (13.4 per cent), re-employed them at retirement age (37.7 per cent), or used both approaches (16.7 per cent). While over 80 per cent of the practising firms with 1,000 or more regular

Table 1. Percentage of sample firms with a retirement system, 1964-99 on 1 January each year

Firm size*	1964	1974	1980	1985	1990	1995	1999
5000 +	99.3	100.0	99.5	99.6	99.1	99.7	100.0
1000-4999	97.7	99.0	99.9	99.6	99.5	99.7	99.8
300-999	90.9	94.3	98.3	99.1	98.9	99.2	99.9
100-299	71.3	90.4	93.7	95.9	97.4	98.6	98.1
30-99	40.8	55.0	76.5	83.4	84.0	88.7	86.6
All sizes	n.a.	66.6	82.2	87.3	88.2	91.8	90.2

*Number of regular employees.

Source: ML(c), various years.

workers had these arrangements only for the workers they needed, one-third of the firms with 30-99 regular employees did so with respect to all applicants. Obviously, smaller firms are more eager to keep experienced workers. It is also clear that differences in the wage system between large and small firms, which will be discussed below, have an important bearing here.

Whatever the explanation, these data do not support the view that the LES is declining, as far as regular employment is concerned. Why, then, was there so much talk about “the end of the LES”, particularly in 1998 and 1999? A number of explanations can be offered.

First and foremost, for the reasons already mentioned, the rate of unemployment rose considerably in the second half of the 1990s, surpassing 3 per cent in 1995 and 4 per cent in 1998 and approaching 5 per cent in 1999. This was a tremendous shock to the Japanese who had virtually forgotten the concept of unemployment for three and a half decades, with the unemployment rate remaining below 2 per cent in the period 1960-74 and between 2 and 2.9 per cent in the period 1975-94. Second, the incidence of “early retirement” — that is, retirement taken before contractual age with the encouragement of a premium bonus — and dismissal also increased shockingly in connection with restructuring and business failures. According to the *Labour Economy Survey* by the Ministry of Labour, the proportion of sample firms advertising for “early retirement” had remained 0-1 per cent until late 1992 and stood at 1-2 per cent until mid-1998, except for the depressed months of late 1986 and early 1987 when it rose to 3 per cent. However, it jumped to 4-5 per cent between the last quarter of 1998 and the second quarter of 1999 (MF, various years). Just how serious was the impact of restructuring may be illustrated with reference to Nippon Steel Corporation, which declared completion of its six-year restructuring programme in December 1999. The company had reduced its labour force by 45 per cent (23,000) through non-filling of vacancies, encouragement of early retirement, and transfer of business lines and employees to other companies (NKS, 1999).

These are, however, mostly shorter-term phenomena caused by the prolonged post-bubble depression and IAS-related restructuring. With the

gradual recovery of general business conditions and completion of restructuring at an increasing number of major companies, the rate of unemployment and the incidence of early retirement began to decline early in 2000, albeit slowly because many smaller firms started restructuring more recently and are still in the process of doing so.

In order to pass a judgement on the future of the LES, one also needs to know whether and how the proportion of regular employment and the *Kogai* system are changing.

As to the former, between 1975 and 1999 the proportion of regular employment in total non-agricultural employment declined from 92 to 88 per cent (from 95 to 93.6 per cent for males and from 85.6 to 79.8 per cent for females). Over the same period, the number of non-regular or temporary workers more than doubled from 2.9 million to 6.3 million, female part-timers accounting for 76 per cent of the increase. Sector-wise, part-time labour is increasingly concentrated in service industries (SB, various years). In 1998, 69 per cent of all part-timers working in establishments with five or more regular employees were in the wholesale and retail trades, eating and drinking places, and business and personal services, as compared with 57 per cent in 1975. In contrast, the share of the manufacturing sector declined from 32 to 22 per cent, with only a marginal increase in the number of such workers in this sector (ML(b), various years). The share of service industries would have been substantially higher if the survey concerned had covered establishments with fewer than five regular workers.

Those temporary workers are used mostly for simple work in order to save labour costs and to meet peak demand. In business and personal services, and in banking and insurance, however, over 20 per cent of users secure special expertise and skills from them, as compared with less than 10 per cent in the manufacturing sector (MF, 1998, pp. 98-99).

The proportion of experienced workers in the total number of newly hired regular employees fluctuates with business conditions, as does the volume of non-regular employment. It rose enormously during the high growth period from 55.7 per cent in 1960 to 73.3 per cent in 1970, only to dive to 50.6 per cent during the oil-shock recessions of 1975 and 1980. In 1990 and 1995 it stood at just over 57 per cent. As expected, the level among the smallest firms (with five to 29 regular employees) was about 25 points higher than that among the largest firms (with 1,000 or more employees) in both 1975 and 1995 (59.9 and 69.1 per cent as against 35.6 and 44.3 per cent, respectively) (ML(b), various years). Smaller firms are much more dependent on mid-career or retired workers, partly because their training capacities are limited and partly because Japanese new graduates usually prefer job opportunities at larger firms.

Age-wise, in 1965-70, the proportion of experienced workers in the 20-24 years age group was over 30 per cent, but has remained at levels about ten points lower ever since. In contrast, in the groups exceeding 45 years of age, it rose from 13 per cent in 1970 to 23 per cent in 1990 and 29 per cent in 1995,

no doubt because of the ageing of the Japanese labour force and also of the IAS-related restructuring of major companies (Rôsei Kenkyûjo, 2000).

In connection with the *Kogai* system, mention should also be made of the spread of the “year-round recruitment system”, which some people regard as a symptom of the decay of the LES. In the 1998 *Survey of Employment Management*, just over 10 per cent of sample firms had such a system and 33 per cent were planning or considering its introduction in future. These proportions rose with the size of firms, reaching 22.5 per cent and 46.6 per cent in the group with 5,000 or more regular employees. While there is nothing new in smaller firms’ filling vacancies as the need arises, larger firms have started introducing the system, specifically for securing returnees from overseas studies (71.4 per cent of the practising sample firms) and workers with varied values (64.3 per cent). However, as the new system increases training and other workloads of the personnel department (69 per cent), a majority of firms practising this system recruit no more than twice a year. If the semester system spreads among Japanese universities, biannual recruitment may become common practice. Again, these are signs not of decay, but of adaptation of the LES to the changing pattern of labour supply.

Thus, one may conclude that no major change is discernible in the LES in the manufacturing sector, although qualified workers are recruited in mid-career in services based on information technology and the proportion of temporary employment is rising in those trades requiring little qualification.

Trends in the SWS

The Japanese wage system has been undergoing far more drastic changes than the employment system. Firms need to modify their wage systems in order to reduce the cost of the LES, and the average wage rate is now high enough for workers to accept it.

The data in table 2 show how the structure of the “basic wage” (see page 319 above) has changed over the past three decades. The most persistent trend is the increasing diversification of wage-fixing patterns *within* individual firms. Although the record during the 1980s suggests this is occasionally reversed, firms have generally been moving towards multiple wage systems, applying different systems for different groups of employees. The proportion of firms having basic wages based entirely on personal factors (type B) has not fallen since 1980. However, systems based on a combination of work and personal factors (type C) declined significantly during the post-bubble period of the 1990s, while work-based systems (type A) increased remarkably. These developments do not necessarily mean decline of the SWS as such, because “work capabilities” is usually taken as a function of length of service, but they do suggest that the concept of the age-based living wage is on the wane.

The above data, however, mask a number of important differences between large and small firms. First, among smaller firms, in 1970 type-A systems were already more popular than type-B systems and became even more

Table 2. Changes in the "basic-wage" fixing system, 1970-99 (percentage of sample firms)

Year	Single system				Multiple systems					Total
	A	B	C	Sub-total	A+B	A+C	B+C	A+B+C	Sub-total	
1970	19.6	18.1	53.6	91.3	n.a.	n.a.	n.a.	n.a.	8.7	100.0
1980	13.8	6.9	61.9	82.6	5.5	5.7	4.7	1.6	17.4	100.0
1984	15.2	5.5	66.0	86.8	5.0	4.2	3.1	1.0	13.2	100.0
1989	14.4 (8.9)	6.1 (5.7)	64.6 (50.6)	85.0 (65.1)	4.5 (15.1)	4.2 (9.7)	4.9 (6.1)	1.3 (4.1)	15.0 (34.9)	100.0 (100.0)
1993	10.5 (6.5)	7.6 (6.1)	59.7 (44.6)	77.8 (57.2)	8.3 (20.0)	7.2 (9.9)	5.2 (7.7)	1.4 (5.1)	22.2 (42.8)	100.0 (100.0)
1999										
I	25.5	6.9	42.7	75.2	16.5	5.9	1.7	0.8	24.8	100.0
II	21.5	8.1	41.8	71.5	19.2	6.3	2.2	0.8	28.5	100.0

Notes: A = Basic wage is fixed on the basis of work content and capabilities only. B = Basic wage is fixed on the basis of personal factors such as age, education and length of service only. C = Basic wage is fixed on the basis of combined work and personal factors. I = Managerial class. II = Non-managerial class. Figures in parentheses = percentages of workers covered.

Source: ML(a), various years.

so during the 1980s. Among larger firms, by contrast, type-B systems prevailed more widely in 1970 and remained as popular as type-A systems until the early 1990s (ML(a), (various years)). Evidently, larger firms took to work-based wage systems in their post-bubble restructuring efforts. Second, work-based wages in smaller firms focus more on work content or functions, while larger firms pay much more attention to work capabilities and performance (table 3). This is to be expected, given that larger firms spend much more time and money on training than smaller ones and that the latter's performance appraisal abilities are more limited. Third, firms in all size groups take greater account of personal factors in the case of non-managerial workers than managerial workers, but the difference is far more striking among larger firms (table 3). This may be interpreted as follows. Larger firms need the SWS much more than smaller firms for the training of their employees in the non-managerial categories. Once these workers have entered the managerial class, however, the need for learning incentives diminishes and that for performance incentives grows. The higher wages earned by the managerial class renders it unnecessary to take living costs into consideration.

The validity of this interpretation was confirmed explicitly at a leading company (company A) I visited in 1999. In 1997, this company eliminated the age element from the wages of the managerial class (the division chiefs and above) and introduced a new structure consisting of grade/function-based wages (50 per cent of the average wage) and performance-based wages (50 ± 15 per cent, depending on the worker's performance). In 1999, a similar

Table 3. Factors considered in basic-wage fixing, grouped by firm size,* 1998
(% of sample firms)

Factor	1,000 +	300-999	100-299	30-99	All sizes
<i>(A) Managerial class</i>					
Work contents	48.1	57.2	65.4	73.4	70.1
Work capabilities	85.5	80.7	78.3	65.5	69.6
Work performance	55.1	72.5	65.7	49.8	55.1
Personal factors	64.4	77.2	78.0	70.8	72.6
<i>(B) Non-managerial class</i>					
Work contents	46.6	56.5	64.0	72.0	68.8
Work capabilities	86.5	79.3	75.6	65.7	69.2
Work performance	65.6	68.7	64.2	51.1	55.3
Personal factors	88.9	88.2	83.9	75.6	78.5

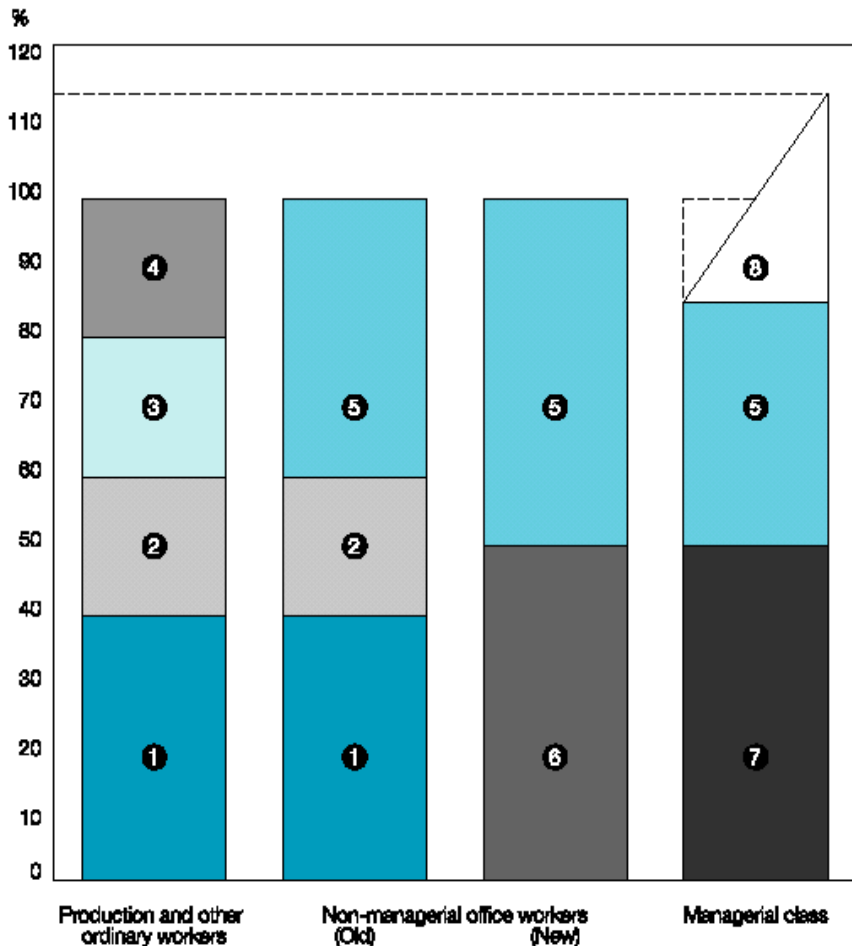
*Number of regular employees.
Source: ML(a), 2000, pp. 136-137.

wage structure was introduced for non-managerial white-collar workers (university graduates) (see graph 1). During earlier periods, there had been sufficient opportunities for promotion to encourage individual workers' learning efforts. As the rate of business expansion slowed down, however, alternative incentives became necessary. The company's answer was to link the wage scale to the worker's technical grade, rather than to his or her work post. Since the technical grade depends to some extent on length of experience, an element of seniority remains in the new wage structure. On the whole, however, the monthly wage is determined primarily by the worker's learning and functional capabilities. The result of performance appraisal is reflected in the amount of the biannual bonus and in the grading, two successive years' poor performance resulting in a downgrading even when the work post remains unchanged.

By contrast, the wage structure for production and other ordinary workers (senior high-school graduates) has remained more or less what they used to share with the non-managerial white-collar workers (graph 1). Their monthly wage packets are composed as follows: a basic wage based on the technical grade and qualifications (40 per cent); individual performance allowances (20 per cent); group productivity allowance (20 per cent); and an age-based wage (20 per cent). The last component was retained mainly for the purposes of creating and accumulating *Tanôkô*.

Linking the wage to the technical grade or competence tends to cause overpayment, as opportunities for promotion are limited in a low-growth business situation. Partly for this reason, in common with some other firms, company A has started to level up the content of individual workers' jobs, e.g. by demanding a greater intellectual creativity from them. In the case of production workers, the very concept of *Tanôkô* has been upgraded to require

Graph 1. Diversified wage systems at Company A



- ① Basic wage
- ② Age-based allowance
- ③ Individual productivity allowance
- ④ Group productivity allowance
- ⑤ Performance allowance
- ⑥ Technical/specialist allowance
- ⑦ Function allowance
- ⑧ Extra-performance allowance

Source: Interview at the company in June 1999.

not only “horizontal” but also “vertical” polyvalence, as explained earlier. The ultimate goal is to do away with the “technician” category in factories by letting ordinary production workers take over these workers’ duties. Company A is very optimistic, since Japanese production workers already have significant maintenance abilities and the ratio of maintenance technicians to production workers is generally low.

To sum up, the portion of work-based elements in wages has grown and that of age-based living-wage elements diminished over time. At least for the managerial class in certain groups of large firms, living wages appear to be being replaced with work-based wages. In this connection, it may be noted that 8.6 per cent of all sample enterprises in a 1996 survey conducted by the Ministry of Labour applied annual salary systems to slightly over 1 per cent of their employees. Eighty per cent of the firms having such systems, mostly in service industries, applied them to the managerial staff, then to professionals (22.8 per cent), to marketing staff (18.3 per cent) and to researchers (11.5 per cent) (ML(a), 1996, multiple answers). As a determinant of wages, however, personal factors such as age and length of service remain nearly as, if not more, important in the case of production and other ordinary workers, particularly those employed by larger manufacturing companies which make considerable training efforts. To the extent that workers' capabilities grow with length of service, the importance of personal factors is even greater than tables 2 and 3 suggest, as Tsuchiana (1994) points out.

Future prospects

The extraordinary business situation after the early 1990s has obliged Japanese firms to take drastic restructuring measures, including wage and salary cuts and the downsizing of the labour force. Many companies have offered premium early retirement bonuses to those who wish to leave the company, while freezing or reducing wages or annual increments to those who opt to stay until retirement age. In the latter case, the change in the wage scale sometimes takes the form of "re-employment". As a result of the recourse to such measures, there has been much talk of the collapse of the LES. However, they should perhaps be considered as emergency measures to cope with two abnormally large age groups of employees against the background of a seriously depressed business situation and intensified global competition: the near-retirement group recruited during the high-growth period of the 1960s, and the group in their 30s who joined the companies during the period of the bubble economy.

Current "restructuring" somewhat resembles the rationalization movement during the depression of the 1920s and the 1930s. Today Japanese firms are obliged to reduce the size of their workforce, partly because they expanded it thoughtlessly during the bubble period of 1987-91, just as their counterparts did during the boom years of the First World War. The current situation is also similar, in that drastic business rationalization is required as a result of rapid technological progress and intensified international competition. The difference is that today Japanese firms have their own production model, whereas in the earlier period they were desperately trying to absorb Western production systems and techniques. There seems to be no reason why they should abandon this model, although it will certainly continue to evolve as it accommodates changes in the market and in technological condi-

tions. If this is the case, it is almost senseless to argue that the employment and wage systems supporting that model will disappear, for that would mean renunciation of the very sources of Japanese firms' competitive strength. In today's highly internationalized and competitive business environment, the importance of *Tanôkô* loyalty and of peaceful and cooperative industrial relations is increasing, not decreasing.

Unsurprisingly, current reforms are mostly concerned with managerial and non-managerial workers in offices and services. While Japanese firms have continued their efforts to maintain and improve efficiency in their factories ever since the 1950s, rationalization of offices and services has lagged far behind. Meanwhile, the stunning progress of information technology has vastly increased the scope for improvement in these areas. Rationalization of offices and services will therefore continue for some time to come. The number of regular employees there will be cut substantially, partly through computerization and partly through increased use of non-regular workers and external services. As suggested to the author during recent company visits, it is likely that regularly employed core office workers will increasingly assume a role similar to that of *Tanôkô* in factories.

This implies that the LES will probably emerge from the current rationalization movement more or less intact either in factories or in offices, as far as the regular employees of larger companies are concerned. Press reports on the trade unions' "spring offensive" (coordinated, nation-wide annual campaign for better wages and working conditions) for the year 2000 suggest that the major trade unions' top priority remains job security and longer working lives, for which they are prepared to accept wage cuts, if necessary. The Government is also urging firms to continue employment up to age 65.

As for the mid-career recruitment of professional specialists, this is unlikely to grow much more and will probably diminish. For one thing, major companies are expanding basic research and training programmes and increasing their intake of returnees from overseas studies. Second, although both universities and industries in post-war Japan largely shunned mutual collaboration on research and development because of its unhappy associations with the Second World War, attitudes are now changing at last and the number of joint research projects is increasing. This will certainly reduce the need for mid-career recruitment. Third, the deregulation of employment agencies in 2000, as a result of ratification of the ILO Private Employment Agencies Convention, 1997 (No. 181), will have a similar effect.

Clearly, however, the proportion of workers covered by the LES will decline. This will be somewhat reinforced by people's growing desire to choose their own lifestyles and by some of the recent institutional changes, such as the new accounting status of future retirement bonus and pension commitments and the extension of the legal time ceiling to non-regular employment contracts. All in all, the Japan Federation of Employers' Associations (Nikkeiren) anticipates the ratio of regular to non-regular employment to fall from 7:3 at present to 6:4 in the near future (NKS, 2000c).

Important policy issues are, then, how to secure stable employment for an increasing number of those who wish to work under the LES but who are rejected by the system and, second, how to minimize structural (i.e. voluntary and frictional) unemployment in the context of increasing non-regular employment. These are far greater challenges to policy-makers than in earlier periods, now that easy business opportunities for petty entrepreneurs have largely disappeared (Watanabe, 1999). This is not just a matter of employment policy, but the entire system of Japan's post-war education and official training programme is in need of fundamental reform.

As to the SWS, it has already changed much more than the LES, often to accommodate the latter. Its application is being narrowed down to factory workers. Its role as an incentive for lifetime training is virtually irrelevant to employees requiring little training and to workers who are so highly specialized that they cannot be trained in-house. The need for an age-based living wage has also diminished as the surplus of wages over living expenses grows. Japanese companies are therefore searching, by trial and error, a new wage model (or models) for their non-factory regular employees, and especially for the managerial class, in order to keep down labour costs which tend to snowball as the average age of workers and the retirement age rise, and to accommodate varied attitudes of workers. It is still too early to tell exactly what will be the final outcome, but the following general tendencies can be discerned.

The first is Japanese employers' commitment to the stability of employees' livelihoods. This may be illustrated with reference to Sony, which was the first Japanese company to introduce a performance-based annual salary system in 1969. However, managers and supervisors often refrained from harsh reporting for fear of threatening the workers' well-being. Consequently, wage differentials became insignificant and eventually, in 1982, a stable basic wage component was introduced to "protect the employees' livelihoods" (NKS, 2000a). Company A in graph 1 appears to follow a similar philosophy.⁵ A more general trend seems to be towards a system whereby a stable income base is provided with more equal and annually increasing monthly wages, while competitive incentives for better performance are offered in the form of more drastically varied biannual bonuses.

Also striking is the great bearing of teamwork on wage policy. Given their work organization based on teamwork, many companies take pains to assess individual workers' contributions without causing a feeling of partiality. They also stress the need for incentives to influence individual performance and at the same time to enhance the worker's contribution to the

⁵ In this context, it is also tempting to refer to the experience of the Japan Railway Companies. When these companies were established after the privatization and partition of the Japan National Railways (JNR) in 1987, they introduced almost entirely work-based wage systems, in reaction to JNR's overly seniority-centred system. Before long, however, elements of the age-based living wage had to be restored in view of workers' complaints (see Watanabe, 1994, p. 106).

overall performance of the group to which he or she belongs, and eventually of the company as a whole. This is also detectable in graph 1. The experience of Fujitsu, another precursor of the annual salary system, is also relevant in this context: this company used to determine the variable portion of managers' salaries entirely on the basis of individual performance, but subsequently replaced this approach with bonuses linked to the company's profits (NKS, 2000b).

In a nutshell, the SWS is applied in a much reduced number of areas, but some of its philosophy — consideration for the security of employees' livelihoods and for industrial peace — has taken root deep in Japanese industries.

Japan is now in a process of sloughing off the institutional framework set up soon after the end of the Second World War. Undercurrent demands for reform were present almost from the start, but it took the current global mega-competitive pressure for change to get really under way. The painful restructuring of offices and services is just one example. The situation resembles that of Western industries in the 1980s when, according to one authority, the association of the word "Japanese" with "industrial competitiveness" was subtly and successfully evoked to create "an imperative for introducing changes in working practices" (Graham, 1988, p. 74), thereby helping to overcome trade unions' resistance to these changes and to remove obstacles to the conduct of large-scale redundancies. Many old systems will be replaced with new ones, and others will survive with greater or smaller modifications. It will take some time for the new framework to emerge in its entirety. Two things, however, are clear: far from declining, the Japan Model of production and the LES will continue to evolve; and the work-based wage system that ultimately emerges will probably differ significantly from the Western-style performance-based wage system.

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