

Restructuring the Capitalist Labour Process: Implications for Administrative Reform¹

Raphael Kaplinsky

Introduction

The concern with the problem of administrative reform extends beyond the structure of the state and also affects modern industry. The intensification of competition, the acceleration in technological change and the modification in work culture has meant that firms have had to adopt more flexible and less hierarchical forms of organisational structure. Pressures to use these new forms as models in public administration have been exerted in the industrially advanced countries (IACs), and experts from the private sector have often been called in to advise governments on how to improve public sector productivity. Further, the performance of state sector producers will inevitably be judged by the standards adopted in the private sector. Thus public sector administrative reformers must look closely at what is occurring in the private sector and, more especially, at the firms where 'best practice' procedures are being developed.

In focusing on the evolution of organisation in modern industry, we will begin with the concept of the labour process. This allows us to focus on the relationship between changes in the instruments of production, and the forms of work organisation which come to constitute 'best practice' at any particular time. It also allows us to consider the external system of social and political regulation within which such solutions emerged and were universalised through competition. Here we have a basis for both a comparative historical/developmental orientation to the problem of economic change which focuses directly upon the possibilities open to societies attempting to 'modernise', and a means of identifying an ideal typical model derived from the most advanced context which can potentially be used to show another 'the image of its own future' [Marx 1976:91].

By using the concept of the labour process in this way we necessarily draw attention to the organisational and contingent — as opposed to the purely technocratic and supposedly deterministic — elements in the process of industrial change. This approach

¹ I would like to thank Teddy Brett for his extensive assistance in helping me make this paper relevant to the issue of administrative reform. His input has been especially helpful in the first and last sections. The usual disclaimers, however, apply.

rejects the crude assumption that the 'forces of production' determine the 'social relations of production', that is, that machines necessitate particular forms of social organisation in work [see, for example, Cohen 1983]. It allows an understanding of how the same machinery can be utilised in similar modes of production and yet nevertheless be associated with very different forms of work-organisation. Thus the labour process is best seen as a purposive concept. Each labour process results from decisions by some key individuals; there is nothing inevitable about the nature of work.

This conceptualisation of the labour process leads us to distinguish between two different types of social relations. The first are those at the point of production, involving the question of work-organisation and choice of machine technology. The second are those in the wider social sphere involving relations to the institutional framework and also the wider cultural and ideological sphere in which work attitudes are partly determined. Although we generally confine the labour process to the former, the latter obviously also affects its operation, and may have particularly important implications for the extent to which new practices can be transferred from one country to another.

Hence we now have a powerful analytical tool through which we can recognise that the structure of a firm (and therefore the capital-labour relationship within it) is essentially a system of administrative organisation, and one subject to intensely competitive pressures because of the absence of statist monopolies. This, in turn, has led to a continuous evolution in the dominant forms of organisation and in the location of the leading national centres of global economic control. Thus, while the world went to Britain in the mid-nineteenth and to America in the mid-twentieth century to learn how to industrialise, theorists now go to Japan to discover what has enabled their leading manufacturers to establish a dominant position on world markets. And while the British and American experience produced the large capitalist firm with a structure based upon monocratic hierarchy, specialisation, departmentalisation, and so on, (referred to in the rest of this article as 'Fordism') the Japanese 'just in time' system is based on very different organisational principles, and is forcing its competitors to 'learn from Toyota'.

This argument can be concretised by using the auto industry as an exemplar. Its experience is apt for two reasons. First, because it is the largest single industrial sector in the world economy and, second, because historically it has set the pattern for the development of the labour process for other manufacturing sectors. In the ensuing discussion we will deliberately simplify the argument, minimising important distinctions which exist both within and between countries. Although subject to various caveats and objections (for which there is no space here), this simplifying approach is helpful in illuminating factors which are having a decisive impact upon the most important forms of organisation now operating in the industrial system [see Piore and Sabel 1984; Kaplinsky 1985; Hoffman and Kaplinsky 1987]. We will not focus upon changes in the managerial structure of firms, which is a separate area of enquiry.²

The Evolution of the Capitalist Labour Process

Prior to the current transition to what I have elsewhere referred to as systemofacture [Kaplinsky 1985; Hoffman and Kaplinsky 1988] capitalism had already undergone two major transitions — that from handicrafts to manufacture, followed by that from simple manufacture to machinofacture. This involved the development of the specialised division of labour identified by Adam Smith [1776], the separation of skilled and unskilled labour, the mechanisation of many processes and deskilling of many tasks, the development of close managerial controls over scientifically defined labour practices ('Taylorism'), the introduction of product standardisation and mass production ('Fordism'), and the development of the whole process on a global basis. This produces a hierarchical and authoritarian labour process in which production workers are treated as thoughtless commodities, supervisors are given the role of non-commissioned officers and the generals orchestrate global production from the top-floor of skyscrapers in the capital cities of the IACs [Hymer 1975]. Creativity is largely confined to this senior management and an intermediate tier of specialised design workers in their R & D departments.

This evolving Fordist labour process then required a matching pattern of wider social relations in which mass production and international specialisation came to the fore. 'World factories' produced components or parts of components. Large cities were organised with an arterial infrastructure which included not only railways and roads but also

containerised air and sea transport systems. Wage-management came to be determined at the national level. Government policies were designed to stabilise production and consumption to maintain a predictable structure to facilitate mass production. The large corporation — extending into the multinational firm — also evolved in an attempt to organise and stabilise not only the national environment but also relationships on the shop floor.

This global system of production is now in crisis. In many of the IACs investment gradually ran into diminishing returns. In part this was because the large-scale production with which it was associated required a stable environment in which investments could be written off, and this has become increasingly unsustainable. However, it also reflects problems which are endogenous to the Fordist labour process. Subordinated workers stopped caring (or often were not given the space to care), so quality suffered; with complex products, repair proved to be expensive, both within the process of production and after delivery to customers. Because it was inflexible and supply-driven, the costs of storage (both of work-in-progress and of final products) became substantial. Moreover, the denial of creativity in the workplace meant that the incremental technical change derived from improvements in product and process identified by detailed workers during production did not occur.

These weaknesses are now widely recognised, and many firms are attempting to move to an alternative labour process (which is often mistakenly referred to as 'neo-Fordism', but sometimes as JIT (Just-in-Time) or 'flexible specialisation'), modelled on what is thought to have taken place in Japan and may be occurring in parts of Italy. Although many of these attempts may be flawed — based, for example on the premise that the new labour process can be reduced to its constituent parts (such as quality circles or zero-defect principles) which can then be adopted on a selective and piecemeal basis — there is now widespread recognition that there are more productive alternatives to the Fordist system. This transition is probably as important as that between the era of manufacture and machinofacture in the nineteenth century.

It is to one of these alternatives — that evolving in the Japanese auto industry — which I now turn.

Just-in-Time: An Alternative Labour Process

Japanese superiority in automobile productivity is often attributed to their more advanced utilisation of electronics-based automation technologies, and it is true that a number of their firms are leaders in this field. Until 1983 or so most of these firms lagged behind, and their improvements in productivity arose before flexible automation was widely adopted. These

² The recent restructuring of one of the largest US engineering firms — General Electric — provide a fascinating window into this. See *Financial Times* 16th and 18th May, 1988. For the application of similar principles to state sector organisation, see the Cyprus Industrial and Technology Strategies (IDS, Sussex/UNDP Nicosia).

improvements stemmed mainly from the organisational changes implicit in the transition described above.

Toyota, still not particularly advanced in automation, recognised the limits of Fordism soon after the war, because the small Japanese market ruled out a labour process built around mass production and because the originator of JIT production in the firm believed that its primary virtue would be to reduce inventory costs. In doing so it was able to make the Japanese system even more productive than its American counterpart, as can be seen from Table 1. This is adjusted to take account of the differential degrees of outsourcing (General Motors and Ford outsource much less than Chrysler and the Japanese), the length of the working day and the extent of capacity utilisation.

Table 1

Productivity of Labour in US and Japanese Auto Assemblers
(Vehicles per annum, adjusted for vertical integration, capacity utilisation and length of working year)

	GM, Ford, Chrysler ^a	Nissan	Toyota
1965	4.7	4.3	6.9
1970	4.6	8.8	10.9
1975	5.3	9.0	13.7
1979	5.5	11.1	15.0
1983	5.7 ^b	11.0	12.7

^a Average figures on worldwide operations.

^b GM and Ford figures assume 1979 levels of integration.

Source: Cusumano (1985).

The source of these productivity gains and the operational consequences of JIT can be understood in relation to seven major features:

From Supply to Demand-driven Production

Fordist production must be continuous so that machinery is fully utilised. Thus production must be supply-driven with batch-sizes which are large enough to ensure uninterrupted operation. This then implies homogeneous output, that stocks should be kept to cope with varying demand, and/or that marketing should be global. In the early 1970s this then led to an attempt by the non-Japanese car industry to produce a 'world car', and to achieve scale economies through the global sourcing of components. But markets turned out to be excessively diverse and inventory lines for components and autos became increasingly stretched.

The Japanese auto firms substituted a demand-driven alternative to this supply-driven system which has increasingly come to be linked directly to customer orders and has allowed the auto firms to offer an immense range of alternatives to customers. For example, in 1984 one of the Nissan lines produced over 106,000 different versions of three different types of car. This is just not possible with a 'world car', so few of the US and European firms are now thinking in these terms. Flexibility has become essential to produce for demand which is increasingly differentiated, rather than to fill pre-determined supply inventories.

Flexibility in Product and Process

Flexibility of output sometimes involves trivial modifications, but more often it also involves substantial changes. Thus Japanese firms introduce new models on a three or four-year schedule, whereas European and US firms have been introducing new models (sometimes little changed old ones), at around six-yearly intervals. But these changes in output scheduling also have important implications for flexibility in production, and thus for the labour process.

The first point is to observe how flexible the system has become. Each new model requires a change of heavy dies used to shape sheet-metal and forge and cast engine parts. In the Fordist system based on long runs, die-changing was a specialised task and took around eight hours. Table 2 shows how rapidly these times have been reduced by Toyota, and thus how the initial decision to reduce batch-size and increase diversity is linked to the reduction in change-over time. The same process in the stamping division took two minutes in Mazda and has only recently been brought down from eight hours to around 45 minutes in the US auto firms.

Multi-skill and Multi-task Work

These changeover speeds can only be achieved if workers have many skills and can undertake several tasks. Whereas die-changing is a specialised skill in the Fordist labour-process, in the Japanese system, the production workers are also responsible for the changing of dies and for routine maintenance and repair of their machines. They will have had specific training for these and a range of allied tasks, their wages will be related to the skills acquired and not to the tasks performed, and they will be employed in a general category and not for specific tasks. This therefore breaks with the Fordist labour process in two fundamental ways — a movement from specialisation to multi-task work, and a reversal in the historic tendency towards the deskilling of work.

Just-in-time Production

With the introduction of these flexible work-

Table 2

Shortening of Set-Up Time and Reduction of Lot Size in Toyota (1970-1980)

Division		1970	1975	1980
Stamping	Set-up time (mins)	40-150	20-30	5-15
	Lot size (no of items)	5,000	1,500	500
Forging	Set-up time (mins)	100-200	20-50	10
Casting	Set-up time (mins)	60	20	4

Source: Information supplied by Toyota Motor Corporation.

procedures it became possible to reduce inventories substantially, and this then had major implications for the global distribution of the firm's activities. Suppliers had to be carefully nurtured to supply just-in-time. Infrastructure had to be provided — in Toyota's case, it produces autos in Toyota City with suppliers located in close proximity, delivering hourly on purpose-built roads. Compare this, for example, with the policy of General Motors in the early 1970s (which might be termed a policy of global Fordism) where engines incorporated in final assembly sites were sourced from Austria, Australia and Brazil. And although the other Japanese producers do not share Toyota's advantage, they have all made very substantial progress in the same direction. Yet Table 3 shows in more detail that whilst the American firms are making rapid progress in reducing inventories, they remain a long way behind Toyota, the industry pace-setter.

Zero Defect Policies

In the Fordist labour process large inventories ensure that plants do not stand idle because of a faulty component, or non-delivery by a component supplier. Faults are identified and rectified by specialised quality control departments at the end of the process to avoid stopping the line. The Japanese, however, deliberately stretch inventory lines to breaking-point, but then use this to pinpoint areas for technical inputs. In this, quality control largely becomes the responsibility of the detailed line-worker. Quality is therefore an essential part of both reduced inventories and of technical change, as is a high level of worker involvement.

As a result, quality circles have become very important. The number of employees involved jumped from just over 100,000 in 1962 to over 1 million in 1978, with an increase in circles from 10,000 to over

Table 3

Trends in Inventory Turns for US Auto Assemblers and Toyota, 1973-1984¹

	1973	1978	1982	1983	1984	1985
Ford	...	5.3	6.5	9.6	12.2	14.2
Chrysler	...	5.6	6.3	6.4	12.6	14.7
General Motors	5.4	6.7	10.1	11.0	10.3	11.9
American Motors	7.2	6.4	5.8	12.0	15.3	15.5
Toyota	88.6	90.0	

¹ Inventory turns are calculated by dividing the average inventory into total annual turnover so the higher the number of turns, the smaller the relative level of inventory.

² Post 1980 figures confined to work-in-progress, raw material and supplies; pre 1980 figures include finished products.

Sources: Adapted from Automotive Industries, April 1985, April 1986.

100,000 in the same period. By 1984 Toyota had 5,850 quality circles with 37,515 members and Nissan had 4,004 with 37,389 members. This has given Japanese cars an unrivalled reputation for reliability, but we should also note that quality is not merely important for its own sake. It arises because JIT could not operate without it and flexibility would be severely hampered.

Shifting Responsibility to the Worker

The JIT/zero-defect system requires the line-worker to be responsible for quality control and the rectification of errors, for any defects will stop the line, and this necessitates decision-taking. Further, flexibility in production also means a measure of responsibility being given to workers, since they are no longer subservient to the same extent to the unchanging production line. And this, of course, is in fundamental conflict with Taylor's removal of 'brain work' from the shop floor to the planning and design departments.

Two features of the Japanese system illustrate the enormous significance of these changes. First, the quality control department has been virtually abolished as a specialised sub-unit, and with it its ancillary 'rectification bays'. These are largely absent in most Japanese plants in which worker-control over quality is widespread and often dominates the production ideology in the workplace. Second, a series of Andon lights and switches exist next to almost every workpoint, the first of which signals that the worker is under pressure; the second that assistance is required or the production line will grind to a halt, the third and most important switch will actually bring the line to a halt if any error is noted. This, of course, is a decision of fundamental importance in the context of production line operation, and as we shall argue later, it is one of the more significant features of this labour process.

Worker Involvement in Technical Improvements

Historically, technical change has occurred in waves and combined three types of innovation — those involving revolutionary technologies, radical innovations and incremental innovations in product and process [Freeman 1984]. A radical or revolutionary set of technologies may be introduced and may offer few significant improvements in performance in the short run. But they also allow for productivity-gains to be realised through a series of incremental and often minor improvements. With Fordism most innovation originated in the R & D departments and tended to atrophy into a series of minor and incremental technical changes. There was a tendency to standardise products and then fine-tune the mass-production manufacturing process through a series of minor incremental changes.

The Japanese see technical change as a total process,

encompassing changes in product, production technology and work-organisation. Revolutionary and radical technologies are increasingly being introduced (such as those involving the application of microelectronics and new materials), forcing the auto and component firms significantly to increase investment in R & D. These changes involve the introduction of new electronically-controlled machines, the development of new products and the adoption of new manufacturing philosophies. However, the incremental changes in product and (especially) in process ideally belong on the shop floor, where line-workers — who come into everyday contact with what takes place — are best placed to notice the need and opportunity for them.

But the Fordist paradigm gave no space for this type of shop-floor creativity. Taylor's precepts forbade it, and the conflict between management and workers meant that they would be more likely to sabotage the line than to feed possible improvements into the system. Instead, the Japanese auto factories create a general atmosphere conducive to suggestions. This includes quality circles, setting out finished car bodies for inspection by the workers who are encouraged to stick labels on vehicles wherever they see faults, and providing financial rewards (ranging from \$2 to \$800 in 1984) for suggestions which are implemented. The record of suggestions is virtually non-existent in most of the US and European auto firms, yet they reached 1.9 mn in Toyota in 1982, equivalent to 39 per worker — 95 per cent of these suggestions were actually implemented. Many of these suggestions may be of a trivial nature, but many of them are not. More importantly, this effectively takes care of most of the incremental technical innovations for the firms, leaving their design departments free to concentrate on more fundamental problems. It is for this reason — the endogenisation of technical change within the labour process — that Baba [1986] observes that the Japanese see the factory as a laboratory.

Transferring JIT

The Record

The JIT system has rapidly penetrated the older IACs over the past five years, at first mainly in the auto and electronics industries. The ideas are now increasingly widespread, even if often misunderstood. The dominant manufacturing ideology has changed rapidly and journals, Business Schools and newspapers are now all promoting 'flexibility', JIT and quality circles. Many firms which tried to absorb these lessons have made serious errors, some with a mis-specified and reductionist concern with 'quality', others with a mono-dimensional concern with JIT which misses the totality of the Japanese system. Recently, however, many have recognised that the move from standardi-

sation to flexibility lies at the heart of the problem, and agreements with trade unions now increasingly specify flexible work-practices and single-unions, often involving 'unexpectedly high' wage settlements. Thus, for example, a large British engineering firm trying to restructure out of crisis conditions recently produced an agreement that contained five main elements — multiskilling, adaptability to continuous change, individual and group responsibility, inter-union flexibility, and flexibility in varying shift patterns and working times [Harper 1986:395]. But progress is still both slow and uneven, and a recent UK survey concluded that many of these agreements looked impressive, but had yet to prove their worth [Income Data Sources 1986:1].

It would also appear that intra-plant JIT is much easier to achieve than inter-plant JIT. Thus some European and US firms have made real improvements, but are finding it more difficult to tighten the relationship between plants. Is it conceivable, for example, in the American and European political context, that their firms will achieve average work-in-progress of less than one shift, with predictable deliveries occurring every two hours? Here reliability in component supplies is crucial, and it is significant that the Japanese are very dubious about local firms and are encouraging their own suppliers to move in with them.

We should also note that problems of inter-plant coordination may often also involve intra-firm transactions and may have significant implications for LDCs. General Motors organised its Delco electronics subsidiary to feed into 34 of its 35 North American plants on a just-in-time basis. Yet simultaneously it negated other central tenets of the Japanese system — job-security and long-term contractual agreements — by planning to shift production of these same components to Mexico. The result was a strike, the closure of most of its US assembly plants, since there were no buffer-stocks, and 37,000 assembly workers were laid-off before GM agreed to keep production in the USA. Here they had acknowledged the success of JIT, but refused to take account of its tightness as a total system.

Transferability

It is still too early to decide how successfully these new work practices will be transferred to other countries, but it is worth considering some of the factors which may affect the process. To do this we will again focus mainly upon the organisational issues raised at the start of this article by considering the implications of Toyota's use of the Andon lights and switches in many of its assembly lines. Most importantly, these give each worker the ability to bring the whole line to a halt if an error is noted, and it is *expected* that they will do so when appropriate. This involves a truly

revolutionary break with Fordist practice, yet in Japan it seems that the workforce only uses this power in the interests of the firm, despite being subjected to the most extreme work-pressures.

The ability of the firm to maintain control over this 'autonomy' requires some explanation. It appears to involve a move from 'exterior' to 'interior' conditioning, from the 'overt moves by capital directed against labour' of the Taylorist system, to the generation of a cooperative culture and ideology 'accepted and transmitted, or even generated, by the institutions of proletarian culture itself' [Henderson and Cohen 1979:12].

Four kinds of explanation are given for this achievement — the pattern of industrial relations, the role of subcontractor firms, aspects of culture, and developments in the ideological sphere. Work in this field is still very limited, so the following discussion should be treated as a research agenda rather than as substantiated 'fact'.

(a) The Pattern of Industrial Relations

In the early 1950s independent trade unions were destroyed in Japan and replaced by compliant company-unions, first at Nissan and then at other firms. This allowed an initial Taylorist intensification of work (graphically described in Kamata's account of working at Toyota in the early 1970s: see Kamata 1982) and then provided a significant element of institutional support for the new labour process by supporting task- and skill-flexibility in work and avoiding the problem of inter-union demarcation disputes. Thus transferring the new labour process to other environments might well fall foul of the legacy of industrial relations inherited from the era of machinofacture. The problem might be resolved through negotiation, but new industrial structures do not emerge through careful thought and purposive action alone, but often involve difficult political struggles. They may be easier to introduce into new industrial areas, thus explaining the industrial drift from the 'snowbelt to the sunbelt' in the US and from the North to the South in the UK. This might also give the Third World some advantages in the future.

(b) The Role of Subcontractors

Industrial relations are also affected by the role of small subcontractor firms which is much greater in Japan than in the older IACs. In the late 1970s GM and Ford bought-in only 57 and 64 per cent of their components respectively, whilst Nissan bought-in 74 per cent and Chrysler 68 per cent. In Japan many of these supplying firms tend to be much smaller, pay significantly lower wages and offer no job-security to their workers. This dual labour market produces a cost structure traditionally unobtainable in the older IACs. But with high unemployment, changes are

taking place in the labour markets in these older IACs, and the recent development of a large part-time labour force may produce a dualistic labour market similar to that already found in Japan.

(c) Cultural Determinism?

There are those who claim that it is the 'group ethic' and the supposed absence of inter-personal conflict in Confucian culture which produces the cooperative behaviour of Japanese workers, while the 'individuality' of Western culture produces the combative industrial relations found there. Thus Dore argues that Japanese firms make decisions consensually and therefore slowly, but can then implement them almost instantaneously [Dore 1984]. By contrast, in US firms the executive decision is authoritarian and generally very rapid, but implementation is slow because the key intra-corporate battles have still to be fought. Kamata's reluctance to use the Andon switches because of social pressures from his workmates can also be explained as the outcome of deference to group-legitimation (a 'shame-culture') as opposed to the individual responsibility (a 'guilt-culture') which would exist in the west. This, however, is an extremely difficult argument to document since the differences involved might not involve deep seated 'cultural' factors but the outcome of a recent process of 'social engineering' which could be replicated elsewhere.

(d) Ideological Issues

More convincing than culture, however, may be explanations based upon the conscious fashioning of specific and purposive ideologies. Thus Kamata's account of Toyota describes the conscious construction of a work-related ideology, together with an associated structure of interventions in all areas of life. Singing company songs and pre-work exercises are part of this ideological process in Japan; a British subsidiary of Matsushita offers cash prizes to work teams with the best quality performance, but limit their use to communal activities such as outings or group dinners. Henry Ford and Lever Brothers strove for equally significant changes in the ideological framework, and IBM's much-vaunted corporate culture reflects a similar ideological process as does Ford's 'global AJ' (after Japan) strategy of the early 1980s in which it set out to try and absorb some of the corporate features of its Japanese competitors.

For example, Toyota in Japan uses two slogans to mobilise the labour force, *keizan* (devising a process of continual incremental improvement) and *muda* (the elimination of waste through improved quality). Workers in the US joint ventures between GM and Toyota have absorbed these ideas and frequently refer to tasks such as to 'keizen the operation' and 'that's muda'.

These processes seem to be far more central to the explanation of relative success than culture, though the latter may well strongly influence the inevitable ideological struggle involved in any major transformation of labour processes and forms of organisation. They are also easier to transfer (note the apparent success of Nissan's socialisation of its new British workforce), though their success or failure will never depend upon ideological conditioning alone, but also upon the company's ability to deliver rising wages and job security. It seems unlikely that even the most 'Confucian' culture would have enabled Toyota to secure compliance if it had not also been able to meet the material needs of its workers so successfully.

Conclusions

The importance of the new industrial system lies in its success — all of its competitors are being forced to imitate it to some degree — and in its transformation of an organisational structure which was traditionally associated with 'alienation' and antagonistic class conflict. The new system does seem to increase worker responsibility and potential job-satisfaction, though without reducing the pressure to perform which, it must be noted, is also the basis of the improvements in reliability and price which Japanese products have brought to increasing numbers of working-class consumers. In conclusion, therefore, we can now ask whether the new system involves not only a break with a particular kind of 'paradigm', but also a transition to more democratic and thus progressive forms of organisation.

From the point of view of management theory we can see here a transition from what Druker calls 'the command-and-control organisation' of the past to an 'information-based organisation of knowledge specialists' with far fewer layers of management and far more responsibility to workers whose autonomy will be based upon skill. Here discipline cannot be based on unthinking obedience but upon the capacity to motivate individuals whose contribution will be a function of their desire to make their own significant contribution to a collective activity whose purpose they actually share. He claims that such organisations are more likely to resemble a hospital, university or symphony orchestra than 'the typical manufacturing company, c.1950, which our textbooks still consider the norm' [Druker 1988:45].

This vision must depend upon the automation of a broad range of the most alienating and menial tasks in the factory and the development of a workforce with highly developed skills. As such it may not yet be possible in less developed countries where older forms of labour intensive industry are still likely to prevail in the absence of the capital and training available in the advanced countries. Yet an important lesson to be

derived from the JIT system is that responsible workers perform better than irresponsible ones, and that firms which attempt to extend their skills and to create effective means of rewarding performance will do better in open competition than those which treat them as little more than an extension of the machine. This, surely, is something that should be taken into account in even the least developed country; it is also something that should apply to workers in the public and the private sector, in service provision as well as manufacturing.

For workers' organisations these developments create both opportunities and costs. On the one hand the JIT labour process offers a much more 'human' working environment than its Fordist predecessor, especially in the Third World. Indeed, British workers interviewed unambiguously supported the transfer to multi-tasked multi-skilled work and single status involved in the new system. Yet Dohse *et al.* [(1984:34)] also suggest that this 'improvement' in working conditions 'is only possible in an industrial relations environment in which there are hardly any limits to management prerogatives,' and an American study for the large trade unions rejected it for the United States [see Bluestone and Harrison 1982:220]. Yet it is difficult to see how the new system can be simply rejected, given its advantages over classical Fordism. Surely the task must be to construct a more democratic framework in which the new flexible labour processes can operate — one which will guarantee a two-way flow of information and provide real autonomy for the workforce.

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