The Politics of New Technology and Job Redesign: A Comparison of Volo and British Leyland

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DOI: 10.1177/0143831X90113002

Available at: http://archive-ouverte.unige.ch/unige:82172

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ECONOMIC ANALYSIS AND WORKERS' MANAGEMENT
Vol. XXIII
Beograd, 1989
No. 4

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An international journal quarterly. Annual subscription price for 1999:
Developed countries
Less developed countries
— Institutions US$ 70
— Institutions US$ 35
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Supplement fee: ordinary mail postage US$ 4
Supplement fee: airmail postage US$ 16

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PAPERS

The Politics of New Technology and Job Redesign: A Comparison of Volvo and British Leyland

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This article argues that the politics of new technology and job redesign at the firm level is decisively influenced by "external" political-economic conditions, and must be analyzed from a broad perspective. The article compares the experiences of Volvo, a case of labour inclusion of industrial innovation, and British Leyland, a case of labour exclusion, and shows that the two firms have pursued two very different innovation strategies. Volvo's emphasis on upgrading assembly work reflects union demands, but should first and foremost be seen as a response to Swedish labour market conditions; in particular, high rates of labour turnover due to full employment and solidarity wage policy. Operating under different labour and market conditions, British Leyland has been under much less pressure to break with traditional assembly-line principles.

It is commonplace to observe that carmakers and other mass producers in the advanced capitalist countries are seeking to diversify their product range, to improve product quality, and to deploy labour and capital more flexibly. While changes in product markets have made it necessary to become more flexible, the revolution in microelectronics has made it possible by reducing the costs of machinery which can be programmed to perform a number of different operations. The significance of recent manufacturing innovations has been a subject of considerable debate. At the same time, most contributors to the literature on "post-Fordism" (or 'neo-Fordism') seem to agree that neither technology nor market forces suffice to explain changes in working practices and work organization. Technology is said to be "plastic" in the sense that it can be deployed in different ways, and there is more than one path to regain or maintain competitiveness in

the new world economy. By this line of reasoning, we end up with the proposition that ‘politics’ or the ‘balance of social forces’ shape corporate choices about technology and work organization (cf. for example, Pierre and Sabel, 1985; Tolliday and Zeitlin, 1986; Sorge and Streeck, 1988; Wood, 1989). The vagueness of such formulations is often striking. What are the political or social institutions and actors that matter in the process of industrial innovation at the firm level? And exactly how (or why) do they matter? To get a better handle on these questions, we need to compare different experiences, within and across national boundaries, in a more systematic fashion. Intended as a contribution to this enterprise, the following analysis compares the ‘micro politics’ of reorganizing car production at Volvo and British Leyland (henceforth BL) in the 1970s and 1980s.

Whereas Volvo represents a prototypical case of industrial innovation through bargaining and collaboration between management and labour, BL represents a prototypical case of innovation conceived by management and imposed on labour. Two basic questions arise. First, how do the technological and organizational changes introduced by Volvo at the shopfloor differ from the changes introduced by BL, and to what extent can the differences be attributed to union influence? Secondly, why was organized labour included in the process of innovation at Volvo, and excluded at BL?

My discussion will be divided into three parts. The first demonstrates that Volvo represents a case of labour inclusion and BL a case of labour exclusion by describing the interaction of unions and management in the process whereby technological and organizational changes were conceived and implemented. (As we shall see, my characterization of BL is only accurate for the period since 1979; in the mid-1970s, BL management and unions tried to find a collaborative, Swedish-style formula for industrial innovation.)

The second part describes the technological and organizational changes introduced by Volvo and BL. It should be stressed that the case of BL, as I understand it, is not quite the familiar British story of a company failing to undertake innovative measures because of management incompetence and/or union resistance. Like Volvo, BL has introduced far-reaching changes at the shopfloor in the last ten years, but the thrust of innovation is markedly different. To anticipate, I shall argue that BL’s innovation strategy has emphasized flexible automation and tighter management control of the work process while leaving assembly work essentially unaltered. Volvo has also pursued greater automation and technological flexibility, but its innovation strategy has pivoted on job redesign and teamwork.

The third explores the reasons for the observed differences with respect to outcomes as well as processes of innovation. It is tempting to explain worker-centred orientation of Volvo’s innovation strategy, as compared to BL’s, in terms of union influence in the process of innovation. I shall argue that this is not an adequate explanation. For the most part, the initiative behind innovative measures at Volvo has come from management. It was not until the 1980s that the Volvo unions began to develop a coherent conception of the kind of workplace reforms they wanted and, indeed, they developed such a conception in response to management initiatives. The unions had some direct influence over the design of Volvo’s most recent final assembly plant (in Uldevalla), but this influence took the form of tipping the balance in favour of one management faction over another. At no time can the Volvo unions be said to have prevailed over management.

Arguably, this assessment rests on too narrow a conception of ‘union influence’. Rather than asking whether the unions have prevailed when their preferences have conflicted with those of management, we should perhaps ask whether the unions have influenced management preferences in the course of the ongoing process of industrial innovation. Instead of pursuing this line of enquiry, I want to suggest that a great deal of explanatory leverage might be gained by looking at the broader political and economic parameters of direct interactions between unions and management. I shall argue that Volvo’s innovation strategy can be seen as a management response to Swedish labour market conditions, and specifically as an attempt to reduce labour turnover. Volvo confronts a more serious labour turnover problem than BL because of the Swedish government’s commitment to full employment, and because the unions’ commitment to solidaristic wage policy constrains Volvo’s ability to raise wages. At the same time, Volvo has been more sensitive to high labour turnover because of its up-market product strategy.

Let me immediately point out that this argument is not intended as an explanation of why firms innovate. Confronting very different labour market conditions, BL and other carmakers have also engaged in innovations, including the introduction of teamwork. The basic impetus behind innovation would seem to derive from product markets. My argument about labour market conditions is meant to
explain why firms pursue different kinds of innovation in response to similar product market pressures; for instance, why BL and Volvo conceive and practise ‘teamwork’ in very distinct ways.

To clarify further, I am convinced that unions do matter to the process of industrial innovation. My point is that the influence they exercise through direct interaction with management is contingent on their ability to influence the ‘external’ environment of the firm. This argument is consistent with and inspired by the approach set forth by Streuck (1987), but I disagree with Streuck on the precise mechanisms whereby macro conditions shaped by labour have in turn shaped corporate strategies. Streuck’s thesis that political constraints on lay-offs have forced Swedish and West German carmakers to invest in training their workforce, and to seek more flexible production methods ignores the high rates of labour turnover in the Swedish case. Had Volvo wanted to shed labour, it could simply have allowed turnover to translate into attrition.7

Processes of Innovation: The Role of Organized Labour

My first task is to establish that Volvo represents a case of labour inclusion, and BL a case of labour exclusion. Whereas subsequent parts of the paper will compare the two cases more directly, the micro politics of innovation will here be treated as two separate stories.

Volvo

We can distinguish three stages in the workplace reform movement at Volvo. The famous Kalmar assembly plant, which came on line in 1974, represents the first stage. The design of the Kalmar plant was far less innovative than Volvo management and outside observers made it out to be at the time. The use of computer-guided platforms, ‘auto-carriers’, instead of a conveyor belt made longer job cycles possible, but assembly work remained machine paced. Also, there was very little attempt at job enrichment, as distinct from job enlargement, at Kalmar.

The Kalmar plant and other Volvo plants experimented with stationary ‘dock assembly’ on a small scale in the mid-1970s (Blackler and Brown, 1978), but these experiments were abandoned as the world economic crisis hit Volvo. More generally, management retreated from reformist ambitions articulated earlier, and tightened its control over the work process at Kalmar in the second half of the 1970s. Among other things, workers were no longer allowed to take an auto-carrier out of the main flow without prior authorization from a foreman (Berggren and Holmgren, 1985).

Three new plant facilities that began operations in 1980-1 represent the second stage of workplace reform. Two of these facilities were associated with a new car model, the 700 series, and located on the premises of Volvo’s main plant complex at Torslanda, just outside Gothenburg. In addition to a new body plant (known by the acronym TAO), Volvo constructed a small assembly facility (TUN) at Torslanda to handle the initial phase of production and to train operators for the main line. This facility now specializes in station wagons. Also, Volvo opened a new assembly plant for heavy trucks at Tuse in 1981. These three plant facilities were conceived to operate on teamwork principles which went beyond the Kalmar model by providing work teams with more collective responsibilities and decision-making autonomy.

The new assembly plant at Uddevalla, currently starting production, goes further beyond the Kalmar model by linking this conception of teamwork to dock assembly. At Uddevalla, teams of eight to ten workers are supposed to build an entire car. The third stage of workplace reform also involves the modernization of the main final assembly facility at Torslanda (TC), which until recently operated along completely conventional lines. It remains to be seen how far the TC modernization scheme will go in the direction of the Uddevalla model. Given the secrecy of the process and the uncertainty of the outcome, let us leave the TC modernization scheme aside. In so doing, we must keep in mind the workplace reforms discussed here pertain only to a fraction of Volvo’s total output of cars. Nonetheless, the three stages of workplace reform involve a cumulative process of innovation, with a trajectory which adds up to a more or less definitive break with Fordism.

The ideas behind the Kalmar plant were almost completely a product of management thinking. In no way did the unions participate in decisions pertaining to plant design and technology.4 They were consulted in matters of work environment and organization, but even here their role seems to have been quite limited and essentially passive. This reflected the attitudes of the unions as well as management. At the time that the Kalmar plant was designed, the Metal Workers’ Union and its Torslanda local had yet to begin to
think seriously about work organization and job redesign (Ellegård, 1986a:21–2). Rather, the attention of organized labour focused on institutional arrangements for codetermination at the firm level. At least initially, the unions feared that teamwork and other innovations associated with Kalmar were conceived and would serve as an alternative to codetermination.

Organized labour played a more important role in the planning of the TUN, TAO and Tuve facilities, which came on line in 1980–1 (see Ellegård, 1986a; Berggren, 1985, 1987; Holmgren, 1985, 1987). Two factors account for this activation of the unions. First, the Co-Determination Law of 1976 required management to negotiate with unions over any issue that would affect the workforce if the unions requested such negotiations. Secondly, two of these new plant facilities were located at Torslanda, where there already existed a strong trade union organization and ongoing relations between management and unions.

The unions were not brought in until rather late in the game, however. At Volvo as well as BL, the conception and construction of new plant facilities typically involves three stages. First, a ‘Red Book’ sets out the objectives and parameters of the project. Its approval by the Board of Directors leads to the appointment of a team which will draft a ‘Blue Book’, providing basic specifications for the plant to be built, including the type of technology to be used, and cost estimates. A project group is then appointed to plan in detail, and to supervise the actual construction of the plant. The Red Book for each of the plants inaugurated in 1980–1 had already been approved before consultations with the unions began, and prior management decisions constrained the scope of these consultations/negotiations. Once the unions were brought in, they were represented on the project group as well as on various sub-committees. Specific decisions by the project group were also a subject of formal codetermination bargaining.

In accordance with a codetermination agreement previously reached at Torslanda, the unions were involved in the planning of the Uddevalla plant from the time that the board of directors commissioned a Red Book (Ellegård, 1989). The steering committee (styrmingsgrupper) established at this time to supervise the planning and development of the Uddevalla plant included two presidents of Volvo locals of the Metal Workers’ Union. In addition, three Torslanda officials of the Metal Workers’ Union worked full-time on the Uddevalla project for nearly three years (1983–7), participating in the deliberations of the main working party (projektleddningsgrupper)

and its sub-groups. Formalized codetermination negotiations were in this case avoided; according to union officials, consensual decision-making by the working party and steering group rendered such negotiations superfluous.

The working party’s initial proposals were inspired by the Kalmar model. To begin with, the union officials that were included in the working party did not object to them, but discussions among union officials, including the central research department of the Metal Workers’ Union, subsequently led to the articulation of a series of demands which ran counter to the working party’s proposals. At this juncture, Volvo’s top management prevailed upon the steering committee to pursue alternative schemes, and academic consultants and industrial engineers committed to more far-reaching industrial innovation were given the opportunity to develop their ideas. Only slowly did management and union officials take on board the notion that machine-paced assembly might be abandoned altogether (cf. Ellegård et al., 1989; Ellegård, 1989).

**British Leyland**

British Leyland became a subsidiary of the National Enterprise Board (NEB) in 1975. The decision to save the company from bankruptcy by nationalizing it was based on the findings of an investigation headed by Sir Don Ryder. The so-called Ryder Report (Ryder et al., 1975) argued that industrial relations reforms were an essential component of any attempt to turn the company around. Alongside other recommendations, it set out a detailed organizational scheme for trade-union participation in corporate decision-making which included management and unions subsequently agreed. The Ryder participation scheme provided for the establishment of Joint Management Councils at the divisional level as well as Joint Management Committees at the plant level and at the departmental level within plants (see Willman and Winch, 1983:40). At least formally, it provided labour with as much involvement in corporate decision-making as did the Swedish Codetermination Law of 1976 and subsequent collective agreements on codetermination.

From the very beginning, participation at the divisional level seems to have been essentially a rhetorical exercise, staged by management for the benefit of the NEB and the government. While the unions quickly came to view the Cars Council as irrelevant, they did,
however, value the experience of participation at the plant level. One of the most meaningful participation exercises involved the planning and construction of the facilities that would produce the company’s new small car, the Metro, at the Longbridge plant (Birmingham).

The Longbridge Joint Management Committee established a sub-committee to discuss the Metro project in 1976, and this sub-committee met frequently over the next three years. The Red Book for the Metro project had already been drafted and approved by the time participation got underway, and Willman and Winch (1985) argue that the scope of participation was severely constrained by prior management decisions about technology and productivity targets. Management choices at the Red Book stage still left open a wide range of possible solutions in the realm of working practices and work organization, however. According to a senior shop steward at Longbridge, the Metro sub-committee was ‘the most successful participation exercise that we took part in . . . less abstract than other exercises’ (quoted in Scarbrough, 1986:103).

Both Scarbrough (1986) and Willman and Winch (1985) stress that the Longbridge shop stewards welcomed the company’s commitment to a high level of automation on the Metro body line, and were quite willing to discuss more flexible working practices, including teamwork. Perhaps the shop stewards thought that they had little choice in the matter. Be that as it may, the participation scheme fell apart in 1979 because management and unions failed to agree on the ‘macro’ dimensions of corporate strategy and not because they failed to agree on workplace reforms.

The whole point of the Ryder Report was that management and unions would collaborate to improve industrial relations, productivity and product quality while the government would provide the funds necessary to modernize and expand BL’s plant facilities. As far as the unions were concerned, participation was premised on expansion. The corporate strategy adopted by Michael Edwardes, the new Chief Executive appointed in 1977, ran directly counter to this line of thinking. Unwilling to assume co-responsibility for the massive workforce reductions which Edwardes insisted on, the unions formally withdrew from the participation scheme in September 1979.

Against the resistance of shop stewards, but with the support of some unions, Edwardes successfully imposed centralized, company-wide wage negotiations in 1978–9. Along with the breakdown of the participation scheme, this victory set the stage for a direct management assault on the power of shop stewards. In November 1979, the company dismissed the senior shop steward at Longbridge, Derek Robinson, on the grounds that he had publicly criticized its Recovery Plan. In the ensuing wage negotiations, management insisted that wage increases presupposed the removal of restrictive practices and the unions’ acceptance of industrial engineering techniques. Furthermore, it asserted its right to implement new working practices unilaterally, thus rejecting the long-established principle of ‘mutuality’, which required management to secure shop steward agreement prior to any change in working practices.

The shop stewards’ resistance to this offensive failed, and management unilaterally eliminated a wide range of restrictive practices in the two to three years following the confrontation of 1980. At the same time, it withdrew facilities from shop stewards. From 1980 to 1982, management reduced the number of full-time stewards from eight to two at Longbridge and from nine to two at Cowley (Oxford), its other major plant complex, and reduced the time that other shop stewards could spend on union activities.

As Willman (1986:314) puts it, the management offensive should be seen as ‘an attempt to mould trade-union organization to fit the radically restricted scope of collective bargaining’. The new procedure agreement of 1982 reaffirmed the company’s commitment to ‘constitutional unionism’, and stated that consultative committees were to be established at the corporate level and at the plant level so that the views of the Unions may be taken into account in the management decision-making process’ (quoted in Willman, 1986). In contrast to the Ryder participation scheme, this was clearly to be an exercise in consultation rather than joint decision-making. In any case, it does not appear to have gotten off the ground. The Cowley shop stewards I interviewed in spring 1988 certainly did not think that they were being consulted by management, maintaining that they had played no role whatsoever in the planning and development of plant facilities since 1980. (Both the Longbridge and Cowley plants have been largely re-equipped as four new car models have come on line since 1980.)

BL’s approach to industrial relations has become less confrontational since 1982. While at least paying lip service to the idea of consultation with unions, BL has engaged in a series of initiatives designed to improve communications between management and employees, and promote employee identification with the company (see Smith, 1988). Still, BL clearly qualifies as a case of industrial innovation without the participation of organized labour.
Outcomes of Innovation: Automation, Job Redesign and Teamwork

BL and Volvo have pursued two different strategies to achieve greater efficiency, quality and flexibility in production. Whereas BL's strategy has centred on automation, Volvo's strategy has centred on job redesign. I hasten to add that Volvo's innovation strategy has also involved automation; the point is that, for Volvo, technological change forms part of a larger 'reform project'.

The differences between the two strategies are revealed by their differential impact on different stages of production, and different segments of the workforce. Because of the vast number of components involved, final assembly does not lend itself well to automation, and remains, at BL and Volvo alike, highly labour-intensive. While BL has introduced far-reaching changes in engine machining, body assembly and body painting, its final assembly lines are set up almost exactly as they were ten to fifteen years ago. By contrast, Volvo's innovation strategy has very much focused on final assembly.

To the extent that BL has engaged in job redesign, it is skilled, machine-maintenance jobs that have been redesigned. At Volvo, by contrast, 'job redesign' refers first and foremost to assembly work - body assembly as well as final assembly. Teamwork figures in both innovation strategies, but the conception of teamwork is fundamentally different.

The Automation of Body Assembly at BL and Volvo

The Metro project pioneered a new era of automated body assembly at BL. Relative to existing body lines at BL, the Metro line involved the displacement of up to 80 percent of direct labour in some areas (Willman and Winch, 1985:151-5). With the Metro designed as an inexpensive large-volume car, BL management was not particularly concerned with being able to accommodate product variations. Consequently, it chose to rely heavily on multi-welders rather than robots, making for a very rigid line. Unable to show that a high level of automation would be more economical, the authors of the Red Book on the Metro line appealed to its 'quantifiable advantages'. Management saw automation as a means to improve the precision of welding, but also as a means to shed labour and to gain better control of the production process; that is, as a solution to its industrial relations problems (Willman and Winch, 1985:50-61).

As a result of automation, the percentage of the Metro workforce engaged in skilled machine-maintenance tasks was higher than on existing body assembly lines at BL. At the same time, however, the Metro line represented a further fragmentation and degradation of direct assembly work. In the words of Willman and Winch:

welding robots appear to have been used not to relieve workers of tedious jobs but in situations where reliability of a weld was particularly important, and where robot-welding does take place, apart from the ABF line, it results in workers having extremely short-cycle unskilled jobs feeding the machines. (Willman and Winch, 1985:157)

Subsequent body assembly lines designed by BL have employed more robots, and a more flexible combination of workers and machines than the Metro line, but do not seem to represent any significant improvement as far as the nature of assembly work is concerned (Marsden et al., 1985:49-53; Williams et al., 1987:ch.3).

Beginning operations in 1980, Volvo's new body plant at Torslanda, TAO, provides a useful point of comparison with the Metro line. Like BL, Volvo rejected the 'line-out system' of parallel body assembly previously introduced by Saab. Volvo decided that parallel assembly was incompatible with its desire to gain flexibility by substituting robots for multi-welders; it would simply have been too expensive to duplicate robotized assembly. The decision to go with a single line severely restricted the extension of on-line job cycles, most of which are set at 90 seconds. In marked contrast to BL, however, Volvo invested heavily in the automation of machine feeding, and largely eliminated this, the most repetitive type of on-line work. Furthermore, the situation of assembly workers at TAO is different in that they rotate among work stations, and spend some part of their day doing off-line work. This is a characteristic feature of teamwork as practised in numerous Volvo plants. What distinguishes TAO from the Metro line has more to do with work organization than with the nature of automation.

Job Redesign and Teamwork at Volvo

The redesign of assembly work at Volvo encompasses several distinct, though closely related, features.4 The two most basic, least 'advanced', features are job enlargement and job rotation. By job enlargement, we mean that assembly workers are asked to perform a
larger number of assembly operations (doing more welds or adding more parts to each body). Whereas the average job cycle at BL's final assembly line is about two minutes, job cycles at Volvo’s Kalmar plant range between twenty and twenty-five minutes, and job cycles at the Uddevalla plant might turn out to be as long as four hours. The extension of job cycles at Uddevalla is linked to the elimination of machine pacing, but job enlargement need not entail such far-reaching innovation. The design of the Kalmar plant made the extension of job cycles possible by having assembly operators work on moving auto-carriers. At the TUN facility, job cycles were extended simply by having fewer workers and a slower line.

Job rotation within work teams figured prominently in the Kalmar model. Though the twenty teams that make up the Kalmar line (each with fifteen to twenty members) are said to be collectively responsible for materials handling, quality control and rectification work as well as direct assembly, these indirect labour tasks are in fact assigned to individual team members, based on seniority and special qualifications (Berggren and Holmgren, 1985). There is plenty of opportunity for assembly workers to rotate tasks among themselves, but not much rotation across job classifications at Kalmar.

Job enrichment emerged as a central feature of Volvo’s efforts to redesign assembly work with the new plant facilities launched in 1980–1 (TAÖ, TUN and Tuve). At these facilities, the range of tasks assigned to work teams has been extended to include administrative tasks previously carried out by foremen, routine machine maintenance, and ‘housekeeping’ in the team area. The performance of certain tasks, such as machine maintenance, requires special qualifications, but the official goal is that all team members should be able to perform all team tasks. Training programmes are provided to workers that wish to gain the necessary qualifications. At the TAÖ plant, for example, there are now four grades of machine operators; each step in this ladder requires formal training as well as experience, and is rewarded by extra pay.

Closely linked to the new emphasis on job enrichment, the plant facilities launched in 1980–1 entailed a new conception of the organizational status of work teams. As originally conceived, the teams at Kalmar had no shared tasks to perform nor any decision-making authority. By contrast, the teams at the newer facilities allocate their collective responsibilities among their members (within the constraints of qualification requirements set by management). They are also responsible for scheduling vacation time and other personal leaves, and participate in the hiring and training of new workers. Each team has a formally recognized umebod, who organizes team meetings, handles administrative matters, and represents the team vis-a-vis management. This position is supposed to rotate, on a weekly or monthly basis, among team members with the necessary qualifications.

If we consider job enrichment and teamwork as the third and fourth features of job redesign at Volvo, the fifth would be the introduction of self-paced assembly work. It is on this score that the Uddevalla plant represents a radical departure from established principles of car manufacturing. As indicated above, the Uddevalla plant essentially combines the conception of teamwork introduced in the early 1980s with the idea of dock assembly. Without abandoning machine-pacing, previous workplace reforms at Volvo used buffers to introduce an element of self-pacing. By filling up their buffers, teams might create an extra break for themselves.

Teamwork at BL

The Metro project pioneered teamwork as well as high-tech automation at BL. Management conceived teamwork almost entirely as a means to achieve greater flexibility in the deployment of labour. Teams were to be organized around foremen, and to include material handlers, quality controllers and workers trained in routine machine maintenance as well as assembly operators. Within the teams, job rotation was to take place, and it would be possible for workers to advance from materials handling to assembly to quality control to machine maintenance. As originally conceived, assembly workers were to do rectification work as well as direct assembly work, but management retreated from this unitary conception of assembly work when the unions demanded that assembly operators on the Metro line be assigned a higher pay grade than regular assembly operators (Willman and Winch, 1985:100–2, 118–21).

Initially, the workforce on the Metro line consisted mainly of newly recruited workers, and this facilitated the implementation of teamwork. When management tried to introduce the same teamwork principles at Cowley in 1982–3, shop stewards and workers resisted, and it was primarily in work areas where there were no shop stewards that management was able to realize its intentions. It is difficult to assess the extent to which BL actually practises teamwork today.
According to Willman (1986:317), ‘teams do not exist in all BL plants’, and where they do exist, under the label ‘production zones’, it may be in name only.

As we have seen, the introduction of teamwork at Volvo was closely linked to the redesign of assembly work. At BL, by contrast, management tried to superimpose teamwork on a largely unchanged system of production. Equally important, the two conceptions of teamwork differ with respect to the internal organization of teams and their relationship to management. As Willman (1986:316) points out, the teams at BL ‘are hierarchical in nature, built around the disciplinary function of the foreman’. The foreman is, of course, appointed by management; indeed, he is himself part of the management hierarchy. By contrast, work teams at Volvo have their ‘own’ leaders, and some degree of collective decision-making authority. Whereas the introduction of teamwork has been accompanied by a redefinition of the role of foremen at Volvo, emphasizing their coordinating rather than their disciplinary functions, it appears to have reinforced the traditional role of foremen and augmented their power at BL.

The introduction of quality circles, known as ‘zone circles’ in 1986, can be seen as an attempt by BL management to enhance the meaning of teamwork (see Smith, 1988). The idea was that workers from a given production zone would, on a voluntary basis, join a circle, chaired by a foreman, to discuss production problems in their zone and to take on problem-solving projects. Some twenty-one zone circles were established at Longbridge in 1986, but less than 200 workers (out of a total workforce of about 10,000) participated in them. The shop stewards were from the beginning sceptical or hostile to zone circles, and discouraged workers from participating. The shop stewards’ opposition stiffened in spring 1987, and by May only one zone circle remained active.

The shop stewards resisted the introduction of zone circles in particular, and teamwork more generally, because they viewed these innovations as part of a management strategy to displace the unions as the representatives of the workforce. Shop stewards could not prevent management from designating certain work areas as ‘production zones’, but they could, and effectively did, dissuade workers from participating in ‘zone circles’. This experience illustrates the limits of the labour-exclusive approach to industrial innovation adopted by BL. While BL management was able to get rid of many working practices that interfered with efficiency and flexibility, the way in which it accomplished this precluded the union cooperation required to achieve effective teamwork.

Elements of an Explanation

Responding to market pressures, both Volvo and BL have pursued innovations designed to improve product quality as well as production efficiency and flexibility. What distinguishes our two cases is that Volvo also pursued ‘work humanization’ alongside these market-driven corporate goals, and BL has not. It is tempting to attribute this distinctive feature to the participation of organized labour in the process of innovation at Volvo. Without denying that the unions have influenced the outcomes of innovation at Volvo, I want to argue that the contrast between our two cases hinges on strategic choices made by management, and that union behaviour in collective bargaining alone cannot explain the divergence of management strategies. Let me first indicate why direct union influence does not constitute an adequate explanation, and then consider other variables that shape management choices.

Union-centred Explanations

At an early stage in the planning of Volvo’s Uddevalla plant, the Metal Workers’ Union advanced four basic demands pertaining to production methods: first, assembly should be done on stationary objects; second, job cycles should be at least twenty minutes; third, there should be no machine pacing; and fourth, all workers should perform indirect labour tasks as well as direct assembly work. Confronted with these demands, management abandoned its initial, Kalmar-inspired plan for Uddevalla. The plan that it ultimately adopted can be said to have satisfied the unions’ four demands. The Uddevalla project might thus be invoked to support the notion that the direct influence exercised by organized labour through codetermination accounts for the distinctive orientation of Volvo’s innovation strategy. As indicated above, however, the unions played a much less active role in the conception of earlier workplace reforms; yet the Uddevalla plant clearly represents an extension of these reforms. In the planning of the Uddevalla plant, the unions essentially demanded that the company be more systematic and
ambitious in its approach to workplace reform, the precepts behind their demands were implicit in previous experiments initiated by management. It must also be noted that the Uddevalla project brought out latent divisions between 'innovators' and 'traditionalists' within Volvo management. The unions certainly did not impose their vision for Uddevalla on management. Rather, management was split, and union demands tipped the balance in favour of the innovators.

We have seen that an elaborate system of union participation in management decision-making existed at BL from 1976 to 1979, but in this case participation did not yield any sustained or far-reaching 'work-humanization' effort. If Volvo's approach to workplace reform is to be attributed to union participation in the process of innovation, why didn't union participation have similar consequences in the case of BL? One answer would be that the BL participation scheme did not provide labour with the degree of influence that the Volvo unions have enjoyed under the Co-determination Act of 1976. The limits of Swedish codetermination must be emphasized in this context. Most notably, the Act requires management to negotiate with the unions over any issues that affect the workforce, but it does not require management to reach agreement with the unions. Though not mandated by law, the Ryder scheme provided the BL unions with extensive participation rights. The contrast between our two cases would seem to support Stephens and Stephens' (1982) thesis that formal participation arrangements are of secondary importance to the actual degree of union influence in corporate decision-making; the crucial determinant is whether unions mobilize to take advantage of the opportunities that any participation scheme provides.

As noted above, the BL participation exercise broke down over the issue of plant closures and layoffs. Arguably, management never excluded the BL unions from participation in the process of industrial innovation; rather, the unions chose not to participate because they could not (or would not) share responsibility for the workforce reductions. In other words, the BL participation exercise might have evolved into something akin to the Volvo experience had it not been for BL's profitability crisis in the second half of the 1970s. This suggests that the sales performance of the two firms explains their divergent innovation strategies. Though Volvo's car division struggled in the 1970s, even its darkest hour was bright in comparison with BL, and profits soared in the first half of the 1980s. Volvo's commercial success should be seen as a necessary, but not sufficient condition for the process and outcomes of innovation described above. From a broader comparative perspective, it is clear that commercially successful firms vary greatly in terms of their industrial relations and their approach to reorganizing production.

Beyond the question of whether unions wish to participate in management decisions, there is the question of what goals they pursue through participation. The unions at BL never developed a coherent set of demands pertaining to the reorganization of production. To the extent that they worried about BL's competitive problems, their solution was couched entirely in terms of the need to expand capacity in order to achieve economies of scale. By contrast, the Swedish Metal Workers' Union and its Volvo locals had by the mid-1980s developed a strategic approach to the reorganization of production, linking job redesign to competitiveness, as well as a great deal of technical competence in this field. Arguably, the BL unions' lack of strategy or vision explains their lack of influence in the process of industrial innovation. This line of argument is suggestive, but the obvious question arises, why do unions develop different strategic orientations or capacities? I shall not attempt an adequate answer to this question here. Let me simply reiterate that union officials at Volvo did not have a clear conception of what kind of workplace reforms they wanted in the 1970s; they developed such a conception in response to various management initiatives. In this sense, management strategy might be considered as analytically 'prior' to union strategy.

Management-centred Explanations

How then should management strategies be explained? Differences in corporate and societal culture are undoubtedly significant, but difficult to pin down. Leaving aside such considerations, I want to suggest that labour market conditions, shaped by national government and union policies, constitute a critical variable in explaining the divergent choices of Volvo and BL management. Sorge and Streeter (1988) criticize the common tendency to treat 'management strategy' and/or 'technical change' as a deus ex machina, entirely outside the industrial relations system (see also Streeter, 1987). While I agree with the thrust of their argument, I would formulate it somewhat differently, for my point is that to explain management strategies in terms of the relationship between labour and capital, we must conceive this relationship more broadly than the notion of 'industrial relations' permits.
Arguably, the single most important motive behind Volvo’s initial efforts to reorganize production was to reduce rates of labour turnover and absenteeism. Closely linked to considerations of efficiency, flexibility and quality, this motive continues to figure prominently in the thinking of Volvo management. In the words of Volvo’s top executive:

The company has to bear the costs of recruiting and training employees. The absenteeism and turnover rates also increase the costs for quality control, for maintaining buffer stocks of semifinished goods and components, and for adjustments, tools and machinery. Administrative costs go up when a company must maintain pools of reserve labour to fill the requirements during peak periods of absenteeism. (Gylenhammer, 1977:73)

As developed in the 1980s, job redesign and teamwork are meant to lengthen the tenure of assembly workers not only by providing them more meaningful work and a better working environment, but also by providing them with a ‘career ladder’ of sorts.

BL management appears to have been much less concerned with labour turnover than Volvo management, and we might hypothesize that this is so because BL’s turnover rates have been lower than Volvo’s. There are two basic reasons to expect this to be the case: the first has to do with the aggregate demand for labour and the second with wage differentials. With respect to demand, it is well known that Sweden is one of the few advanced capitalist countries that did not allow the economic crisis of 1974-83 to translate into mass unemployment. The rate of unemployment in Sweden crept up to a postwar peak of 3.5 percent in 1982, and has since dropped well below 2 percent. By contrast, the rate of unemployment in Britain had already reached 6 percent by the time Mrs Thatcher came to power in 1979, and rose as high as 13 percent in the early 1980s. The contrast between Sweden’s and Britain’s employment performance can be explained in terms of the greater power of Swedish labour at the societal level, as measured by workforce unionization and electoral mobilization, but also, less tangibly, by Social Democratic control of the political agenda (see Pontusson, 1988).

Full employment translates into a labour recruitment problem for Volvo because the solidaristic wage policy pursued by the LO unions since the 1950s has constrained Volvo’s ability to attract and retain assembly workers by offering higher wages than other employers. Traditional Fordist mass producers need this kind of wage flexibility because the jobs they offer are especially boring, stressful and physically straining. In particular, Volvo and other Swedish firms complain that solidaristic wage policy has undermined differentials between industrial and public-sector jobs. This problem took on serious proportions as the government increasingly relied on public-sector expansion as a means to maintain full employment from the mid-1970s onwards.

In a sense, then, work humanization can be seen as a functional equivalent of wage drift. As its wages are determined entirely through company-level bargaining, BL has not faced the same constraints as Volvo with regard to labour recruitment, and hence not had a need to engage in work humanization.

Do labour turnover rates indeed differ in our two cases? The available evidence appears in Tables 1-3. Table 1 provides annual rates of labour turnover for Volvo since 1973. Unfortunately, BL does not do as good a job keeping statistics or is less willing to share them. I have only been able to obtain figures for the Cowley plant from 1984 to 1987. These figures appear in Table 2 alongside those for Volvo’s Torslanda plant (also in Table 1). Finally, Table 3 presents turnover figures from the early 1970s for the two truck plants studied by Blackler and Brown (1978).

<table>
<thead>
<tr>
<th>Year</th>
<th>Volvo-Sweden</th>
<th>Volvo-Torslanda</th>
</tr>
</thead>
<tbody>
<tr>
<td>1973</td>
<td>20.0</td>
<td>28.1</td>
</tr>
<tr>
<td>1974</td>
<td>18.0</td>
<td>25.0</td>
</tr>
<tr>
<td>1975</td>
<td>15.7</td>
<td>19.5</td>
</tr>
<tr>
<td>1976</td>
<td>12.6</td>
<td>15.9</td>
</tr>
<tr>
<td>1977</td>
<td>8.2</td>
<td>10.6</td>
</tr>
<tr>
<td>1978</td>
<td>7.2</td>
<td>10.5</td>
</tr>
<tr>
<td>1979</td>
<td>11.7</td>
<td>17.7</td>
</tr>
<tr>
<td>1980</td>
<td>13.3</td>
<td>20.6</td>
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<tr>
<td>1981</td>
<td>9.6</td>
<td>15.0</td>
</tr>
<tr>
<td>1982</td>
<td>6.1</td>
<td>11.3</td>
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<tr>
<td>1983</td>
<td>5.4</td>
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<td>1984</td>
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<tr>
<td>1986</td>
<td>8.8</td>
<td>14.5</td>
</tr>
<tr>
<td>1987</td>
<td>9.9</td>
<td>15.6</td>
</tr>
</tbody>
</table>

Note: The Volvo-Sweden figures include non-car operations.
Source: Volvo.
While Blackler and Brown’s figures show a very marked discrepancy in turnover rates, the Torslanda-Cowley differences in Table 2 are hardly overwhelming. Given that unemployment in the Oxford area is lower than in Birmingham, we would expect that the difference between Volvo and BL would be magnified if BL-Lonbridge were included in the comparison. At any rate, how significant is a difference of, say, two percentage points? I do not know how to answer this question. Suffice it to say that the cross-national data in Tables 2-3 lend at least some plausibility to the argument set out above. The time series data in Table 1 provide what is perhaps stronger support. I argued early on that we can distinguish three ‘waves’ of workplace reform at Volvo: one in the early 1970s (when the Kalmur plant was conceived), a second in 1979-81 (TUN, TAO, Tuve), and a third in the mid-1980s (Uddevalla). Table 1 shows that these reform waves broadly coincide with cyclical increases in the rate of labour turnover.

In a somewhat different vein, one might argue that Volvo is more sensitive to the problem of labour turnover because of the kind of product it sells. Quality and product ‘customization’ are more important to Volvo’s ability to compete than BL’s because Volvo competes at the upper end of the market, and these would appear to be the aspects of competitiveness which are most directly affected by labour turnover. Volvo’s up-market strategy makes its reliance on a skilled, well-paid workforce both possible and necessary, possible by virtue of the high value added per car, and necessary by virtue of the importance of quality and customization (see Aitschuler et al., 1984:217-18).

It must be noted that Volvo’s up-market product strategy is of relatively recent origin, however. Volvo certainly was not a ‘craft producer’ of customized cars when the Kalmar plant was conceived in the early 1970s; on the contrary, its product and production strategies typified the Fordist model. Volvo began to move up-market in response to the collapse of world demand in the mid-1970s, and this new product strategy did not become firmly established until the launch of the new 700 series in 1980. As Volvo’s product strategy has evolved alongside its efforts to reorganize production, there is no simple cause-and-effect relationship between these two aspects of corporate strategy.11

The up-market product strategy pursued by Volvo since the mid-1970s seems closely related to its dependence on exports, and hence its exposure to international competition (in particular, competition from the Japanese at the lower end of the market). Volvo was already more export-oriented than BL in 1970, and has become increasingly so while BL has become less export-oriented since 1970. In part, this divergence of corporate strategies is attributable to government policy. Whereas successive devaluations by Swedish governments in 1977-82 promoted Volvo’s export orientation, the exchange rate policies pursued by the Thatcher government of the 1980s effectively confined BL to the home market. Here again, ‘macro politics’ created a very different structure of constraints and opportunities for corporate management.

Conclusion

In sum, my comparative analysis of industrial innovation at Volvo and BL brings out the importance of management choices. To restate the argument most boldly, Volvo management included organized labour in the process of industrial innovation and BL excluded it because they had already opted for different innovation strategies.
and workplace reforms introduced by Swedish and West German car makers. I plan to pursue this question in future research.

3. In 1986, the TC plant produced some 164,000 cars, the Kalmar plant produced 31,000 cars, and the TUN plant at Torslanda produced 13,000 cars (Bergeron, 1989:175). Together these three Swedish final assembly plants accounted for slightly more than two-thirds of total output by the Volvo Car Corporation, with its plant facilities in Ghent, Belgium, accounting for most of the remainder. The Uddevalla plant is designed to produce 40,000 cars per year.

4. There exists no comprehensive and systematic treatment of the role of codetermination and the unions’ influence in the process of industrial innovation at Volvo. In addition to the plant-specific sources cited below, the following discussion draws on interviews with Ingmar Gofman at the research department of the Metal Workers’ Union and local union officials at Torslanda (conducted in May 1988).

5. From 1978 to 1982, roughly Edwards’ tenure as Chief Executive, the BL, Cars Division cut its workforce from 86,000 to 48,000 (Williams et al., 1987:23). In addition to the sources cited below, the treatment of industrial relations at BL, draws on a series of extensive interviews with David Buckles (Oxford district official of the TGWU from 1966 to 1987), and interviews with former and present shop stewards at Cowley in spring 1988.


7. Their general approach to job redesign is articulated in Swedish Metal Workers’ Union (1983), an extract from a report to the 1983 congress of the Metal Workers’ Unions.

8. The divergent strategic objectives of the unions in my two cases might also be explained in terms of their organizational structures. For reasons of space, I have chosen to ignore this explanation here; I explore it in Pontusson, (1990).

9. Again for reasons of space, I will not discuss the question of abstraction here; see Pontusson (1990).

10. It should also be noted that Streich’s (1987:87) notion of a ‘high-volume specialist producer’ captures Volvo’s new profile much better than the notion of a ‘craft producer’. Though BL produces more cars than Volvo, it also produces more models, and even its best-selling model in 1984, the Metro, fell far short of the production volume that Volvo had achieved for its 200 series (14,000 cars per year, as compared with 206,000).

References


References


This paper is concerned with the recent debate on 'flexibility' and the role of small firm systems in advanced economies. Conventional images of small firms as harmonious, tension-free organizations as well as union-free environments are criticized. In the flexible specialization literature, cultural, social and community ties linking workers, employers and local government are stressed. This paper largely follows this interpretation, focusing on employers' and unions' role in Italian industrial districts in the current phase.

Small Firm Districts and the Flexibility Debate

Industrial relations and collective bargaining were traditionally considered as institutions governing large firms and Fordist-type organizations. Industrial relations in small firm environments were (and are often) described as weak or non-union, especially in countries (such as the United States, Great Britain and perhaps France) where unionization is on the wane and concentrated in 'old industrial areas' and/or in the public sector. In these countries the limited expansion of small firms during the 1970s and 1980s was typically seen as a move from manufacturing to services (Birch, 1981), from regulation to deregulation, from union bargaining to union avoidance (Kochan et al., 1986). In these countries — where the neo-Taylorist model of industrial organization prevails (Leborgne and Lipietz, 1988) — the greater flexibility and organizational decentralization of large firms during the last decade seems to lead both large and small firms to adopt the same non-union flexibility model in industrial relations (see Bain and Price, 1983; Curran and Stanworth, 1986).

Social factors that discourage unionization in small firms have been described in the sociological literature: direct relations between