

Productivity and Industrial Relations: Case  
Studies in the Australian and Swedish  
Automotive Components Industries

Working Paper 12

Russell Lansbury and Olle Hammarstrom  
July 1991

## Industrial Relations in Sweden and Australia

Industrial Relations in both Australia and Sweden are in a process of transition (if not transformation). In most advanced industrial societies pressures for greater decentralisation of industrial relations and deregulation of labour markets are continuing to grow. Some recent commentators, such as Baglioni and Crouch (1990), have speculated that the coming decade may witness a return to 'normalcy' within European industrial relations. They argue that the period of heightened industrial conflict between labour and management, particularly between 1968 and 1975, was exceptional and that the 'normal' pattern of relative harmony in industrial relations is likely to return during the 1990s. However, this assessment was written before the full extent of the upheaval in Eastern Europe became apparent, rendering the concept of 'normalcy' somewhat dubious.

Nevertheless, the view expressed by Baglioni and Crouch that the union movement is entering the 1990s in a weaker position than a decade ago is certainly valid for most market economies. This applies even to Australia and Sweden where the union movement has been among the strongest in the world. Indeed, Australia and Sweden were regarded as two 'exceptional' cases during the 1980s in that both countries elected Labor or Social Democratic governments. In Australia, the newly elected Labor government signed an 'Accord on Prices and Incomes' with the Australian Council of Trade Unions (ACTU) in 1983, which gave the union movement unprecedented opportunities to influence economic policy (Lansbury, 1985). Yet by the end of the 1980s both the governments of Australia and Sweden appeared to be in a precarious electoral position. Furthermore, the union movement in each country was on the defensive against an increasingly aggressive and confident group of employers who were seeking to radically change the industrial relations system in their respective nations.

Although the Australian Labor Party traces its origins back to the nineteenth century and has had significant influence on the development of the nation, it has been generally unsuccessful in gaining office at the federal level. The current Labor government, under Prime Minister Bob Hawke, is the longest serving labor administration since federation in 1901. During the past two or three decades both the ALP and the ACTU have looked to labour movements in Western Europe for inspiration, particularly Sweden and Germany. In the 1970s the ALP held power at the federal level briefly (from 1973 to 1975) and sought to introduce an active labour policy which was loosely based on the Swedish model, but the Labor government was voted out of office before the scheme was fully implemented. During the 1970s the state Labor government in South Australia also took a close interest in the movement towards industrial democracy in Sweden. Indeed, officials from the Swedish labour department were brought to Australia during this period to advise both the State and Federal Labor governments on industrial relations matters.

It was not until the mid 1980s, however, that leaders of the Australian trade union movement became keenly interested in the Swedish experience. This reached its peak in 1986 when a group of senior union leaders visited Sweden and other European countries and subsequently published 'Australia Reconstructed' (ACTU/TDS, 1987). This report recommended a number of initiatives to the Federal government in areas such as labour market training and industrial democracy, and drew heavily on the Swedish experience. However, the report attracted strong opposition from the employers' organisations and other groups who denounced 'Australia Reconstructed' as an attempt to impose 'Swedish style socialism' on Australia. While some aspects of the report, particularly those which

related to retraining and the upgrading of skills within the workforce, have been influential in subsequent policy development, the Hawke Labor government has taken an increasingly defensive position against the charge that it is seeking to emulate the Swedish model.

## Recent Changes in the 'Swedish Model' of Industrial Relations

Sweden has enjoyed a long standing reputation for a well organised and stable labour market with peaceful and constructive relations between unions and employers. This has been seen as an important ingredient in the so-called 'Swedish Model'. This reputation has been severely tarnished during the 1980s, however, and numerous commentators have argued that the 'Swedish Model' is in decline (Hammarström 1991).

The 1970s was a decade of industrial relations reform in Sweden. Following the student unrest of 1968, the political parties were open to radical demands from the trade union movement. The call for greater industrial democracy resulted in a number of laws aiming at improving life at work. The strategy was to strengthen the voice of the employees and their unions. Laws were passed to increase trade union rights, security of employment, union representation on company boards, and occupational health and safety. Industrial relations legislation was changed to give unions the right to bargain not only over wages and conditions but also on how and what to produce. These changes were strongly opposed by the employers and the industrial relations climate deteriorated. During the late 1970s, political change to conservative coalition government followed mounting economic and structural problems in industry and reform work came to a halt. In 1980 industrial relations were at a low ebb with the highest degree of industrial conflict seen in Sweden since the 1920s.

This experience led both sides of industry to reconsider their positions. By the late 1980s the Swedish Employers Confederation (SAF), which had initiated the establishment of the centralised bargaining structure in the mid 1950s, decided it was time to break away from this system. The SAF felt there were major disadvantages with centralised bargaining and wanted a system that would permit large wage differences, greater flexibility and more market influence over wages. This movement was spearheaded by the Engineering Employers Confederation (VF) which initiated industry-wide bargaining in 1983 with the long-term objective of enterprise bargaining. The Engineering Employers' campaign included the introduction of performance related payment systems and as well as employee share ownership plans. Their campaign was backed up with a strong ideological propaganda advocating individualism, competition and market solutions.

In the Swedish manufacturing sector traditional piece rate systems have been replaced by group bonus systems based on profits or performance targets. It is common to have 20 to 30 per cent of wages linked to performance. In the white collar area, where monthly salaries are the norm, performance related wages have been introduced on a large scale, although it is usually equal to no more than 5 per cent of gross earnings. The majority of companies listed on the Stockholm stock exchange have also introduced employee stock ownership systems. The usual plan is to offer the employees a loan arrangement which can later be converted to stocks at a pre-established price. The objective is to give an incentive to the employees to raise the value of the shares and to build stronger commitment by employees to the company.

The trade union movement has sought to preserve centralised wage agreements as a framework for local bargaining. Although some central agreements were reached during the 1980s, many unions have been unsuccessful. Performance related payments systems and employee share ownership systems have spread despite union opposition. At the heart of the situation are economic circumstances. A very tight labour market, with unemployment below 2 per cent since 1986, has led to a substantial "wage drift" caused by employers competing for scarce labour. This has pushed inflation well above the OECD average and beyond that of Germany, Sweden's main competitor in export markets. Unions and government see the fight against inflation as a necessary means to improve real incomes. Employers, who enjoyed high profits in the aftermath of the large devaluation of 1982, have been more concerned with increasing wage differentials than restricting total wage costs.

The employers' determination to abandon centralised bargaining in favour of industry-wide bargaining, as a prelude to future enterprise bargaining, has been underlined by a reorganisation of SAF's central office and a substantial reduction in the headquarters staff (Myrdal, 1991).

The union movement's ability to withstand the employers' offensive has been weakened by internal tensions. Throughout the 1950s and 1960s the Swedish Confederation of Trade Unions (LO), which represents the blue collar workplace, was the dominant peak union council. Negotiations between the LO and SAF set the standard for the whole labour market. In the 1970s, the white collar union grew stronger and began to act independently on many issues. At the same time, the rapid expansion of the public sector led the public sector unions to challenge the traditional leading role of the private sector unions. These tensions within the union movement have weakened the united front against the employers (Rehn and Viklund, 1989).

Nevertheless, internal tensions have not weakened the unions' ability to recruit members. Unlike Australia and the majority of European countries, total union membership has not declined in Sweden. The blue collar unions experienced a slight fall towards the end of the 1980s, but the white collar unions saw a gradual increase in their membership. The fastest growing unions are those affiliated to SACO, a confederation of unions based on common professional and academic training. The SACO unions have profited from the expansion in tertiary education during recent decades. However, SACO unions are less active industrially. Their major attraction is the professional identity and service they offer to their members. The largest white collar peak council, TCO, which is comprised of both industry and occupational unions, have responded to the SACO challenge. The TCO has concluded it cannot rely solely on providing industrial relations services and have followed SACOs example in expanding their professional services as well.

Union amalgamation is a less prominent subject in Sweden than in Australia. However, structural changes in the labour market have led to increasing problems related to union structure. Some changes have taken place both in the private and public sector. But the mergers have tended to occur within the peak councils LO, TCO and SACO. This means that many problems relating to the traditional blue - white collar demarcation remains unresolved.

The incidence of conflict between unions and employers during the 1980s was concentrated on wages as well as issues related to the proposed wage earner funds. But

unions and employers have taken a positive attitude to the issue of industry restructuring. The industrial relations rules which were laid down in the 1970s have proved reasonably effective in dealing with the structural problems of the 1980s. There are many industries such as ship building, steel, glass and textiles which have been restructured with little conflict, compared with the situation in many other countries. Union board representation and extensive information and bargaining rights have helped unions to adopt a much more constructive role than in countries where these rights do not exist. But it is also evident that the industrial democracy system designed in the early 1970s is becoming less effective in the face of management strategies of the 1990s. The speed of corporate decision making creates enormous difficulties for a union with a democratic structure which seeks to involve the rank and file membership in the process.

It is interesting to note that confronted by continuing high levels of inflation and simmering industrial unrest, the Swedish government is suggesting the establishment of an Accord not unlike that which has been introduced in Australia. So far, however, the Swedish unions have been cautious about such a development which would represent a move away from their traditional position of keeping at 'arms length' from government. However, faced with continued opposition from employers, who are unwilling to engage in centralised collective bargaining, the unions may find an Accord on Incomes and Prices a more attractive alternative.

## Towards a More Decentralised System of Industrial Relations in Australia

Australia, like Sweden, has traditionally been viewed as a highly centralised system of industrial relations. Unlike Sweden, however, centralisation in the Australian system has been achieved through a network of arbitration tribunals, at both the state and federal levels, which have quasi-judicial status. Throughout the period since 1904, when the federal tribunal (now known, since 1988, as the Australian Industrial Relations Commission) was established, the unions and employers have oscillated between various forms of collective bargaining and a more rigid form of dispute settlement by conciliation and arbitration. Under the Accord, signed in 1983, the unions agreed to return to a centralised system under which they would be guaranteed wage increases in accordance with movements in the consumer price index. This was on the basis the unions made no extra wage claims on the employers or engaged in industrial action during the course of the agreement. This system was maintained for the first two years but came under increasing strain during the economic difficulties of the mid 1980s when exchange rates fell and inflation increased. Nevertheless, the unions adhered to the system and were willing to accept only a partial indexation of wage increases, in the interests of the national economy. Hence, between 1983 and 1989, real wages fell by approximately 10 per cent and there was an unusually low level of industrial disputes. Employers' organisations, however, claimed that wages were still increasing too fast and called for decentralisation of the system with wages being determined at the enterprise rather than at the national level. This approach received vigorous support from the Business Council of Australia (BCA) in a report which advocated enterprise-based bargaining units with one union per enterprise (BCA 1989). Similarly, the Liberal-National Party coalition government in NSW issued a Green Paper entitled 'Transforming industrial Relations in NSW' which argued that industrial relations should be decentralised as much as possible, with the 'centre of gravity' lowered to the enterprise level (Niland, 1989). The underlying but unstated assumption behind these proposals was that the bargaining powers of trade unions would be weaker in a decentralised system.

Faced with both an increasingly aggressive employers' campaign for a decentralised industrial relations system, and ultimately a deregulated labour market, as well as a declining rate of unionisation, the ACTU issued a policy document at its 1987 Biennial Congress entitled 'Future Strategies for the Trade Union Movement' in which it identified a number of important challenges to unionism (ACTU, 1987). These included:

- \* growing sophistication in corporate culture, which frequently emphasises common employer/employee interests;
- \* increasing use of satellite companies as well as part-time and casual fixed contract or sub-contract labour rather than full-time employees;
- \* a structural shift from production-related industries to the service sector (such as finance, communication and recreation) which have a lower level of union membership.

The ACTU also set an objective for the union movement to restructure itself from approximately 300 unions (many of which were based on narrow craft or occupational definitions) to some 20 industry-wide confederations. The ACTU warning to its member organisations was that unless unions were able to collectively achieve better employment conditions and work environment for their members, employers would undertake individual means of enhancing salaries and benefits of their employees. Subsequently, the ACTU embarked on a major campaign of 'award restructuring' which includes direct negotiations between unions and employers on an industry-wide basis and the ratification of such agreements through the Australian Industrial Relations Commission.

It is useful to briefly trace the origins of the movement for award restructuring and to clarify what is meant by the concept. Award restructuring first emerged in the National Wage Case of August 1988. In that case, the Australian Industrial Relations Commission enunciated the 'structural efficiency principle' which stated that increases in wages and salaries or improvements in conditions would be allowed if the unions party to an award formally agreed to cooperate positively in a fundamental review of that award with the view to implementing measures to improve the efficiency of industry and to provide workers with access to more varied, fulfilling and satisfying jobs (see Lansbury, 1990).

The ACTU's goals for award restructuring are three-fold. First, it seeks to drastically reduce the number of job classifications in all awards from hundreds (in some cases) to between six and eight. Second, it wants to ensure that the wage rates attached to these job classifications are similar across all awards; an additional aim here is to raise the wages paid to workers at the bottom of the hierarchy. Third, it argues that workers should be able to progress up the job hierarchy by undertaking various types of training thereby providing 'career paths'. Taken together, the ACTU argues that these three goals will provide the environment for effective and equitable reforms to workplace practices in Australia.

Employers have been divided in their attitudes to award restructuring. Some groups, such as the Metal Trades Industry Association (MTIA), which is the largest single employers' body, have enthusiastically embarked on negotiations with unions. The metal industry has

now achieved a new award structure (see Evans, 1989). Others, such as the CAI, have been more cautious in their views and approaches to the issue.

Although many important aspects of industrial relations in Australia will remain centralised, such as national wage cases which set the broad guidelines for the economy, it seems likely that the trend towards greater enterprise-level bargaining and local agreements will gain greater momentum in the future. An important element in the 'new industrial relations' will be greater involvement of employees in decision making. While this may not always extend as far as the unions or their members desire, and may sometimes be used by management as a strategy to by-pass the unions and communicate directly with the employees, opposition to programs of employee participation is often strongest among the ranks of lower and middle management who feel the most threatened by such developments.

However, the new industrial relations does have much to offer both sides of industry. The BCA report on 'Enterprise-Based Bargaining' (1989) concluded that the best performing workplaces tended to have the following characteristics. First, they tend to be found in competitive market situations where both management and employees are aware of the need to achieve a high level of efficiency. Second, the management of such enterprises tend to be participative and team-oriented in their approach rather than bureaucratic. Third, their employee relations arrangements tend to permit flexibility and responsiveness, work tasks are based on the skills of employees and demarcation problems are typically few. The BCA report urged management to develop a clear strategy for achieving the widest possible restructuring of their award, keeping the above principles in mind.

While the policies of 'strategic unionism' espoused by the ACTU emphasises the collective interests of employees rather than those of management (Crean and Rimmer, 1990), many of the underlining principles are compatible with the position taken by the BCA. The ACTU advocates the following strategies for its constituent unions:

- \* long-term policies should be given priority over short-term goals and reactions to events as they arise;
- \* a broad range of goals should be adopted instead of traditional and narrow economic ones;
- \* policies should be integrated into an overall plan rather than pursued in isolation;
- \* Consensus policies are to be preferred to conflictual ones.

The 'new industrial relations' offers an opportunity for all interest groups to seek a cooperative approach not only to the major economic issues facing the nation but also to introduce important workplace reforms to assist industries to remain competitive and viable. The barriers to such an approach, however, remain formidable. In times of economic difficulties, such as those which currently beset Australia, there is often the tendency for all parties to revert to their traditional adversarial roles. The Accord between the ACTU and the Hawke Labor government is also undergoing considerable strain as both sides seek to protect their sectional interests and avoid taking the blame for rising inflation and unemployment. The best prospects for the future, however, would appear to lie with a co-ordinated approach to reform of the labour market and its institutions to

ensure that greater decentralisation and flexibility is introduced with the minimum of social costs to those whose position in the labour market is weakest. Commenting on the relevance of the Scandinavian experience for Australian industrial relations, Botsman (1989) has argued that "trade unionists must absorb the lessons of the Scandinavian projects by moving, in one step, beyond the problematics of employee participation and socio-technical design to take up the problems and possibilities of the collective resources approach. Unless this occurs the power and the initiative will lie with employers, who will develop employee participation and share ownership schemes to exclude unions". While such warnings are appropriate, it may also be that the Swedish labour movement can draw a salutary lesson from attempts by the ACTU to achieve both structural reforms within its own ranks and stem the loss of union membership, which has fallen from 51 per cent of all employees in 1976 to only 42 per cent in 1989. The major challenge for the trade unions during the 1990s, in both Australia and Sweden, will be to remain vigorous and relevant institutions able to exercise a positive influence on the direction of the national economy while participating in work reform at the enterprise-level.

## THE SWEDISH AND AUSTRALIAN CASE STUDIES

The two case studies in this report are part of a wider study comparing Swedish and Australian plants in the automotive components industry. The research project was initiated by the Commonwealth Department of Industrial Relations under the direction of Richard Gough, who developed the methodology and questionnaire for the study (see Gough, 1991). The project sought to examine the relationships between a range of variables concerning the plants and their contexts, in order to determine those variables which were significant for direct labour productivity outcomes. The variables included those internal to a plant such as industrial relations, employee skills and job roles, organisation structure and control systems, technology and plant layout, management competitive strategies. There were also external variables such as relationship to customers and suppliers, labour market and industry policy, and the industrial relations system. The matching involved choosing plants making similar products in approximately the same quantity in each country.

It was expected that if there were significant direct labour productivity differences between the matched plants, some explanations could be advanced as to why this was the case. This, in turn, would help to contribute to understanding of what needed to be done in Australia to improve plant level performance. It was also envisaged that Swedish plants, although part of a world competitive economy, would not necessarily be the international benchmark and that further comparisons might be necessary once the initial research was completed.

The current project arose from a more limited comparison undertaken by Daly, Hitchens and Wagner (1985) of similarly matched British and West German plants in the metal industry. That study only compared the direct production process and examined variables such as technology and automation levels, direct and supervisory employee job roles and skills. The authors did broaden the scope of later comparative studies to include discussion of wider issues. They concluded that the significantly greater direct labour productivity in German plants was a primarily the result of higher skill levels of German employees. This conclusion was reached because of less effective use of machinery, a higher proportion of tradespeople and lower levels of automation. The

researchers concluded that these factors were also related to the lack of skills among British workers and managers.

The two case studies considered in this report are axle plants belonging to Austral Engineering\* and the Volvo Components Company in K"ping (Sweden). The fieldwork was conducted mainly during 1990 in both Australia and Sweden and reflects the situation which pertained in each company at the end of 1990.

The Transmission and Axle Plant of Austral Engineering (hereafter referred to as Austral) is located in a major Australian city. Although the plant was established in 1928, it has operated under several different Australian and foreign owners. The most recent change of ownership occurred in 1987 when Austral Engineering (a division of an overseas-owned company) acquired the plant. Since then there have been several important changes in management. The recently appointed General Manager has introduced several initiatives, particularly in the area of industrial relations, but the company faces significant problems in expanding its production, raising the quality of its products and finding new markets.

The K"ping plant of Volvo PV Components A.B. (hereafter referred to as Volvo) is a member of the Volvo Car Components Corporation which produces engines, gear boxes, front and rear axles and various other components for cars for the Volvo group. The original company which owned the K"ping plant was the K"pings Mekaniska Verkstad, founded in 1856. The plant has been a component supplier to the car industry since 1927 and was acquired by Volvo in 1942. The Volvo Car Components Corporation, with 4,000 employees, is one of the most investment-intensive companies in Sweden. It combines high technology with extensive training programs. The machining of the many different components is highly automated. Nevertheless, the automobile industry in Sweden is undergoing difficult times and the future of plants such as K"ping is not as secure as it once was.

### The Characteristics of Each Plant

The Austral Transmission and Axle plant is one of three plants in the Automotive Division of the parent company, which has its headquarters overseas. It also supplied axles to all car manufacturers in Australia, but increasingly the automobile companies produce their own. During the past decade, the volumes of production at the plant has declined, as have the number of employees. The main factor which accounts for the declining production is the transition from rear wheel to front wheel drive. Austral has produced front wheel axles for Ford Australia but cannot produce these cheaply enough to compete against inter-company transfer pricing. It also supplied axles to Pontiac (in the USA) for 5 years, but it recently lost this contract when General Motors decided to make their own axles. Austral is currently seeking to undertake new ventures and sees its future in 'niche markets' - low volume, flexible production at competitive prices. It has recently developed an independent rear suspension axle which it is supplying to GMH (Australia) and Lotus (UK). When it had the Pontiac contract, exports reached almost 20 per cent of total production, but now these have declined to less than 1 per cent.

At the end of 1990 Austral's main customers were GMH Australia (45 per cent of total production), Ford (44 per cent) and Nissan (10 per cent). The number of potential customers in Australia is small and the 'window of opportunity' to sell their products is narrow (according to Austral's management). Austral's main competitive advantage is that

it supplies 100 per cent of the total axle market for rear wheel drive vehicles, but this is a declining market. It is currently developing a range of new products (eg. a new spin resistant differential) and is expanding the range of its axle products (eg other axle sizes), as well as seeking to enter the market for front wheel transmissions and four-wheel drive systems.

The Austral corporation exercises tight controls over capital expenditure and employment levels at the plant. The general manager of the Transmission and Axle plant reports to a Group General Manager who, in turn, is responsible to Austral's Chief Executive Officer.

The Volvo plant at K<sup>ö</sup>ping is one of three related plants of the Volvo Car Components Corporation in Sweden, the others being located at Sk<sup>övde</sup> and Floby. Approximately 300,000 engines are produced each year at Sk<sup>övde</sup>, while the Floby plant produces brake discs, brake drums, wheel hubs and drive shafts. Gear boxes and approximately 300,000 front suspensions and rear axles are manufactured at the K<sup>ö</sup>ping plant.

At K<sup>ö</sup>ping, the plant is divided into three divisions along product lines: gear boxes, front axles and rear axles. The production of the rear axles division in 1990 was 260,000 units, a decline of 20,000 units since 1987. It is the only supplier of axles to Volvo in Sweden and Belgium. A small number of differential wheels are also sold to Saab. The number of employees in the rear axle division has declined from 375 in 1987 to 220 in 1990 mainly as a consequence of productivity gains, but also as a consequence of reduced production. There are a total of 1200 employees on the site. Volvo recently announced that the number of employees at the K<sup>ö</sup>ping plant would be further reduced during 1991, due to the depressed market for automobiles.

Each division at K<sup>ö</sup>ping is autonomous and submits its own budget to the Corporation's board each year. The division manager has full authority to spend the amounts stated in the budget which have been approved by the board. The Volvo Car Components Corporation sets the general policies for each division, but the latter has responsibility for the specific details of training, product development, productivity plans and other operating requirements. Each division is also responsible for its own industrial relations, on a day to day basis.

The rear axle division is currently operating at only 60 per cent capacity. This is partly due to the general decline in automobile sales as well as a reduction in the demand for rear axles, as front wheel drive cars become more dominant. Management at the K<sup>ö</sup>ping plant also estimated that at least an extra two hours per day of machine usage could be achieved if methods of work were changed to enable greater utilisation of equipment (for example, if lunch times were rostered to permit machines to be used all the time and if workers did not turn off the machines once the day's quota of work was completed).

#### The Characteristics of the Workforce in Each Plant

At Austral there are approximately 461 employees involved in the production of rear axles out of a total workforce of 850. As shown in Table 1, approximately 232 are direct employees (ie directly engaged in production) and 229 are indirect employees (in various support roles).

TABLE 1

## Characteristics of the Workforce In Each Plant, 1990

Variables	Austral	Volvo
Total number of employees involved in production of rear axles	461	220
Number of direct employees involved in the production of rear axles	232	185
Number of indirect employees involved in the production of rear axles	229	35
Ratio of indirect to direct employees	1: 1	1: 5
Ratio of managerial to non-manual employees	1: 9	1: 12
Median age of employees in the rear axle plant (in years)	41	34
Percentage of male employees	95	73
Percentage of female employees	5	27
Percentage of employees of a non-Swedish or non-English speaking origin	75	38
Labour turnover per annum (in percentages)	18	12
Absenteeism per annum (in percentages)	4	18

The number of employees has substantially declined in recent years. Ten years ago there were approximately 1300 employees working at Austral. The main growth area is product engineering, which currently has 95 employees. There are 40 apprentices. Only 45 employees are female, mainly engaged in office activities. Although Australia has sought to increase the number of female tradespeople employed in the plant only one female apprentice has been recruited. There is a wide age distribution among employees: some 40 per cent are 35 years or younger while 36 per cent are 45 years or over. One of the most striking characteristics of the plant is the ethnic diversity of the workforce. There are approximately 52 nationalities represented among the employees. The most recent arrivals are from Indo-China (particularly Vietnam and Laos) while the longer established groups are from southern Europe (eg Italy and Malta). This has led to some tensions within the workplace, much of which have arisen from difficulties in verbal and written communication. There are no English language classes offered at the plant and few attempts have been made to communicate with the workforce in languages other than English.

Approximately 273 employees in the total workforce are classified as tradespersons or people who have acquired sufficient skills on-the-job to be employed in trades areas. Among the 20 production supervisors, about two-thirds have a supervisory-level certificate from TAFE. Among the tradespeople, some 34 have post-trade qualifications.

The company identified approximately 70 employees who had been selected to undertake training, mainly during work time, during the past 5 years. Approximately half of this training was given on-site and half off-site. The most common forms of training were of a technical kind (especially for using new equipment) as well as production planning, quality assurance and supervisory skills. There was no formal training for semi-skilled workers to reach skilled levels and there is no program to measure the aptitudes of new employees to learn new skills. Nevertheless, in the past, a number of third class machinists (the lowest grade) had reached first class (the highest grade) by informal on-the-job learning.

Austral has found it difficult to recruit specialist tradespeople (especially in electronics and tool making) as well as engineers and computer specialists. The management claimed that there were plans for undertaking more broad-based training of employees in the future. Management noted that new technology requires workers with higher level skills and qualifications (especially in electronics) but doubted that it would be possible to develop the required levels of skill within the current workforce. The new equipment requires multi-functional tradespeople and technical specialists who cannot be developed through on-the-job training. Such groups will have to be recruited externally.

The plant experienced an average labour turnover of 18 per cent in 1989, which was lower than the average of 35 per cent experienced across the vehicle building industry. However, turnover was higher in the technical areas (22 per cent in 1988 and 33 per cent in 1989). This was ascribed to the completion of a major project in 1989 resulting in a reduction of technical staff. Nevertheless, the company has embarked on a program which aims to reduce the levels of turnover in the plant.

At the Volvo plant, there were approximately 1200 employees at the end of 1990, although the number is expected to decline to 1,000 during 1991 as the result of planned workforce reductions. This is due to a slump in the Swedish automobile industry. There are 220 employees in the rear axle division, 12 of whom are in supervisory positions.

Approximately 20 per cent of the employees in the rear axle division are skilled workers, on the basis of formal training which they have undertaken. Supervisors are typically skilled workers with a considerable period of experience and training.

The median age of employees in the rear axle division is 34 years. Approximately 73 per cent of the employees are male and 27 per cent are female. Foreign nationals comprise 18 per cent of the workforce, although there are a similar proportion with Swedish citizenship who were born outside the country. The main countries of origin are Finland, Yugoslavia, Turkey, Greece, Iran and Iraq. There are at least 40 different nationalities represented in the plant.

The average duration of employment of the workers currently in the rear axle division is 9 years, although the median is only 6 years. Labour turnover has been around 15 per cent in recent years, although it declined to 12 per cent in 1990, mainly due to the depressed state of the industry. Absenteeism has also declined from an average of 19 per cent over the past five years to 18 per cent in 1990.

Most training is undertaken 'in house' or on the job. There are 30 instructors for the whole plant, which means that there are usually one or two instructors per department. There are also a number of quality control inspectors who assist with training activities. The company usually sends 8 or more employees to a vocational college in K"ping each year. This college offers a three year program in various technical fields with the collaboration of the main employers in the region.

In summary, Volvo employs approximately half the number of workers in its rear axle division compared with Austral. A major difference is the ratio of indirect to direct workers in each plant, with Volvo employing a much greater proportion of its workforce in direct production activities. There are also proportionately fewer managers to non-managerial employees in the Volvo plant compared with Austral. The employees at Volvo are younger, more highly qualified, are comprised of a larger proportion of females, are more likely to be native-born and have a lower level of labour turnover. In one respect, however, the workforce at Volvo may be said to have been less satisfactory at work in that they have a higher rate of absenteeism. However, this can mainly be ascribed to the Swedish welfare system and the method of administering sickness benefits. There is also a higher proportion of married women in the workforce and parents tend to be absent more frequently in order to care for children who are home from school due to illness.

### Performance and Productivity in Each Plant

Some of the main characteristics of each plant in terms of performance, costs and productivity are shown in Table 2. In 1989, the Austral Transmission and Axle plant recorded sales of \$113 million, which achieved the target of 1 per cent increase in profits (before interest and taxes) compared with the previous year. The main indicator used to measure productivity is the value of sales to employees. In 1989 this was \$140,000 per employee. This was an improvement on the previous year because sales were higher and the number of employees were fewer. The target for 1989, however, was \$152,000 per employee. The ratio of total sales to assets employed was 2:4 (although the ratio of material costs to sales is seen by the company as more important). Material costs account for 50 to 60 per cent of total costs, while direct labour costs account for only 6 per cent of the total.

Currently, the plant is achieving a level of profitability which compares well with the rest of the components industry (generally 13 per cent before interest and taxes) and is achieving a 35 per cent return on net assets. However, it has capacity for a greater volume of production and needs to find both new products and expanded markets in the immediate future. Austral is also under pressure from its customers (especially Ford) to continue to meet increasingly higher quality standards.

There are approximately 1300 machine tools in the plant, with a replacement value of some \$200 million. The plant also uses mechanically operated machines, transfer lines, robots and heat treatment facilities. The plant has stock in hand which is valued at approximately \$12.5 million.

TABLE 2

Characteristics of Each Plant  
In Terms of Performance, Costs and Productivity, 1990

Variables	Austral	Volvo	
Year that the plant was established	1928	1927	
Year that the plant was acquired by the present owner	1987	1942	
Output of rear axles per hour		50	70
Output of rear axles per year		175,000	260,000
Ratio of employees to the number of rear axles produced per year		1: 379	1: 1181
Level of plant utilisation (in percentages)	80	85	
Hourly labour costs (in Australian dollars)	12	21	
On costs as a percentage of total labour costs		30	47

Financial operating guidelines are issued by Austral's parent company each year and reflect expectations for growth in the coming year. The parent company exercises strong controls over capital expenditure as well as over growth in employment (especially of indirect employees). Austral Engineering operates on a three year business plan.

At Volvo the replacement value of the equipment used for manufacturing rear axles is almost 600 million kronor ( or 140 million Australian dollars). Approximately 80 per cent of the machinery is of German origin. The rest are from Sweden, Italy and the United States. There are some problems gaining adequate servicing for the Italian and American machines.

The batch sizes which are produced in the rear axle department vary between 100 and 10,000 but the most common batch size is between 1,000 and 5,000 axles. There are 30 variants of two types of axles: the traditional and the flexible ones. The standard production rate is 70 axles per hour.

There is a strong emphasis on quality control and cost reductions in the rear axle division. All managers, down to supervisory level, are given annual targets. In 1991, for example, the rear axle department must achieve 21 million kronor in savings. The division is only allowed to have 100 items returned each year (the equivalent of 0.025 per cent of total items produced). The amount of scrap was reduced from a cost of 55 million kronor in 1984 to 18 million kronor in 1989 (an equivalent of 1.5%) and this must be reduced to 0.75% by 1993 in the Koping plant. (Current exchange rates are approximately 4.5 Swedish Kronor to the Australian dollar.)

In summary, the Volvo plant produces a considerably larger number of rear axles per year with fewer employees and labour productivity is almost four times greater than achieved at Austral. There is also a higher level of plant utilisation at Volvo. Finally, despite higher hourly labour costs, as well as greater on-costs, Volvo is able to achieve higher productivity and produce axles for lower unit costs than Austral.

### The Nature and Organisation of Production in Each Plant

The Austral plant operates 218 days per year and has an 80 per cent level of capital utilisation over two shifts. The plant is capable of designing a wide range of products, including most axles and transmissions. The size of production runs varies according to batch size (eg 20 to 50,000). The trend is away from batch to making stock as required. More than 50 per cent of production currently uses Just in Time (JIT) systems, and is expected to reach 70 per cent in the next 12 months.

Computer Aided Design (CAD) is a major feature of Austral's design and manufacturing system. Austral has invested some \$2.5 million in CAD so far and expects to invest another \$1.5 million in the near future. Statistical Process Control is used extensively and the philosophy of Total Quality Management is pursued (although there is no formal system in place).

The annual rate of turnover in inventory is 9.4 per year (compared with 6 in 1987). JIT has increased the rate of turnover - although the Japanese plants achieve a rate of 20 to 30 per year. The plant keeps only one or two days worth of stock. Customers carry about 2 to 3 days stock in hand and one days stock in transit.

The plant loses about 10 per cent of production time in downtime (or 20 per cent if one adds time taken to set-up or reset equipment). There have been major problems of downtime associated with electronic robots which were brought into replace outmoded arc welding equipment.

The first numerically controlled (NC) machines were brought into the plant 25 years ago (about 10 years before they became widely used). The main problem with NC and Computer Numerically Controlled (CNC) machines has been distance from the manufacturers and obtaining service, but this has become a less significant issue as Japanese manufacturers have begun to establish service bureaux in Australia. There remain problems, however, in obtaining local tradespeople who are able to maintain and repair CNC machines. There are shortages of tradespeople who combine electronic and mechanical skills (ie mechatronics) which are needed with the new technology. One solution has been to hire professional engineers (rather than tradespeople) who have the required knowledge, but this is an expensive option. There has also been some resistance by process workers to the introduction of CNC machines within the plant.

The plant layout is continually changing. In recent years there has been change from the colony concept to straight line in order to achieve better workflow. While there is a smaller product range compared with 5 years ago, the quality demanded by customers is higher. Orders are fairly predictable and tend to fluctuate in a range of plus or minus 10 per cent. The main method of coping with fluctuations is to use overtime (in peaks) or natural attrition (in troughs).

There is a Research and Development (R & D) department at the plant (which also serves other plants in the Austral group). The bulk of the 95 R & D staff are engaged in work on transmissions. Austral only undertakes applied research, which is mainly of a problem-solving kind (eg. into spin-resistant differentials). However, Austral has been increasing its R & D effort and recently launched a four speed electronically controlled automatic transmission. This project cost \$90 million in capital and \$30 million in R & D. The transmission was developed primarily at the plant over the past five years. The new transmission has attracted serious interest from vehicle manufacturers in the United States, United Kingdom and Germany. There is considerable overlap between the design and development functions. Austral's objective is to respond as quickly as possible to customers' needs. There is a small marketing function, which is not well-developed. Austral seeks to integrate Engineering and Sales, so that marketing is primarily handled by engineers.

The K<sup>o</sup>ping plant of Volvo operates 220 days per year and has an estimated capital utilisation of 80 to 90 per cent over two shifts. The machinery runs 16 hours a day (including maintenance, which is mainly performed during working hours). The plant loses about 25 per cent of production due to machine downtime.

Computer Aided Design is used in 100 per cent of the plants operations, while Computer Numerically Controlled (CNC) machines are used in 50 to 60 per cent of operations. The operators are responsible for checking their own quality standards. Statistical process control is also used. All deliveries are according to Just in Time (JIT) principles.

The layout of the plant is of a conventional product related type. The layout of the plant was determined by the management of the division. A new total quality program was introduced in 1984 and this is now widespread throughout the company, although the concept of quality circles is not used. The rate of defective parts has declined from 6 per cent in 1984 to 1.4 per cent in 1989.

Maintenance is a separate unit within the K"ping plant and each division (such as the rear axle division) buys service time from the Maintenance Unit as required. Within this unit there are the following areas of competence: mechanical, electrical, electronics, and hydraulics. Maintenance workers usually cover more than one area of competence.

The Volvo Components Company has its own product design and development group, but is located in Gothenburg at the company's headquarters. Personnel from the K"ping plant are, however, represented on a variety of development projects.

### Comparison of the Production of Round Companion Flanges (RCFs) in Each Plant

In order to establish a basis for comparison between the Australian and Swedish plants, the product chosen for analysis was the round companion flange (RCF). Some of the major differences between the two plants are shown in Table 3. At Austral this component is manufactured on a flow-line by two people who operate 10 machines between them. Three different parts are made on the flange line, but they are all part of a 'family' of European style flanges. The ages of the machines vary from 7 to 29 years but most are around 25 years old.

The capital cost of each machines varies from \$17,000 to \$650,000 but most items are around \$325,000. Most of the machines are at a standard level of automation. There are no Numerical Control (NC) machines and only one Computer Numerical Control (CNC) machine. There are no robots used in the production process. Of the machines in the flange line, three were manufactured in Australia, three in the UK, two in West Germany, one in Japan and one in the United States.

The average output of the line producing RCFs at Austral is 54 per hour (which is less than the maximum possible). The machines operate for 16 hours per day in two shifts. The standard cycle time is one minute for each machine. However, one person may undertake ten second operations if using six machines. Job cycle times are determined by work study engineers. The lot sizes produced are as follows: approximately 10,000 per month for GMH and Nissan, 1,000 per month for Ford, and 130 every three months for Lotus (UK). The machines are set up by a toolsetter and the two operators, although programming of the machines is undertaken by a specialist tradesperson or engineer. Normal set-up time is 2 hours. The operators undertake their own quality control. Defective parts are scrapped as they are usually not reworkable.

The layout of the plant as a whole is product-oriented. The only 'functional' or central facility is the heat treatment area. Every effort is made to have the longest flow lines possible in order to keep all the machines on line and to avoid stockpiling. There are three assembly lines in the plant and each process worker operates a variety of machines. The production layout is determined by a team (eg the manufacturing engineer, maintenance engineer and supervisor). The nature of the production control system is a mixture of MRP and JIT systems, but is moving more towards JIT. There are about ten

days worth of buffer stock in the plant. The production workers all have dedicated job roles. There are some multiskilled work groups in areas of the plant, but this is not yet widespread.

TABLE 3

Comparison of the Two Plants in Regard to  
Production of Round Companion Flanges (RCFs), 1990

Variables	Austral	Volvo
Number of RCFs produced per hour	54	120
Ratio of employees to RCFs produced per hour	1:27	1:60
Number of employees on the RCF line*	2	2
Material costs per unit for the production of RCFs (in Australian dollars)	3.42	2.03
Labour costs per unit for the production of RCFs (in Australian dollars)	5.11	4.81
Scrap rate for RCFs as a percentage of total costs	1.0	0.7
Average age in years of the machines producing RCFs	25	10

\*Note that at Volvo there is a larger work group which rotates between the RCF line and other areas of the plant.

As noted previously, one of the major future problems highlighted by management was obtaining skilled personnel who could combine electronics and mechanical skills (ie mechatronics). There is excessive downtime on some machines because neither of the existing electrical or mechanical tradespeople have the required skills to readily analyse and fix all the problems as they arise. There were also criticisms that the company has not been sufficiently up-to-date in its machinery and methods of production, and has not been willing to spend the required amount of money on training - especially to upgrade the skills of existing tradespeople.

At Volvo the round companion flange, is manufactured on a flow line by two operators. They are part of a six person team which rotates between this line and other similar lines ( e.g. the shaft line). There are two shifts. There is also a quality inspector on the day shift who checks all of the items which are produced on the line, at a rate of 180 items per hour. It is anticipated that the need for a quality inspector will be eliminated when a system

of statistical process control (SPC) is introduced on the line. The inspection function will then be integrated into operators' activities.

The average output of the line is 120 parts per hour. The standard output target is 112 per cent MTM, which is generally achieved. There are nine different machines, the average age being approximately 10 years. The management is planning to introduce a new system in the future which is expected to reduce the number of machines needed for the total process. Defective parts are usually scrapped. The percentage of defective parts, however, has declined from 6 per cent in 1984 to 1.5 per cent in 1990.

### Industrial Relations and Human Resource Management in Each Plant

The Austral plant is widely regarded as having a poor industrial relations record within the industry. It has experienced numerous industrial disputes in past years and has been seen as a plant in which unions can make gains and thereby set the pattern for the rest of the industry. Many of the disputes are over demarcation and manning issues, which are exacerbated by the large number of unions. There are nine unions with members in the plant, seven of which are active. The largest union is the Australasian Society of Engineers (ASE) which covers almost 70 per cent of the unionised workforce. Other unions with significant membership are the Amalgamated Metal Workers Union (AMWU), and The Federated Ironworkers Association (FIA). A number of unions in the plant have overlapping coverage. All unions have closed shop agreements. Almost all of the weekly-paid employees are covered by the Metal Industry Award and receive an average of 25 per cent above the award rate for wages.

Statistics collected by Austral indicated that the largest number of lost hours due to disputes since 1987 had occurred among members of the ASE and the FIA. There had been a major increase in hours lost due to disputes in 1985 and 1986, although this had declined to previous levels in 1987. Hours lost gradually increased again in 1988 and 1989. In both of the past two years, local issues (ie related to matters in the plant) have outweighed national stoppages as the major cause of time lost. The union delegates, however, felt that there were fewer disputes in recent years compared with a decade ago, due mainly to a more difficult economic climate and a concern about job security if the company experienced major industrial relations problems. The delegates noted that union officials were now more likely to order their members back to work unless there was strong justification for a stoppage. They noted that there had been major retrenchments every 3 or 4 years. The delegates also identified demarcation as an important cause of disputes but felt that this was often because workers felt that their jobs were insecure. Thus, workers sought to protect their positions by enforcing strict demarcation lines. Delegates also claimed that there was a 'them and us' atmosphere in the plant caused by strong status differences between management and the workforce.

Management were optimistic that both productivity and industry relations would improve following the recent settlement of negotiations to end the bonus system. Management have 'bought out' the bonus system which had encouraged competition between workers but discouraged flexibility in work organisation, since workers were rewarded for maximising their individual output. There was strong incentive for workers to specialise in operating particular machines which would enable them to gain the greatest rewards. Under the new wages system it is intended that workers will be rewarded for gaining skills on a variety of machines. It was also anticipated that greater teamwork will be introduced

into the production system. The changes in the bonus system coincided with the restructuring of the Metal Industry Award which, among other things, reduced the number of job classifications and encouraged payment for skills.

Another initiative undertaken by management to improve industrial relations in the plant has been the establishment of 'Ad Hoc Joint Working Parties'. These have operated since 1988 at the level of the work section, to examine grievances and solve potential problems which might become the cause of industrial disputation. Management claimed that approximately 70 per cent of work sections currently have Working Parties and that it is planned to extend these to inter-department groups in the future (eg. to help overcome problems between service and production areas). The union delegates were more cautious in their assessment of the success of working groups. They felt that Working Parties were a good concept which had been greeted with enthusiasm at the beginning, but that workers had gradually lost interest. The delegates complained that the agenda of Working Parties were often too restrictive, discussion was too narrowly focussed on improving productivity and supervisors were fearful of exposing themselves to possible criticism by workers. The delegates felt that they obtained faster solutions by taking up issues directly with management using traditional bargaining tactics.

While management recognised that progress was slow, they felt that industrial relations was improving and that the predominant management style at Austral had changed from 'paternalistic' to 'participative'. They conceded, however, that the union representatives would probably still regard management as 'authoritarian' and it would take more time to change these perceptions. The company was still rather 'tradition bound' and the approach was to provide information rather than involve employees directly in decision-making. The union delegates remarked that while employees were given some opportunities for involvement in decisions about new technology, this usually occurred only after the decisions had been taken by management.

The Volvo plant is regarded as having excellent industrial relations. There are three unions on site which cover all employees, including lower and middle levels of management: Metall (blue collar workers), SIF (white collar workers) and CF (professional engineers). Apart from a large national strike by SIF in 1988 and a few brief sit-down strikes in connection with local wage negotiations, there have been no formal disputes during the past few years.

There are four full-time union representatives on site (including two in the axle division). One of the full-time representatives deals primarily with health and safety matters. There are 29 elected union delegates who are elected by the 1200 employees in the whole plant. Management felt that industrial relations at the plant level worked quite well but they did complain about having to deal with three different levels of union officials: the local branch, the district (ie K"ping area) and national levels. Not surprisingly, management preferred to deal with the union representatives at the local level and less with those at the other levels who did not have as close contact with plant level matters.

There was considerable discussion about likely future directions in regard to wage systems at the plant level. At the moment there is a national agreement between Metall and Volvo which sets the 'floor' or minimum hourly rates for wages. Additional amounts are then negotiated with management at a plant level to reflect local circumstances.

Currently, wage levels at K"ping are approximately 38% above the nationally agreed minimum rate. The K"ping plant is ranked approximately third in the Volvo group in terms of total rates of pay.

There is also a piece rate system which applies to all employees after they have been employed at K"ping for three months or more. When employees achieve a level of 116% of the agreed work standard, they are eligible to participate in the group bonus system. There is also a general productivity bonus of 6% which applies to all workers as well as extra payment for skills acquired. (There are six levels in the system and once employees have attained all levels they are eligible for an additional 3.75 kronor per hour). The additional payments total an average of 12 per cent of the total wage.

At the end of 1990, negotiations were proceeding between Volvo and the unions on changes to the wage system at K"ping. Management would like to have wages reflect individual performance to a greater degree than is currently the case. At present, when workers achieve the minimum required production output they tend to prefer time off rather than extra wages which can be earned by working extra hours. Management feels that the group bonus systems inhibits the willingness of employees to undertake additional work. The new system proposed by management is as follows:

- \* 80% of the total wage will be a base payment which everyone receives, and is based on the value of their work, length of service etc.;

- \* 10 to 20% is to be related to the individual's quality of work, productivity, qualifications and skills.

- \* up to 10% is to be an overall bonus for productivity.

- \* the unions wish to retain 90 to 95% of the total wage as a base payment but are willing to discuss 5 to 10% of the wage being based on individual performance.

Joint consultative committees are encouraged by law in Sweden. Hence, there is a joint consultative committee which covers the whole plant at K"ping and meets on a regular basis (usually once every two weeks). There are a wide range of issues over which management is required to consult with the workforce, including changes to the annual budget. However, in practice, the consultative committee meets informally whenever possible and only holds formal meetings when there are serious differences of opinion. Within the rear axle division, there is a regular bi-weekly meeting between management and union representatives. There is also a joint committee of occupational health and safety issues which meets regularly (on which employees are in the majority). Ad hoc committees are also used extensively.

Management of the rear axle division has also proposed some significant changes to work organisation, involving more extensive use of team organisation, particularly within production areas. The proposal is for a new production organisation built on production teams, each with a team leader. The new team leader's position will be an amalgam between a supervisor and a works engineer. Some of the tasks which earlier belonged to these positions will be delegated to the operators in order to make their work more interesting. Within each team different members will be responsible for specific tasks. For example, one member will be responsible for operations, another for quality and another

for economic matters. Tasks will rotate between team members over time. It will, of course, be necessary to train people in these new tasks and the acquisition of new tasks will be rewarded under the proposed new wage system. It is also envisaged that flexible work times will be introduced. Although the general competence levels of all employees will be increased, there will still be scope for specialists in areas such as robotics, NC programming, administration and so on. Ultimately it is expected that the plant will be managed by a group of only 5 to 8 people with production teams being fairly autonomous.

In summary, productivity of the RCF line at Volvo is considerably higher than that achieved by Austral. Despite higher wages, unit labour costs and material costs are lower at Volvo. The quality of goods produced are also higher at Austral, as shown by the lower scrap rate. While these differences in productivity and quality may be attributed to superior equipment used at Volvo, the work organisation is based on skilled, flexible work teams which are able to achieve higher levels of performance. This is reinforced by a payment system which encourages higher quality and output by workers as well as rewarding the acquisition and use of skills.

## LESSONS TO BE DRAWN FROM THE CASE STUDIES

The Austral plant highlights some of the major problems facing the Australian automobile components industry today. Although it is the only independent local producer of automotive drive axles, it is experiencing a declining demand for its traditional product (as the automobile manufacturers move to front wheel drive vehicles) and has recently lost its only major export contract. The company is currently seeking new 'niche markets' which will depend on flexible production of low volume items at competitive prices. It is also attempting to develop new products. The plant recently changed owners when Austral acquired the entire Australian operations. The new owners are placing stringent demands on the management who are required to operate on one-year financial plans (compared with five-year plans under the previous company).

The workforce has been reduced significantly over the past decade and is being required to raise both productivity and quality. The plant has a history of industrial disputation and although the number of disputes declined after the Austral takeover, they are now rising once again. The management has recently 'bought out' the bonus systems in order to increase labour flexibility and the company is currently engaged in award restructuring negotiations. Yet demarcation problems are likely to remain while there are nine unions in the plant, each of which is concerned about defending its current membership levels. Another major problem within the plant is the wide ethnic diversity (52 nationalities) and the communications problems associated with this situation. The management appears to be making little progress on these issues.

While the company had made major investments in new equipment, there remains much old machinery in the plant. The union delegates complained about the age of much of the equipment in the plant and frequent breakdowns. There also appeared to be inadequate attention given to training, especially in new technology, although management complained that many of the existing tradespeople were not able to cope with the complexity of the new mechatronic skills which the machinery required.

The comparison of the production of round comparison flanges (RCFs) in each plant revealed significant differences. At Volvo, the output was 120 units per hour compared with only 54 units per hour at Austral. Both the labour costs and the material costs per unit were higher at Austral than Volvo and the scrap rate was higher (indicating lower quality levels).

In other words, the Swedish plant had achieved higher levels of both productivity and quality, as well as lower unit costs. When asked to explain the reasons for these differences, the Austral management noted that Volvo had invested in more up-to-date equipment, including automated transfer lines, which enabled it to produce more RCF units at a lower cost and higher quality. The workforce at Volvo was also more highly skilled and therefore able to undertake more complex tasks. The Austral management also pointed out that the higher volumes of production at Volvo justified investment in more sophisticated equipment whereas their lower volumes did not.

It would appear that the Australian plant is caught in a vicious cycle of low levels of investment leading to low productivity and low quality. Austral management acknowledged that the machinery in the plant needed to be upgraded and noted that this was progressively occurring. The management claimed that it planned to raise the skills of the workforce in the future so that they would be able to conduct their own maintenance and quality control. It was also anticipated that more work-group organisation would be utilised as the plant was upgraded. Yet these improvements may be too late for the plant to survive increasing competition from overseas suppliers.

Since the case studies were concluded at the end of 1990, the economic recession has begun to have a deleterious impact on the vehicle building industry in Australia and the automotive components manufacturers. The Australian Financial Review (28 February 1991) reported that more than 18 per cent of the workforce in the automotive components industry had lost their jobs in the previous eight months. Almost half of the companies in the industry (including Austral) are working on a partial production basis or four-day week. At the end of February 1991, Austral's parent company announced a severe decline in its quarterly profits and declared that it would have to 'improve productivity to remain competitive against imports'. It was also announced that from 1993 Austral would no longer supply axles to either Ford Australia or Nissan. This will cause massive retrenchments, unless new markets are found in the next eighteen months. Ford Australia has signed a contract with the American Dana Corporation for the supply of axles from the beginning of 1993.

While micro-economic reform is vital for the regeneration of the Australian automotive components industry, this may not be sufficient by itself. Clearly, the low levels of productivity at Austral are related to internal factors such as lack of skills, poor work organisation and industrial relations conflict. But there are also important external factors such as low levels of investment in the industry, inadequate relationships between the components suppliers and the automobile manufacturers, and the failure to acquire and retain export markets. The fact that Austral Engineering (and its predecessor) has long been the only domestic supplier of transmissions and axles to the automobile industry has not assisted in the development of a highly competitive environment.

Clearly, the Australian automotive components industry will be under increasing pressures to raise its levels of performance if it is to survive. Senator John Button, Minister for

Industry and Technology, has indicated that he envisages the development of 'a leaner, slimmer and more efficient industry with one or two vehicle makers and a heavily rationalised component sector made up of companies which (are) effectively supplier centres of excellence who (can) stand up to direct competition with the best on the international stage'. Indeed, some Australian automotive component manufacturers have been attempting to increase Australia's \$20 million a year motor industry trade with the Republic of Korea. Yet Marceau et.al (1989) have warned that the trend appears to be towards a smaller number of component suppliers, based around a few international firms, which are able to guarantee reliable, high quality supplies to the major automobile manufacturers. Australia will be hard pressed to achieve a share of this market.

Commenting on the state of Australian industry in the 1990s. Michael Porter of the Harvard Business School has noted that 'As a nation, Australia (has relied) too often on foreign machinery and suppliers. On the corporate side, there has been a tendency to emphasise short-term behaviour as opposed to long-term. There are too many industries where there are only a few producers, where price competitiveness is not vigorous, where competitive pressures from Australian rivals are not pushing companies to advance or forcing companies to look internationally ..... Companies need to increase skills and spend more on investment in research and development' (Porter, 1991). Porter has further argued that Australia's small domestic market is not necessarily a barrier to success, citing the fact that many Swedish companies export up to 98 per cent of their output.

While Volvo's plant at K"ping should not be regarded as providing a blue-print for Austral and others to follow, there is much to be learned from its example. It is also clear, however, that the broader issues such as corporate strategy and long-term investment are very significant in providing a basis on which micro-level reforms in the workplace can be developed. This type of approach is embodied in two recent Australian reports. The first is Developing Australia's National Competitiveness, by Shann and Fitzgerald (1991) for the Business Council of Australia, and issued at the 1991 National Business Summit, which suggests that many Australian businesses 'lack a long-term view', rank poorly in research and development areas, and suffer from weak managerial skills, poor employee relations and weak incentives to perform. The second report is by the Economic Planning and Advisory Council (1991) on Improving Australia's International Competitiveness. It recommends a three step process. First, enterprises must devise ways to measure their productivity and competitiveness, particularly by comparison with best practice abroad (as in this case study of Volvo). Second, management and employees must be committed to changing the way things are done. Finally, specific opportunities should be identified and exploited to improve competitiveness. These issues need to be addressed in an integrated rather than piecemeal way. These two reports provide useful confirmation of the results from the comparison of Austral and Volvo.

## NOTES

Australian Council of Trade Unions (1987) Future Strategies for the Trade Union Movement, ACTU, Melbourne

Australian Council of Trade Unions/Trade Development Council (1987) Australia Reconstructed, Australia Government Publishing Service, Canberra

Business Council of Australia (1989) Enterprise-Based Bargaining: A Better Way of Working, BCA, Melbourne

Botsman, P (1989) 'Rethinking the Class Struggle: Industrial Democracy and the Politics of Production', Economic and Industrial Democracy 19 (1): 136-7

Baglioni, G and Crouch, C editors, (1989) European Industrial Relations: The Challenge of Flexibility, Sage, London

Crean, S and Rimmer, M (1989) Adjustment Problems of Trade Unions in the Industrialised Market Economies: The Australian Case Melbourne: National Key Centre for Industrial Relations, Monash University, Clayton

Daly, A, Hitchens, D and Wagner, K (1985) 'Productivity, Machinery and Skills in a Sample of British and German Manufacturing Plant', National Institute Economic Review, February, pp. 48-61

Evans, A C (1989) 'Managed Decentralisation in Australia's Industrial Relations', Eleventh Sir Richard Kirby Lecture, University of Wollongong

Economic Planning and Advisory Council (1991) Improving Australia's International Competitiveness, EPAC, Canberra

Gough, R M (1991) 'Methodology for Swedish-Australian Comparative Case Studies in the Automotive Components Sector', Discussion Paper, Department of Industrial Relations, Canberra

Hammarström, O (1991) 'Sweden' in Bamber, G J and Lansbury, R D , eds, International and Comparative Industrial Relations, Allen & Unwin, Sydney (forthcoming)

Lansbury, R D (1985) 'The Accord: A New Experiment in Australian Industrial Relations', Labour and Society, 10 (2), pp 223-35

Lansbury, R D (1990) 'The New Industrial Relations', Asia Pacific Human Resource Management, 28(3), pp 62-28

Marceau, J., Jureidini, R. and Greig, A. (1989) 'Giants and Dwarves: Changing Technologies and Productive Interlinkages in Australian Manufacturing Industry'. Third International APROS Colloquium, Australian National University, Canberra

Myrdal, H.G. (1991) 'The Hard Way from a Centralized to a Decentralised Industrial Relations System' in Jacobi, O. and Sadowske, D. (eds) Employers' Associations in Europe: Policy and Organisation, Nomos Verlag, Baden Baden

Niland, J (1989) Transforming Industrial Relations in NSW: A Green Paper, NSW Government Printer, Sydney

Porter, M (1991) Address to the Business Council of Australia's National Business Summit, Sydney

Rehn, G. and Viklund, B. (1989) 'Changes in the Swedish Model' in Baglioni, G. and Crouch, C. (eds), European Industrial Relations: The Challenge of Flexibility, Sage, London, pp300-325.

Shann, E. and Fitzgerald V (1991) Developing Australia's National Competitiveness, BCA, Melbourne

\*A pseudonym is used to protect the identity of the Australian plant.