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1 INTRODUCTION

In his study of the sources of competitive advantage of countries, Porter (1990) argues that Korea can no longer retain a competitive advantage on the basis of producing low-cost products by means of cheap labour and subsidized investment:

Cost competition in price-sensitive segments is frequently unprofitable. Such strategies are always vulnerable to the next low labour cost nation, or to the next nation such as Malaysia or Thailand willing to subsidize construction of large, modern plants. Korean firms now invariably compete with cost-based strategies. They must upgrade their competitive advantages and learn to compete on differentiation, a process that may require decades.

(Porter 1990: 688)

Porter sees upgrading of competitive advantage predominantly in terms of innovation. A broader way of approaching this issue is to say that Korean firms need to improve the quality of their products. Korean firms are having increasing difficulty in competing with low-cost producers in the lower strata of markets. Therefore, they need to upgrade their products, offering improved product specification, a more differentiated and rapidly changing product range, and greater reliability - products which do what they are supposed to do. All this needs to be done at a reasonable price.

In the 1970s and early 1980s, Korean firms relied on a depreciating currency and low wage costs to secure competitive advantage. However, the success of Korean manufacturing exporters, particularly, in the USA led to pressure for currency revaluation. Similarly, rapid economic growth (11.2 per cent per annum 1983-88) led to shortages of labour and rapidly rising real wages. While rising wages and an appreciating currency might be seen as the price of success and part of the process of industrial upgrad-

ing, the sharpness of both movements in the late 1980s has been seen by many commentators in Korea as a serious problem. They seem to threaten the basis of past success.

Upgrading is certainly the route Korean industry has to take in the medium term. There is simply no way it can compete in certain market segments with the lower-wage Asian economies such as Thailand and, above all, China. However, the question arises as to whether the Korean economy has the means to repeat in higher-quality market segments the success it has enjoyed in the past 10-15 years in the lower segments of the market. Following a brief outline of cost and quality issues, the remainder of this article will discuss briefly the factors which are likely to influence the success of Korean firms in introducing quality strategies in manufacturing which centre on the involvement of labour and changes to quality processes at the point of production. The items considered are the promotion of quality management by the State, education and training, industrial relations and inter-firm relations.

2 COST AND QUALITY

Two major factors seem to have created a certain crisis of confidence among Korean manufacturers at the end of the 1980s. The first factor is a loss of competitiveness arising from a combination of higher price inflation in Korea than in major export destinations, much higher wage rises in manufacturing industry and a marked appreciation of the won against the currencies of major trading partners. This loss of competitiveness contrasted sharply to the situation earlier in the decade, as can be seen in Table 1. Table 1 presents data on movements in wholesale prices, manufacturing wages and nominal exchange rates for Korea and for seven of Korea's eight largest export destinations in 1990. Figures for the period 1982-86 are contrasted with figures for 1986-90. The competitive position of Korean manu-

¹ This article arises out of a visit to Korea by the author as part of the IDS's seedcorn programme, which supports research by Fellows in areas they have not previously worked on. The author wishes to thank the many people in Korea who gave their time to help with this

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Table 1: Real effective exchange rates for Korean exporters of manufactures, 1982-86 and 1986-90

	1986 (1982=100)	1990 (1986=100)
Wholesale Prices		
(1) Seven Major Trading Partners ^(a)	98.5	109.9
(2) Korea	100.3	109.1
Manufacturing Wages		
(3) Seven Major Trading Partners	115.7	116.9
(4) Korea	145.7	200.6
(5) Nominal Exchange Rate ^(b)	129.2	92.3
Real Effective Exchange Rate (Korea and 7 partners)		
(6) Wholesale Prices ^(c)	126.8	92.9
(7) Manufacturing Wages	102.6	53.8
Real Effective Exchange Rate (wholesale prices)		
(8) USA	114.9	88.4
(9) Japan	146.9	90.3
(10) Singapore/Taiwan ^(d)	104.4	99.7
Real Effective Exchange Rate (manufacturing wages)		
(12) USA	130.4	85.4
(13) Japan	130.7	56.8
(14) Singapore/Taiwan ^(d)	104.9	82.9

Notes: (a) Eight major export destinations, less Hong Kong: USA, Japan, UK, Germany, France, Singapore and Taiwan
(b) A figure greater than 100 represents a depreciation of the currency in nominal terms.
(c) $[(1) \times (5)] / (2)$.
(d) Unweighted average.

Source: Price indices, wage indices and exchange rates taken from KFTA (1992).

facturing will be influenced by price movements, particularly of wholesale prices, in Korea relative to those in its major trading partners, and by movements in manufacturing wages and nominal exchange rates.

In the period 1982-86, wholesale prices rose by similar amounts in Korea and the export destinations (Table 1, lines 1 and 2). Manufacturing wages rose more in Korea in the period (lines 3 and 4), but this rise was more than offset by a depreciation of the won (line 5). The real effective exchange rate for Korea, based on wholesale prices, depreciated by 26.8 per cent, giving Korean manufacturers a big

advantage in the period. The gains were particularly marked in relation to Japan (line 9).

In the second period, 1986-90, Korean wholesale price rises matched those of its trading partners, largely as a result of an appreciation of the won (which cheapened imported inputs into industry). As a result, the real effective exchange rate against the seven trading partners based on wholesale prices appreciated by 7.1 per cent. Against the two major export destinations, the USA and Japan, the appreciation was about 10 per cent (lines 8 and 9). In this same period, Korean manufacturers faced intense pressure on wage costs. Nominal wages in manu-

facturing doubled in Korea in 4 years, while in competitor countries, the increase was limited to 16.9 per cent (lines 3 and 4).

Particularly worrying for Korean industry was the deterioration in competitiveness in relation to the other leading East Asian exporters, Hong Kong, Singapore and Taiwan, in the latter part of the 1980s. Table 1 compares Korea's performance with that of Singapore and Taiwan. While wholesale prices rose faster in Korea, this was offset by a continued depreciation of the won against the currencies of Singapore and Taiwan. The real effective exchange rate based on wholesale prices hardly moved from 1986 to 1990 (line 10). However, the wage comparison is much less favourable to Korea. Manufacturing wages rose rapidly in nominal terms in Singapore and Taiwan between 1986 and 1990 (by 53.4 per cent and 58.5 per cent respectively), but in Korea the rise was much greater (line 4). As a result, Korean manufacturers faced a rise in relative wages of 17.1 per cent (line 14). The only means of controlling wage costs would have been for productivity to have been rising faster in Korean manufacturing. In the period 1982-86, productivity in Korean manufacturing did indeed rise faster than in Singapore and Taiwan. However, the opposite was true for the period 1986-90 (KPC 1991: 51). Just when Korean firms needed an increased productivity boost to offset rising wages, they began to fall behind their closest rivals.

The second major concern for Korean manufacturers is quality. An upgrading strategy which would move Korean manufactured products up-market and away from the goods produced by lower-cost Asian rivals would certainly involve improvements in quality - in terms of both specification and conformance. The quality of Korean products is still perceived to be low, and set-backs in certain key markets are an indication of this. Initial penetration in the US car market, for example, was undermined by poor quality. According to Womack, Jones and Roos (1990: 262):

By 1988, the Korean producers were selling 500,000 cars in the United States, accounting for 4 per cent of the total market. Then the Korean

strategy fell apart ... When the Korean currency began to strengthen rapidly against the dollar in 1988, and Korean auto workers demanded large wage increases, a large part of the Korean's cost advantage disappeared. At that point, the question of quality emerged. The early Hyundai cars sold in the United States had very poor quality ... In 1987, when the average Japanese car was reported by consumers to have about 0.6 defects, the Hyundai cars had 3.1.

While Hyundai has made great efforts to improve quality, more recent data for 1991 show its defect rate was still more than double that of Honda. More significantly, Hyundai still lagged behind GM and Ford in terms of defects per car (Cho 1992: 146).²

There is other evidence which suggests that Korean quality improvement still has a long way to go. A study of 513 small- and medium-sized components producers carried out by the Korean Small Business Federation revealed a widespread concern that Korean firms were lagging behind their Japanese equivalents in terms of product quality, design and price and expect to be under threat from products from Thailand and China (among other countries) within five years. Over 60 per cent of the sample thought their quality was inferior to the Japanese, 56 per cent said design and packaging were mediocre and 40 per cent believed they were less competitive than the Japanese on price (ACCK 1992: 57). Comparative research on producers in Japan and Korea reinforces this picture. Overall, quality is lower in Korean firms, and large companies such as Hyundai have not yet developed networks of suppliers with Quality Assurance.³

Worse still, there was a perception that at the end of the 1980s the overall quality of Korean exports was deteriorating, notwithstanding the improvements registered by firms such as Hyundai. One source on the quality of exports registered a doubling of the failure rate of exported goods between 1988 and 1990.⁴

² The figures cited by Cho and by Womack, Jones and Roos do not match. Both agree on Hyundai's defect rate in 1987, but Cho gives a defect rate for Honda of 1.5 per car, and for Toyota of 1.35. Womack, Jones and Roos cite a figure of 0.6 for 'Japanese cars'.

³ This information was provided verbally by Ms Junko Mizuno, Institute of Developing Economies, Tokyo.

⁴ This figure is taken from a discussion document on implementing a new approach to quality circulated by the Industrial Advancement Administration.

3 GOVERNMENT PROMOTION OF QUALITY INITIATIVES

The Korean government seems to be aware of the need to upgrade manufacturing and improve quality. Efforts are being made in a number of areas, including the implementation of ISO 9000 (see the Appendix to the Introduction to this Bulletin) and the introduction of quality management. Given the Korean government's strong record in industrial promotion, this support is a strong factor in favour of quality improvement in industry.

The ISO 9000 standards concern total quality management. The Korean government incorporated ISO 9000/4 into Korean standards KS 9000/4 in April 1992. The Industrial Advancement Administration (IAA) will act as the accreditation body which recognizes certification agencies. These will then use auditors to check companies, products and processes and recognize them as conforming to KS 9000/4. The Korean Standards Association (KSA) is at the heart of this process. It prepared the accreditation and certification schemes, will act as a leading certification body, and is responsible for the training of the auditors who will have the job of certifying particular processes and products. The whole system should be in operation in 1993, and if firms seek product certification then they will have to introduce TQC.

The IAA is also proposing the promotion of what is referred to as Quality Management (QM) throughout large firms in industry. This is in effect TQC. A proposal for diffusing quality awareness and manufacturing has already been widely circulated and discussed with industry. This diagnoses poor quality as a major problem for manufacturing and argues in favour of a new approach to quality, based on the production of quality at source and the involvement of employees in quality achievement.

The IAA proposal places great emphasis on the involvement of employees at all levels in quality, and the implementation of continuous improvement (kaizen) based on the voluntary participation of workers in small group activities.⁵ The aim is to extend these practices from the most advanced firms to the rest of manufacturing. The IAA proposes to do this by:

- 1 training of workers in export industries, providing training materials and guides to QM;
- 2 developing QM capacity by such means as obliging firms with 50 or more employees to introduce QM teams, creating regional QM institutes, instituting a biannual QM competition, creating models for QM and Quality Circles for different sizes and sectors of firms, and selecting and rewarding quality specialists;
- 3 creating a one-year course with a capacity for 100 people to turn quality control technicians into Quality Management leaders.

These proposals for government action in the area of quality promotion have not all been implemented or accepted. However, the Korean government does seem prepared to put considerable resources into promoting QM and ISO 9000. It may also seek to use sticks as well as carrots, backing up some of the proposals with legal force and taking firms' responses to these initiatives as one of the factors which determine access to government credit.

However, there are limits to what even the Korean government can achieve in this area. The changes being proposed go to the heart of company organization and culture, shifting not only perceptions of what quality is and how it can be achieved, but also relations between management and labour and the basic activities of shop floor workers. When such significant changes are demanded, there is a danger that firms will formally adopt those elements which are required by the State - quality circles, for example - but be unable or unwilling to make the thorough-going changes in company culture and organization needed to make new quality strategies effective (see Fleury's article in this Bulletin).

The remainder of this article discusses some of the factors which will affect the extent to which companies can successfully introduce JIT/TQC. The factors considered are education and training, labour relations and relations between large and small firms.

4 EDUCATION AND TRAINING

Across the world, quality strategies involve raising the educational standards of labour at all levels - from managers and engineers to shop floor production workers. Engineers and technical staff are

⁵ These proposals are taken from the document circulated by the IAA (see Note 4).

important, because with JIT/TQC production processes have to be brought under control and their limits and tolerances fully understood if techniques such as SPC are to be introduced. Similarly, the process of continuous improvement requires machinery to be modified and adjusted in the light of shop floor experience. This requires a thorough understanding of it and the capacity to make minor innovations.

Larger Korean manufacturing firms are in a good position with respect to overall technological capability. There has been major investment in tertiary level education. Korea has a higher proportion of scientists and engineers in its population than any other newly industrializing country (Kim 1989: 118). There have been major successes in upgrading facilities. The State-owned steel company, POSCO, for example, was able to improve a turnkey plant bought from the Japanese and steadily reduce the proportion of foreign engineering inputs into subsequent expansions of capacity (Kim 1989: 125).⁶

Compared to other Newly Industrializing Countries, therefore, Korean firms should find it relatively easy to provide the technical support for JIT/TQC. Indeed, Amsden argues that competence in making technologies work and making 'incremental, yet cumulative, improvements in productivity' (1990: 17-18) is one of the basic elements of competitiveness at the present time, and one in which Korean companies excel.

However, JIT/TQC also involves production workers taking on new tasks, responding to unforeseen events and contributing to the improvement of production processes. Workers have to have the competence and the motivation to take on these new responsibilities. The question of motivation is discussed in the next Section. Here, the focus is on competence.

JIT/TQC puts a considerable premium on literacy, numeracy, reasoning and communication skills. These are provided by a good basic education. Compared to many other countries, the Korean educational system has provided these in abundance.

⁶ While POSCO may be the exception among Korean firms in its long-term commitment to Human Resources development, it is worth noting that Dore uses the case of a turnkey Japanese-built steel plant in Italy to illustrate the pit-falls of not learning and continually upgrading facilities (Dore 1989: 102).

Korean achievements in the educational field have been impressive, outstripping other industrializing Third World countries such as Singapore, Argentina, Brazil and Mexico by the end of the 1970s (Amsden 1989: 218).

In addition to a reasonable standard of education, the adoption of JIT/TQC involves a broad, plant-based approach to training, and here Korea's advantages are less clear. The vocational training system in Korea designates in-plant training as the source of less complex skills (Ministry of Labour 1992b: 15), and since 1974 a series of laws has been passed to encourage larger firms to undertake in-plant training.⁷ In spite of these laws, Korean firms have been reluctant to engage in formal in-plant training of their blue-collar employees. Faced with the choice of paying a training levy or providing in-plant training, even large firms 'preferred paying a training levy to providing their workers with in-plant training' (Bai 1989: 19). By 1988, only 13.4 per cent of the 1,573 firms obliged to provide training or pay the levy chose the former option, and this proportion had fallen steadily in the course of the 1980s (Bai 1989: 19).

Given this record, it is not clear that firms will be willing or able to provide extensive, short-duration courses on such topics as SPC, elements of kanban, use of measuring instruments etc.. The vocational training which does occur in-plant in the metalworking and electrical industries, is oriented to such long-established skills as welding, lathe operation, crane operation and sheet metalworking, rather than the new competences required by JIT/TQC (Ministry of Labour 1992b: 42-43). If the vocational training system is not to be used as the basis for JIT/TQC training, then firms will have to seek other sources for the know-how to provide extensive training.

It seems to be the case that various training agencies are making efforts to provide relevant courses. For example, the KSA's 1992 training programme includes training at all levels - from production workers, technical staff and management - in such areas as Quality Circles, TQC, ISO 9000 and preventive maintenance. A number of courses of 3-4 days' duration

⁷ The Korean Manpower Agency (KMA), formerly known as the Korean Vocational Training and Manpower Agency (KOVTA) is responsible for part of this training and for the certification system linked to it.

are on offer with titles such as 'Basic QC Circle Activity', 'Training for QC Circle Activity Leaders' and 'QC Circle Activity and Problem-Solving Methods'. It remains to be seen whether or not firms will take advantage of such courses or provide their own in-house training for JIT/TQC. At the very least, such a step would mean a change in the degree and direction of in-plant training.⁸

5 LABOUR RELATIONS

Involving labour in quality by means of Quality Circles, the fusing of quality and production tasks, Statistical Process Control and team-working requires that labour should be either actively committed to the company's quality programme or at least compliant with the demands made by it. Firms secure this consent/compliance through a combination of actively motivating workers towards company goals and controlling both collective and individual resistance to the requirements of the company.⁹ Both motivation and control are problematic in Korea at the present time.

The general style of Korean management is marked by authoritarian patterns of conflict resolution, a top-down style and low levels of group decision-making, according to a survey of attitudes by Chung and Lee (1989: 177). Until 1987, this system worked well because the State was willing and able to keep labour under control. Since mid-1987, the State has played a less active role in labour control and an upsurge in labour militancy has led to considerable conflict between management and labour. The mechanisms which were designed to demobilize and fragment labour in a period of repression - plant- and company-based unions (the only ones allowed by the 1980 labour legislation) and plant level bargaining - have now allowed union organi-

zations to expand rapidly and maintain close ties with workers in plants. According to Park and Park (1991: 5) the number of unionized establishments tripled in the 30 months following July 1987, and unionization developed strongly in large factories in heavy industries, such as vehicles, shipbuilding and machinery. These sectors are crucial for the export drive. The new unions have been particularly active and effective in the large plants owned by the Korean conglomerates, the *chaebols* (Deyo 1990: 228).¹⁰

In a situation of a release of pent-up frustrations and the emergence of new union leaderships which have not been drawn into established procedures, industrial relations are bound to be difficult. Korean managements were clearly unprepared to cope with the new situation, and both sides have resorted to industrial action and conflict very quickly. According to Wilkinson (1982: 26):

The responses of employers to the assertion of trade union strength since 1987 have been varied and complex, but overall fighting workers head on has been the option favoured over more accommodative means.

Management and the State have lacked means of formalizing and controlling collective bargaining and industrial disputes. The institutions which might regulate labour relations, such as the Labour-Management councils, State arbitration and mediation services, and national wage guidelines do not have the support of either management or labour or both.¹¹

The result of this unresolved conflict is that many Korean firms have neither the trust and commitment of labour nor the control necessary to impose new working practices. To some extent the most difficult period of conflict has already past, but as Wilkinson

⁸ In the case of large companies, labour turnover should not be a barrier to investment in training. Turnover in Korean manufacturing remains high, at approximately five percent per month in 1991-92 (Ministry of Labour 1991, 1992a), and there is evidence to show that turnover is relatively high among workers with five or more years in a job (Lee 1991: 55). However, turnover is generally lower in larger firms, and lower in sectors such as chemicals, steel and machinery and equipment. In some large firms turnover rates were very low. At Hyundai, turnover was under ten per cent per annum in 1991 (Cho 1992), and at the Kia Car Company's Sohari plant turnover declined from 7.4 per cent in 1987 to 5.0 per cent in 1991 (company information).

⁹ For a discussion of the balance between consent and compliance in JIT/TQC systems, see Humphrey (1992).

¹⁰ The restriction of unions to plant and company level in 1980 contrasts markedly with the situation in Brazil described in the

articles by Ruas and by Franco and Rodrigues in this Bulletin. In Brazil, unions are organized at municipal or regional level and have little plant-based organization. In Korea, the union legislation in 1980 which banned national unions was meant to demobilize labour. Since 1987 it has had the effect of strengthening the links with their rank-and-file workers and concentrating attention on factory issues, such as functional flexibility (see the Appendix to the Introduction to this Bulletin) and the authoritarianism of first-line supervisors. In an effort to bring some order into the bargaining process in Korea, the law has been changed to allow regional or national bargaining, but local union leaders are reluctant to cede this source of power and influence (Park and Park 1991: 21-22).

¹¹ For more discussion of these points, see Wilkinson (1992) and Bognanno (1988).

points out, this cannot be attributed to the success of management and the State is developing legitimate means of resolving grievances (1992: 18-19). Rather, a combination of a slow-down in economic growth, and State harassment of union leaders may be slowly demobilizing the labour movement. This means that strikes and disputes at plant level may be contained, but managements will not have obtained labour's support. The gains workers have made in terms of dignity and self-respect since 1987 will be hard for managements to undermine. Workers and their unions are likely to resist changes to working practices which demand greater flexibility or increase the intensity of work, and they will remain suspicious of management's motives.

The situation is not impossible for management. To some extent, Korean managers face similar problems to those faced by managers in Brazil, and as can be seen from the articles in this Bulletin, this has not stopped change. However, Brazilian managers could 'buy' cooperation by raising wages and offering stability of employment (Fleury and Humphrey 1992: 52-60). In Korea, workers have rights to stability of employment (in fact the government and employers have been trying to undermine this right in the Courts). Similarly, the unions and plant-level organization have succeeded in greatly increasing real wages, reducing the working week and controlling the level of overtime. Having achieved so much through mobilization and opposition after 1987, unions will not be inclined to make major concessions. It remains to be seen how leading companies resolve this problem. Some companies certainly will - either by keeping the union at bay, or by negotiating change - but the poor state of labour-management relations will hamper the generalized introduction of elements of JIT and TQC. Both the State and management need to work out a new strategy towards labour which takes account of the enormous changes which have taken place since 1987.

6 SUPPLIER RELATIONS

The final question considered in this article is relations between large firms and their suppliers. A feature of JIT/TQC is the development of new relations with suppliers. It is well known that leading Japanese firms contract out a higher proportion of production activities than Western firms, but they restrict their suppliers to a relatively small number of firms which maintain close ties. In Korea, the *chaebols* (large conglomerates) are highly diversified

both horizontally and vertically, and there is a big gap between leading firms and smaller components suppliers. Large firms have yet to develop networks of suppliers with whom they maintain close ties. Mizuno has found that those suppliers in Korea which either (i) supply most of a large company's input of a product or (ii) send most of their output to one large firm do, in fact, have adequate standards of quality. However, a much smaller proportion of suppliers have such a close relation to their large customers in Korea than is the case in Japan.¹²

Large Korean firms will have to work hard to raise standards among their suppliers. Samsung, one of the leading firms in this area, has a 200-strong task-force dedicated to upgrading suppliers, and it has plans to reduce the number of first-tier suppliers from 400 to 50. It is providing low cost loans to help finance the investments needed for upgrading. Other companies will need to do the same. However, as Marx's article on Brazil in this Bulletin shows clearly, suppliers may be unwilling or unable to cooperate. They may not have the human resources needed for upgrading, and the high rates of turnover in smaller firms (over five per cent per month in 1991-92) may inhibit investment in training. Once again, Korean firms may be able to resolve these difficulties, but a major challenge lies ahead.

7 CONCLUSIONS

Korea is facing the difficult task of moving its manufactured exports upmarket. Having been phenomenally successful at producing large quantities of products aimed at the lower end of markets, it has to seek to distance itself from newer industrializing countries in Asia by improving both product specification and conformance to standards. Korea has a number of advantages in its favour as it attempts to make this shift. A long-term commitment to education at all levels will continue to pay dividends, and increasing investment in research and development, combined with continued rapid growth will act as a great spur to technological change. However, the authoritarian style of Korean management, poor labour relations and the low quality of components supplied locally are major problems, and companies and government will have to make efforts to overcome them. There seems little doubt that larger Korean firms will be able to introduce the technical aspects of quality programmes. The challenge lies in changing organizational hierarchies and labour-management relations.

¹² Information provided verbally to the author.

REFERENCES

- ACCK (American Chamber of Commerce in Korea), 1992, **Amcham-Korea Journal**, August
- Amsden, A., 1989, **Asia's Next Giant**, New York: Oxford University Press
- , 1990 'Third World industrialization: "global Fordism" or a new model?', **New Left Review**, No 182
- Bai, M-K., 1989, 'Education and training in Korea', mimeo, Seoul: Korea Labor Institute
- Bognanno, M., 1988, 'Korea's industrial relations at the turning point', Seoul: Korea Development Institute
- Cho, H-J, 1992, 'A study on the production methods of the Korean automobile industry', Unpublished Phd. dissertation, Seoul National University (in Korean)
- Chung, K. and Lee, H., 1989, 'National differences in managerial practices', in K. Chung and H. Lee (eds)
- (eds), 1989, **Korean Managerial Dynamics**, New York: Praeger
- Deyo, F., 1990, 'Economic sheltering and working class formation in the East Asian NICs', **Labour, Capital and Society**, Vol 23 No 2
- Dore, R., 1989, 'Latecomers' problems', **European Journal of Development Research**, Vol 1 No 1
- Fleury, A. and Humphrey, J., 1992, 'Recursos humanos e a difusão e adaptação de novos métodos de qualidade no Brasil' **Working Paper**, Brasília: IPEA, (a revised version of this Report is forthcoming as an IDS Research Report in 1993.)
- Humphrey, J., 1992, 'The management of labour and the move towards leaner production systems in the third world: the case of Brazil', Paper presented to International Institute for Labour Studies Conference, 'The Challenge of Lean Production: how are firms and unions responding?', Geneva, November
- KFTA (Korean Foreign Trade Association), 1992, **Major Statistics of Korean Economy**, Seoul: KFTA
- Kim, L., 1989, 'Technological transformation of Korean firms', in K. Chung and H. Lee (eds)
- KPC (Korean Productivity Centre), 1991, **KPC Quarterly Review**, Vol 1991 No 5
- Lee, H-S, 1991, 'Employment relations in Korea, Japan and the United States', **Korean Social Science Journal**, Vol 17
- Ministry of Labour, 1991, **Report on Monthly Labor Survey**, Ministry of Labour, Republic of Korea, June
- , 1992a, **Report on Monthly Labor Survey**, Ministry of Labour, Republic of Korea, May
- , 1992b, **Vocational Training in Korea**, Ministry of Labour, Republic of Korea
- Park, F-K. and Park, Y-B, 1991, 'Recent developments in Korea's industrial relations', Seoul: Korea Labor Institute
- Porter, M., 1990, **The Competitive Advantage of Nations**, London: Macmillan
- Wilkinson, B., 1992, 'The Korean labour "problem": trends and prospects', Paper presented to I.S.A. Conference on 'States, Firms and Fundamental Values', Tokyo, July
- Womack, J., Jones, D. and Roos, D., 1990, **The Machine that Changed the World**, New York: Rawson Macmillan
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