# DECLINING RELATIVE WAGE AND RISING MANPOWER SHORTAGE RATE OF SMEs: CAUSES AND HRM POLICY IMPLICATIONS

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#### **ABSTRACT**

The wage differentials by industry, occupation, education and gender have been diminished in Korea since 1980's. Wage differentials by firm size, however, have increased. Most of the previous studies explained these rising wage differentials by firm size with unionization. The effect of union on wage is greater in firms with more employees, since unionization rate is highly correlated with firm size. According to this explanation, rapid unionization in late 1980's lead to substantial increases in wages especially of large firms and increases in labor shortages especially of SMEs that were unable to pay the raised market wages.

This paper presents an another important cause of widening wage differentials by firm size. Industrial restructuring after the 1980s has proceeded in a such way that unproductive low wage sectors were transferred from large firms to SMEs. To analyse the characteristics of structural change in manufacturing sector, this paper classifies manufacturing industries into group: one based on technology, one on orientation, one on wages and one on skills. The structural change of SMEs and large firms are compared based on above four classification methods. It is shown that SMEs' employment in low value sectors, that is low-technology, labor-intensive, low-wage, and unskilled sectors, have risen faster than SMEs' employment in high-technology, science-based, high-wage and skilled sectors. Large firms' employment has been mainly increased in high value sectors.

In the wake of economic crisis, the unemployment rate soared from 2.6% in 1997 to 6.8% in 1998. Under the loose labor market, the maximization of job creating potential of SMEs is an urgent policy priority. Korea needs to move from the price competitive mass-production system to the diversified quality production system. For this transition, fostering competitive capacity of SMEs is essential. The mobilization of workforce of large firms to the SMEs need to be facilitated if workers are more productive in SMEs than in large firms. Government provides various incentives to induce more workers to SMEs. These measures will be reviewed and partly evaluated.

#### **INTRODUCTION**

In 1996, the Korean economy rose to 11th place in the world in terms of size with a real GDP of US\$ 484.6 billion. After rapid growth in the 1970's and 1980's, the Korean economy entered a period of stable growth in the 1990's. During 1990 to 1996 period, Korea's real GDP grew 7.4 per cent annually, compared to an annual rate of 9.1 per cent in the 1980's. Per capita GNP recorded US\$ 10,537 in 1995, and US\$ 10,548 in 1996. These figures were praised as the advent of the five-digit income era.

However, the Korean economy ran into trouble in mid-1997, due to an enormous short-term foreign debt by business and financial institutions that far exceeded Korea's foreign exchange reserve. Creditors started to lose confidence in Korea's ability to pay off debts. This lowered the value of Korea's currency, the won, and stopped foreign creditors from rolling over short-term debts. To settle the maturing debt, Korea agreed on a US\$ 57 billion IMF rescue package in December 1997.

Various explanations are given for Asian financial crisis. Krugman(1999) sees Asian crisis not as a consequence of crony capitalism or bad government policy but as of vulnerability to self-fulfilling panic. Some studies find major fallings of the Korean economy in excessive domination of *chaebol*, or the huge conglomerates (Nanto and Johns, 1997).

The *chaebols* have been the engine of phenomenal economic growth of Korea. Korea's current status as a world-market contender in such industries as automobiles, steel, shipbuilding, semiconductors, petrochemicals is attributable to the *chaebols*' capability of acquiring technical and financial resources (L. Kim 1997). Capital control and allocation were the key instruments of the government's industrial policy. The major beneficiaries of these instruments were the *chaebols*. The *chaebols* have founded firms in one industry after another. 1 The resulting massive economic concentration led to the belief among government and business circles that allowing *chaebol* to collapse would pose a systemic threat to economy. They were too big to be allowed to fail. In consequence, banks were directed by the government more and more towards questionable *chaebol* investments (D. Nanto and V. Johns, 1997).

The Korean economy needs to be restructured from a mass-production system to a diversified quality production system (Rodgers, 1993). For this transition, fostering competitive capacity of SMEs is essential. Two indicators, wages and manpower shortage rates, suggest that SMEs have had hard times in moving themselves from low value-added sectors to high value-added sectors.

This paper focuses on recent trends of wages and manpower shortage rate of the SMEs. This paper finds main reasons of widening wage differentials by the firm size and increasing manpower shortage rates of SMEs from characteristics of industrial restructuring. Industrial restructuring after the 1980s has proceeded in such a way that unproductive low wage sectors were transferred from large firms to SMEs. In that process, wage differentials by the firm size has increased simply because most of SMEs employment are generated in low wage sectors. The shortage rate is inversely



correlated with firm size. This is mainly because SMEs offer lower wage. As will be shown later in this paper, the SMEs' high manpower shortage rates, especially for production workers, are also closely related with the characteristics of industrial restructuring.

In the next section, the general explanation on Korean SMEs is given. analysis of characteristics of structural change in manufacturing sectors follows. Lastly, this paper identifies implications on HRM (Human Resource Management) policies for SMEs. Some government policies for inducing more productive workers to SMEs are reviewed and partly evaluated.

#### THE SMEs IN KOREA

The major criterion of defining SMEs in Korea is the size of employment. The Basic Law for SMEs defines various cut-off levels of employment size for various industries.2 In general, SMEs are defined as firms with less than 300 employees. < Table 1> shows various statistics of the SMEs in the manufacturing sector. As presented, the SMEs accounted for 99.1 percent of establishments, 69.3 percent of employment, and 46.5 percent of value added in manufacturing sector for the year of 1997. As shown in the table, the proportion of SMEs' employment has risen at a much faster rate than the proportion of SMEs' value-added in manufacturing sector. This suggests that restructuring has proceeded in a way that unproductive low wage sectors are transferred from large firms to SMEs in the manufacturing industry.

93 94 96 97  $90,4\overline{47}$ The number of 71,105 73,657 87,913 95,285 96,241 91,324 **SMEs** (98.5)(98.6)(98.9)(99.0)(99.0)(99.1)(99.1)Employment in 1,853 1,845 1.987 2.026 2.034 1,870 2,006 **SMEs** (69.3)(63.5)(65.8)(68.9)(69.1)(68.9)(69.2)( in thousand persons) Value added of 54,549 63,748 73,808 82,281 84.148 39,563 45,662 **SMEs** (45.8)(47.6)(50.3)(49.2)(46.3)(47.2)(46.5)(in billion won)

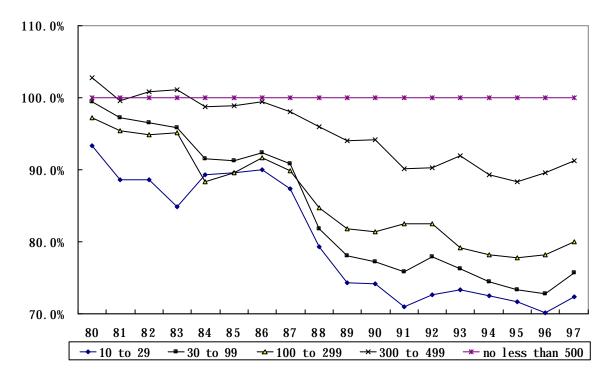
<Table 1> The SMEs in the manufacturing sector

Note: The number in bracket denotes a ratio to whole manufacturing sector.

Source: National Statistical Office, Report on Mining and Manufacturing Survey, Relevant Issues

#### THE WAGE DIFFERENTIALS BY FIRM SIZE

<Figure 1> Change in Relative Average Wage by Firm Size (Average of Establishments Hiring more than 500 Employees=1)



Source: Ministry of Labor, Report on Monthly Labor Survey, Various Years

The wage differentials by industry, occupation, education and gender have been diminished in Korea since 1980's. Wage differentials by firm size, however, have increased substantially. Wage differentials by firm size have abruptly increased since the June 29th Declaration in 1987.3 As is shown in <Figure 1>, the wage differential by firm size abruptly widened from 1987 to 1989. The trend of widening wage differentials by firm size persisted afterwards. The financial crisis of 1997, however, somewhat mitigated widening trend.

For widening wage differentials by firm size, many studies have given union effect as a major source. The effect of union on wages is greater in firms with more employees, since unionization rates are highly correlated with firm sizes or their relation to *chaebols*.

According to 1992 estimates, the unionization rate of firms employing 10 to 99 workers was below 10 per cent, while the rate was above 60 per cent for firms employing 1,000 or more workers. The sectoral unionization rate was estimated to increase 5 per cent as the employment share of *chaebols* increases by 10 percent in a particular industrial sector. Workers employed by big businesses, especially *chaebols*, have greater incentives to organize unions as means for rent-seeking activities. When they organize unions, they can exercise greater leverage on bargaining tables not only because of their membership size but also because of rents accrued in their



establishments through government backup for the big enterprises (Lee and Kim, 1997).

The unionization explanation, however, is not sufficient. As is shown in <Table 2>, the unionization rate jumped suddenly in 1987, reached its peak in 1989 and then gradually declined. As shown in <Figure 1> and <Table 3>, the relative wage of SMEs has been persistently declining.

< Table 2> Trends in the Unionization Rate

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
(A)	15.7	15.5	17.3	22.0	23.3	21.5	19.7	18.4	17.2	16.3	15.3	14.7
(B)	12.4	12.3	13.8	17.8	18.6	17.2	15.9	15.0	14.2	13.5	12.7	12.2
(C)	16.9	16.8	18.5	19.5	19.8	18.4	17.2	16.4	15.6	14.5	13.8	13.3

Note: (A): the number of unionized workers divided by the total number of permanent employees in the non-agricultural sector

- (B): the number of unionized workers divided by the number of employees including both permanent and temporary workers
- (C): the number of unionized workers divided by the number of employees excluding civil servants and private school teachers

Source: Ministry of Labor, Yearbook of Labor Statistics, Relevant Issues

< Table 3> Relative wage of SMEs in manufacturing sector

	1980	1985	1987	1989	1991	1993	1995	1996
Relative Average								
Wage of SMEs	80.2	75	72.2	66.3	67.2	65.9	64.3	61.9
(Large Firms'	80.2	13	12.2	00.5	07.2	03.9	04.5	01.9
Average Wage=100)								

Source: National Statistical Office, Report on Mining and Manufacturing Survey, Relevant Issues

#### THE SHORTAGE RATE

The manpower shortage rate is inversely correlated with firm size. As presented in <Table 4>, shortage rate of firms with 10 to 29 employees is more than four times higher than that of firms with 500 or more employees. <Figure 2> shows trends in manpower shortage rates by firm size. The inverse relationship between manpower shortage rate and firm size has been persistent.

<Table 4> The Shortage Rate by Firm Size in 1997

	10-29	30-99	100-299	300-499	500 or more
	employees	employees	employees	employees	employees
The	3.67	2.91	2.66	1.41	0.83
Shortage					
Rate					

Source: Ministry of Labor, Reports on Employment Forecast, 1997

9 8 7 6 5 4 3 2 1 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 whole manufacturing — 10 to 29 — 30 to 99 — 100 to 299 — 300 to 499 — 300 to 490 — 300 to 400 —

< Figure 2> Trends in manpower shortage rate by firm size

Source: Minstry of Labor, Report on the Labor Demand, various years

SMEs' high shortage rates do not imply that SMEs have excess demand for labor. Excess demand, by definition, represents firm's willingness to hire more workers at market wage. High shortage rate of SMEs is a consequence of SME's inability to pay raised market wage. Kim and Lee (1997) presented the relationship between the number of bankruptcies of SMEs and the shortage rates as an evidence for this argument. The number of bankruptcy cases was 4,138 in 1990, 6,154 in 1991, 10,761 in 1992, and 9,496 in 1993. Bankruptcy cases increased as much as 75 per cent in 1992, one year after the shortage rate reached its peak, then declined. This suggests that many firms suffered from labor shortages in 1991 might have gone bankrupt in 1992. Hence, SME's high shortage rate has to be regarded not so much as a consequence of excess demand of labor but as a consequence of SMEs' low competitiveness.

In the next section, we investigate the characteristics of structural change in manufacturing sector to identify a possible cause of SMEs' low competitiveness.

# THE CHARACTERISTICS OF STRUCTURAL CHANGE IN MANUFACTURING SECTOR

Manufacturing industries can be classified into different groups with differing characteristics on the basis of criteria such as technology (or R&D intensity), orientation, wage and skills (Papaconstantinou, 1995). Manufacturing industries can be classified on the basis of their R&D intensity into high-, medium-, and low-technology groups. <Table 5> gives list of manufacturing industries belonging to each group according to this aggregation scheme.



<Table 5> Classification of Manufacturing Industries by R&D intensity

High – Technology	Aerospace(3845), computers and office equipment(3825), communication equipment and semiconductors(3832), electrical machinery(383-3832), pharmaceuticals(3522), scientific instruments(385)
Medium – Technology	Chemicals excluding drugs(351+352-3522), rubber and plastic products(355+356), non-ferrous metals(372), no-electrical
	machinery(382-3825), motor vehicles(3843), other transport equipment(3842+3844+3849), other manufacturing (39)
Low- Technology	Food, beverages, tobacco(31), textiles, apparel and leather(32), wood products(33), paper and printing(34), petroleum refining(353+354), non-metallic mineral products(36), iron and steel(371), metal products(381), shipbuilding(3841)

Note: The number in bracket is ISIC (International Standard of Industrial Classification)

Source: OECD, Industrial Policy in OECD Countries: Annual Review 1992

The Manufacturing industries can be classified into the following five groups on the basis of orientation, i.e., primary factors affecting competitiveness. Those are resource- intensive(access to natural resources), labor-intensive(labor costs), scaleintensive(length of production runs), specialized-supplier(differentiated products), and science-based(rapid application of scientific advance). <Table 6> gives list of manufacturing industries belonging to each of the five categories.

< Table 6> Classification of Manufacturing Industries by Orientation

Resource- intensive	Food, beverages, tobacco(31), wood products(33), petroleum refining(353+354), non-metallic mineral products(36), non-ferrous metals(372)
Labor- intensive	Textiles, apparel and leather (32), fabr. Metal products(381), other manufacturing (39)
Specialized Supplier	Non-electrical machinery(382-3825), electrical machinery(383-3832), communication equipment and semiconductors(3832)
Scale- intensive	Paper and printing(33), chemicals excluding drugs(351+352-3522), rubber and plastics(355+356), iron and steel(371), shipbuilding(3841), motor vehicles(3843), other transport(3842+3844+3849)
Science- based	Aerospace(3845), computers(3825), pharmaceuticals(3522), scientific instruments(385)

Note: The number in bracket is ISIC (International Standard of Industrial Classification) code

Source: OECD, Structural Adjustment and Economic Performance, 1987

Manufacturing industries can be classified into high-, medium-, and low wage groups. This classification uses average labor compensation across nine countries (Australia, Canada, Finland, Germany, Japan, Norway, Sweden, United States and United Kingdom) for 1985. The high-wage group is defined as industries in which the wage was more than 15 per cent above the median, the medium wage group as industries within 15 per cent of the median, and the low-wage group as industries at least 15 per cent below the median (Papaconstantinou, 1995). <Table 7> Shows list of manufacturing industries belonging to each group.

<a href="#"><Table 7> Classification of Manufacturing Industries by Wage</a>

High	Chemicals excluding drugs(351+352-3522), Aerospace(3845),						
Wage	pharmaceuticals(3522), petroleum refining(353+354), computers and office						
	equipment(3825), motor vehicles(3843)						
Medium	paper and printing(34), rubber and plastic products(355+356), non-metallic						
Wage	mineral products(36), ), iron and steel (371), non-ferrous metals(372), metal products(381), shipbuilding(3841), non-electrical machinery(382-3825), communication equipment and semiconductors(3832), scientific						
	instruments(385)						
Low	Food, beverages, tobacco(31), textiles, apparel and leather(32), wood						
Wage	products (33 electrical machinery (383-3832), other transport equipment						
	(3842+3844+3849), other manufacturing (39)						

Note: The number in bracket is ISIC (International Standard of Industrial Classification) code

Source: Papaconstantinou, Globalization, Technology, and Employment: Characteristics and Trends, STI Review No. 15, OECD, 1995

The estimates of the proportion of production workers in manufacturing employment by industry can be also basis of classification. Industries with high estimates are classified as unskilled and industries with low estimates are classified as skilled. In <Table 8>, list of manufacturing industries belonging to skilled and unskilled are given.

<Table 8> Classification of Manufacturing Industries by Skills

Skilled	Food, beverages, tobacco(31), paper and printing(34), Chemicals excluding							
	drugs(351+352-3522), pharmaceuticals(3522), petroleum							
	refining(353+354), fabricated metal products(381), computers and office							
	equipment(3825), communication equipment and semiconductors(3832),							
	aerospace(3845), scientific instruments(385)							
Unskilled	Textiles, apparel and leather(32), wood products (33), rubber and plastic							
	products(355+356), non-metallic mineral products(36), iron and steel (371),							
	non-ferrous metals(372), non-electrical machinery(382-3825), electrical							
	machinery (383-3832), shipbuilding(3841), motor vehicles(3843), other							
	transport equipment (3842+3844+3849), other manufacturing (39)							

Note: The number in bracket is ISIC(International Standard of Industrial Classification) code

Source: Papaconstantinou, Globalization, Technology, and Employment: Characteristics and Trends, STI Review No. 15, OECD, 1995

In the following, we analyze the characteristics of structural change in manufacturing sector from 1973 to 1996, using aforementioned four aggregation scheme of manufacturing sector on the basis of technology, orientation, wage and skills. Employment growth of large firms and SMEs are differentiated.

The employment growth of Korean manufacturing sectors since 1970's led by SMEs. From 1973 to 1996, the employment of SMEs has grown at an annual rate of 5.9

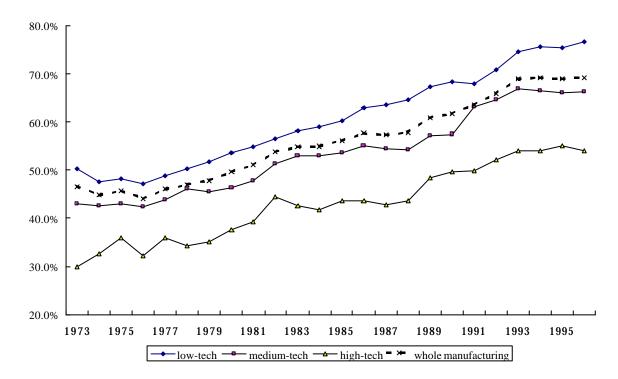


per cent whereas the employment of large firms has grown at an annual rate of 1.6 per cent. Consequently, the proportion of SMEs' employment in manufacturing sector increased from 46.6 per cent in 1973 to 69.2 per cent in 1996.

The proportion of SMEs' employment in each group of aforementioned four aggregation schemes by technology, orientation, wage and skills has changed very differently. <Figure 2> shows the proportion of SMEs' employment in each group of aforementioned four different classifications.

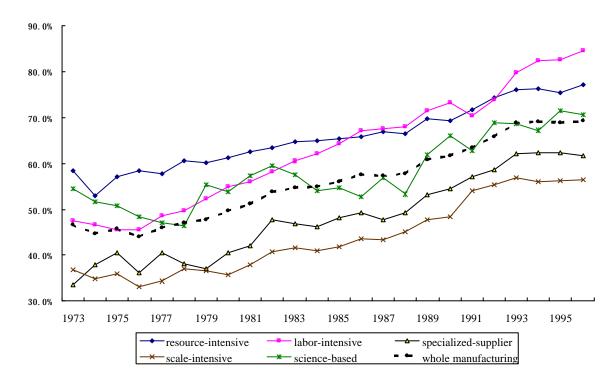
<Figure 2> The Trends in Proportion of SMEs' Employment Under Four Different Aggregation Schemes For Manufacturing Sector

#### (1) By Technology

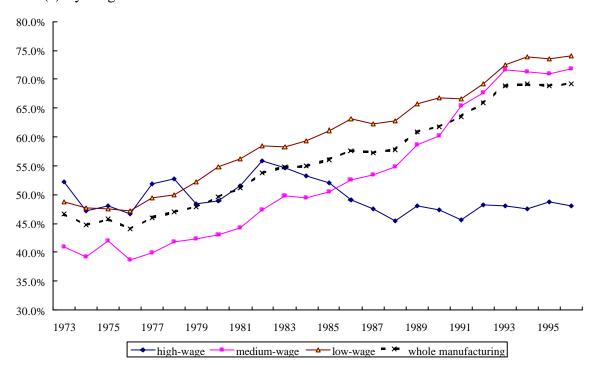




## (2) By Orientation

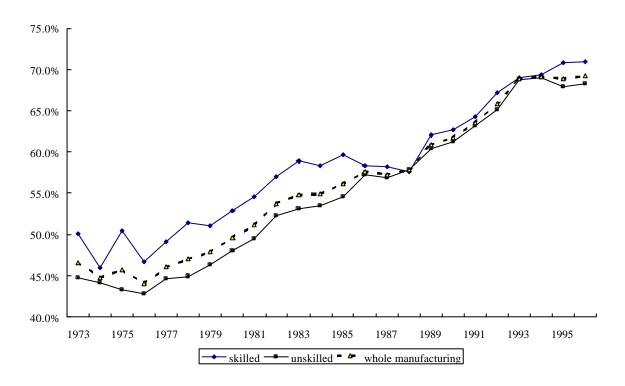


### (3) By Wage





# (4) By Skills



According to classification by technology, the proportion of SMEs' employment grew most rapidly in low-technology segment of manufacturing sector. As of 1996, the proportion of SMEs' employment is 54 per cent in high-technology segment, 66.2 per cent in medium-technology segment and 76.6 per cent in low-technology segment. From 1973 to 1996, the employment of SMEs in low technology segment increased at an annual rate of 4.6 per cent whereas the employment of large firms in the same segment decreased at an annual rate of 0.6 per cent.

Classifying manufacturing industries in terms of orientation shows also divergent path for large firms and SMEs in employment growth. For example, in labor-intensive industries, SMEs' employment grew at an annual rate of 4.5 per cent for the period between 1973 and 1996. The large firms' employment in labor-intensive industries for the same periods, however, declined at an annual rate of 3.4 per cent. In consequence, the proportion of SMEs' employment in labor-intensive sectors increased from 47.5 per cent in 1973 to 84.5 per cent in 1996. The speed of SMEs' employment growth was fastest in specialized-supplier industries. In this segment, the SMEs' employment grew at an annual rate of 10.6 per cent. However, the proportion of SMEs' employment in specialized-supplier segment as of 1996 recorded 61.6 per cent, which was lower than proportion of SMEs' employment in whole manufacturing industries, 69.2 per cent for the same year.

A similar divergent trends of SMEs' and large firms' employment growth can be found when manufacturing industries are classified on the basis of wages. In low-wage segment, SMEs' employment had grown 1.6 per cent annually. The large firm's employment in low-wage segment, however, declined at an annual rate of 0.5 per cent. In the high-wage segment, large firm's employment grew at an annual rate of 7.0 per cent and SMEs' employment grew at an annual rate of 6.2 per cent. As a consequence, the proportion of SMEs' employment in low-wage segment increased from 48.8 per cent in 1973 to 74.1 per cent in 1996, and the proportion of SMEs' employment in high-wage segment declined from 52.2 per cent to 48.1 per cent for the same period.

Classifying industries in terms of skills does not show divergent path for SMEs' and large firms' employment. Although employment growth rate of unskilled segment turned out to be somewhat higher than that of skilled segment for SMEs and the opposite is true for large firms, there's no real difference in employment growth of skilled segment and unskilled segment. This is mainly because even large firms in Korea failed to make a transition from production worker intensively using sectors to knowledge worker intensively using sectors. The proportion of SMEs' employment in skilled segment had been greater than the proportion of SMEs' employment in whole manufacturing industries for the whole periods under investigation, from 1973 to 1996. In other words, large firms' employment in skilled segment had been smaller than the proportions of large firms' employment in whole manufacturing industries.

The demand for production workers has been strong regardless of the firm size. Combined with absolute reduction of the labor force and the decline of labor force participation rate caused by increasing enrollment in higher education, this strong



demand led to severe shortage of the production workers. The SMEs faced more severe shortage problems, because large firms usually offered higher wage for production workers. Some large firms offered higher wage for production workers because of union threat. Other large firms offered higher wage, simply because they belong to high wage segment of the industries.

It is shown that the employment growth of SMEs and large firms in manufacturing industries followed divergent path. The SMEs' employment growth in low value-added sector, i.e., low-technology, labor- intensive, low-wage and unskilled sectors, have risen faster than SMEs' employment high value-added sectors. Large firms' employment has been mainly increased in high value-added sectors. However, the employment growth of both large and small firms has been concentrated on an unskilled sector, a production worker-intensively using sector. This widened the wage differentials of production workers by firm size and concurrently led to severe shortage of production workers for SMEs, which has little ability to pay high wage to production workers because they usually belong to low-wage sectors. Korea needs to push SMEs forward to high value-added sector. Pulling large firms out of production worker intensively using sectors would greatly help to facilitate this process.

#### GOVERNMENT POLICIES FOR SMEs' HUMAN RESOURCE **DEVELOPMENT**

It's been for a while since government recognized the importance of innovative SMEs. In February 1996, the Small and Medium Business Administration(SMBA) was established as a ministry level for better formulation and implementation of SME Government has implemented various measures for human resource policies. development of SMEs.

The rapid expansion of university enrollment in 1980s led to substantial reduction of vocational education. Vocational education institutions had been degraded into second rate schools chosen only by students who had failed to qualify for universities. Furthermore, obsolete curriculum failed to meet rapidly changing industrial needs. Quantitative and qualitative degradation of vocational education resulted in shortage of skilled manpower. Confronted with this problem, the government focused more attention on vocational education in the 1990s. The proportion of vocational high school enrollment to total high school enrollment returned to 42 per cent in 1995 from 45 per cent in 1980 and 35 per cent in 1990. To cope with the difference between vocational curriculum and industrial skill requirements, the "2+1 system for technical high schools" was adopted to upgrade vocational training adaptability by packaging two years of academic study with one year of on-site training in industry.

Before financial crisis, labor market had been relatively tight and government focused on reducing the shortage rate of SMEs. Women, the elderly and foreign workers were induced into the labor force with various incentives. 4 The current immigration law does not allow entry of unskilled laborers except as trainees. The trainee system was originally designed to upgrade skills of foreign workers employed overseas by Korean firms, but it has evolved be used as a means of easing labor

shortage in small manufacturing firms(Y. Park, 1996). Trainees are protected under major articles of the Labor Standards Act, Minimum Wage Act, Industrial Safety and Health Act, Industrial Accident Compensation Insurance Act and Medical Insurance Act. Illegal workers are not protected under these laws. A lion's share of foreign workers are illegal workers. This produces some negative side effects. Illegal workers experience inferior working conditions and are paid much less than legal workers. Some non-governmental organizations have tried to establish equal treatment for illegal foreign workers in vain.

With government incentives, more employers adopted labor-saving automated technology. 5 Government adopts various tools to induce more workers to SMEs. Career counseling services were introduced for general high school graduate, and job information service were introduced for the unemployed (PECC, 1994). Tax incentives were also offered to reduce the shortage. Income tax for foreign technicians is exempted for the first five years. For SMEs, 15/100 of expenses disbursed for technology and manpower development is given as a tax credit, while for large firms the rate is 5/100. The technical manpower of SMEs in capital goods industry gets taxable income deduction according to the number of years of work in capital goods industry. For workers with working experience of more than 3 years and below 7 years, 10/100 of wage is deducted. For workers with working experience of more than 7 years and below 12 years, 20/100 of wage is deducted. The rate is 30/100 for workers who have worked in the capital goods industry more than 12 years.

Government has been implementing military service exemption program for research personnel and technicians. The research personnel can be exempt from military service, when he works at the designated private corporate research institutes or public research institute for five years. To be eligible for exemption, the recruit should have at least master's degree. For those who apply for SMEs, however, the candidates with bachelors' degree are also eligible. To be selected as a designated research institute for this program, the institute has to secure at least five personnel responsible for research activities who hold at least master's degree(for SMEs, two research personnel with master's degree would suffice). Technicians with national certificate for skills can be exempt from military services, when he works at designated enterprises for three years.

<Table 9> Evaluation on government's HRM policies for SMEs

Human Resource Management Policies	Rank	Grade
Military service exemptions for technician	1	79.4
Trainee system for foreign workers	2	73.4
Vocational training of MOL(Ministry of Labor)	5	54.6
Tax credit for technology and manpower development	3	63.4
Taxable income deductions for workers in capital good industries	4	62.1
Military service exemptions for research personnel	6	53.9

Source: KFSB, Report on technology and manpower development of SMEs, 1997



In 1997, Korea Federation of Small Business(KFSB) conducted employer survey on the effectiveness of government's human resource management policies for SMEs. <Table 9> summarizes the results of this survey. Interestingly, employer regarded the military service exemption for technicians most helpful and the exemption for research This manifests that SMEs' labor demand concentrated on personnel least helpful. technician level rather than on researcher level.

In the wake of economic crisis, the unemployment rate soared from 2.6% in 1997 to 6.8% in 1998. The maximization of job creating potential of SMEs became an urgent policy priority under the high unemployment conditions. In consequence, the policy instruments for innovative SME's start-up has been emphasized. policies are centered on providing essential resources for start-up of innovative SMEs. Financial support is available through Korea Technology Credit Guarantee Fund for technologically superior SMEs. Various technological guidance program and management training program are offered by SMIPC (Small and Medium Size Industry Promotion Corporation), an affiliated agency of SMBA. Technology business incubators have been established in regional universities with government support.

With the entry of competitive SMEs into the market, rents generated by the monopoly in a particular product market will diminish and the wage differential between large conglomerates and SMEs will be narrowed down. The mobilization of redundant workforce of large firms to SMEs will be facilitated by the start-up of the technology intensive SMEs. The segregation of the labor market by firm size will be mitigated in every aspect. The SMEs in the future will have higher wage levels and more skilled workers. The degree of this transition largely depends on the proper development of the human resource management practices of the SMEs.

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#### Notes

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<sup>&</sup>lt;sup>1</sup> Many sees excessive diversification of chaebols as a major factor undermining chaebols', consequently Korea's competitiveness. However, some studies have produced partial evidence on the efficiency-neutrality of chaebols' diversification. One study sees the diversification of chaebols as a logical response to changing market fundamentals and the government business relationship (Yoo and Lee, 1997).

<sup>&</sup>lt;sup>2</sup> Cut-off levels are 300 employees for manufacturing sector with a few exceptions, 20 employees for electricity, gas and water supply industry, 20 employees for wholesale & retail trade and other service industry, for example.

<sup>&</sup>lt;sup>3</sup> The June 29<sup>th</sup> Declaration of 1987 is the declaration of political liberalization. However, it greatly affected the labor market rather than politics. The government changed its position in the labor market from strong intervention to laissez-faire. This led to rapid unionization, and consequently substantial increase in wages.

<sup>&</sup>lt;sup>4</sup> Employment Equality Act was enacted in 1987 to ensure equal opportunity and treatment of men and women in employment. The Aged Employment Promotion Act was enacted in 1991 and became effective in 1992. The aged is defined as being a person fifty-five years of age and older. According to this law, the Minister of Labor recommends and employer to meet standard employment rate for age workers in proportion to regular workers. For example, employers hiring over 300 workers are recommended to have 3 per cent of its workers in this age category.

<sup>&</sup>lt;sup>5</sup> In the case of investment in productivity improvement facilities, 5/100 of investments is given as a tax credit.