

# Economic Change and Regional Development Disparities in the 1990s in Korea

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## Abstract

*This paper examined regional development disparities in Korea in the 1990s. The disparities between the capital and non-capital regions and between the Yeongnam industrial districts and the rest of the country did not lessen even after the economic crisis in the late 1990s. With Seoul's traditional functions extended to the capital region, concentration there was able to proceed uninterrupted. Inside the Yeongnam region, the traditional large cities have shown signs of decline, whereas economic activities are flourishing in the industrial districts that functioned as a center of manufacturing products in the 1980s. Regional economic activities in the 1990s were determined by such regional economic circumstances as conditions for business management and the clustering of economic actors within industrial complexes. The process of upgrading existing industries took place in the Yeongnam industrial districts, where corporate relationships between parents and subcontractors have taken root. The growth of new high-tech industries began in the capital region, where financial resources are easily available and research institutions are concentrated. Differences in regional economic development produce disparities within the labor market and between household incomes as well.*

**Keywords:** regional disparities, household income disparities, industrial complexes, IT industry, Korea

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## Introduction

This paper aims to analyze regional development disparities in Korea in the 1990s, when the country experienced an array of rapid economic changes. Until the 1980s, regional development in Korea was characterized by disparities between Seoul and the rest of the country, and between the Yeongnam region (Southeast Korea) and the non-Yeongnam regions (Kim Wang-Bae 2003; Kim Won Bae 2003). Population concentration in Seoul—traditionally the economic and administrative center of the country—evolved into hyper-concentration of population in the area. Regional inequalities were aggravated to such a degree that more than half of the country's entire population resided in Seoul and six metropolitan cities—Busan, Daegu, Incheon, Gwang-ju, Daejeon, and Ulsan. The Yeongnam region, housing several industrial cities like Changwon, Gumi, Pohang, and Ulsan, grew into the central manufacturing district in the process of a heavy industry push beginning in the 1970s, whereas the Honam and Gangwon regions lagged behind (Kim Y. 1997; Kim Wang-Bae 2003; Kim Won Bae 2003). Did such regional economic disparities continue during the 1990s, which witnessed more drastic economic changes? What regional development disparities emerged in the 1990s?

The 1990s was an important period in the process of Korea's regional development as the government executed many strategies to resist regional development disparities. In this decade, the government regulated centralization in the capital region and encouraged balanced development among regions by pushing forward more concrete strategies, which had been launched in the mid-1980s for this purpose. It also created new legislation, such as the Industrial Placement and Factory Construction Act in 1990 and the Enforcement Decree of the Seoul Metropolitan Area Readjustment Planning Act in 1994, in order to regulate corporate concentration in the capital region by restricting plant construction (Yi S. 2002).

The 1990s also marked a shift in government role with new economic policies. The economic crisis in 1997, which brought a great amount of failed business and a rise in unemployment, evinced the

stalled efficacy of the state-led economic growth strategy since the 1970s, namely the export-oriented industrialization strategy centered on heavy and chemical industries (Kim G. 2002). To overcome the economic crisis, the government undertook restructuring in the four main fields of finance, business conglomerates, public investment, and labor. The government also energetically encouraged heavy and chemical industries to target greater value-added products, and forcefully promoted the information and telecommunication (IT) industry. Keeping step with a global expansion of knowledge-based information and technology industries, the government promoted several new industries producing digital devices, IT parts, and software (Kim Won Bae 2003). As a result, the production scale of the IT industry grew 20% a year, and its weight in Gross Domestic Product maintained 10% in 2000 (KAIT 2001).

Such 1990s trends were bound to impact the process of regional development greatly. Generally speaking, government policies and the promotion of new industries change regional communities by restructuring the space of economic activities (Lovering 1989). Regions failing to improve the competitiveness of their existing industries or obtain government support lag behind, while regions successful in obtaining government backing or fostering new industries shift into new growth districts where numerous businesses cluster. For example, Detroit that witnessed the fall of the motor industry in the 1980s is a case in point of the former, whereas the Silicon Valley, the origin of the IT industry, is that of the latter. Theoretically, in Korea, a successful implementation of the capital region containment policy in the 1990s would have a positive effect on checking industrial concentration in the capital region and curtailing disparities in regional development. If new manufacturing investments and the fostering of the IT industry were concentrated in particular regions, however, the economic activities of such regions would greatly diverge from those of other regions.

Through a detailed analysis of regional development disparities in the 1990s, this paper attempts to find answers to these questions: Did the balanced regional development policy in the 1990s succeed in

reducing the regional economic disparities of the past? What effects did fostering the IT industry have on the regional development of Korea?

## **Theoretical Perspectives on Regional Development Disparities**

### *Political Economy and the Theory of Spatial Division*

Political economy scholars explain unbalanced regional development with the logic of capital accumulation. Progress in capital accumulation results in geographical expansion in the production of capital goods on the one hand, and facilitates geographical concentration of such production on the other (Bak and Kim 2000; Mothe and Gilles 1998). Political economy scholars studying changes in spatial structure hence analyzed the process through which changes in capital accumulation revamp regional structure (Harvey 1990; Lipietz 1980).

Established studies explaining regional development disparities in Korea have most often cited this perspective (Kim W. 1992, 1997). With the production system of “peripheral Fordism” taking root in the 1970s in Korea as a result of capital globalization and the international division of labor, there occurred the spatial differentiation between the capital and non-capital regions and between the Yeongnam and non-Yeongnam regions. Seoul and the capital region grew into a region performing the functions of administration and management, while large Yeongnam industrial cities like Ulsan and Changwon assumed production functions specialized in the manufacturing of chemical products, shipbuilding, automobile, machine equipment and steel products (Kim W. 1997). By contrast, the Honam, Gangwon, and Chungcheong regions witnessed stagnation or decline in their economies due to lack of experience in peripheral Fordist capital accumulation.

It is widely known that spatial division in Korea is also closely related to the state’s economic development strategy. The Korean government has a “developmentalist” feature: the growth-oriented

state structure represented by the now-defunct Economic Planning Board fostered particular districts on a selective basis by developing those districts equipped with growth potential and substantial development effects. In constructing infrastructure facilities, the state gave priority to areas directly related to economic growth, causing discrepancies in regional development (Kim W. 1997).

However, such a perspective does not explain changes in regional space taking place in the globally expanding flow of information-related industries. The concept of “peripheral Fordism” emphasizes the process through which the functions of management, research, and production in the manufacturing sectors are divided spatially (Massey 1984; Lipietz 1980). By contrast, knowledge-based economic activities based on value creation and the reproduction of knowledge and information is more significant in industrial activities in informatization society. The development of the computer and telecommunication industries, which began in advanced countries, generates change in the production process of enterprising organizations. Its effects were so pervasive as to restructure the industrial structure itself with the decline of traditional manufacturing industries and the growth of information-related industries. In Korea, the IT industries have rapidly developed since the 1990s, though manufacturing industries are still of considerable weight. Given such realities, we need a new perspective to understand these industrial and geographical changes.

### *New Economic Geography and the Theory of Industrial Districts*

Another explanation of disparities in regional economic development is the theory of industrial districts. This theory stresses business concentration in a particular area or the anchoring of inter-corporate relations in a fixed region. Corporations endeavor to reduce the transaction costs of information and products and accumulate capacities in technology and production renovation by maintaining cooperative relationships with other corporations (Granovetter 1985; Williamson 1985). Many researchers cite this perspective in explaining the formation of industrial districts as follows: Industrial districts are formed

when social infrastructures such as transportation and telecommunication networks are constructed and when inter-corporate networks are embedded in a particular district (Bak 1999; Markusen 1996; Cooke 1995).

Generally speaking, industrial districts can be classified into old and new industrial areas. Old industrial areas, characterized by spatial proximity and the anchoring of firms in their home base, are formed when social infrastructures like large plots of land and roads are constructed and manufacturing firms congregate. New industrial areas are formed when the activities of corporate support service—such as research and development, financing and real estate—congregate in groups of large cities, and when high-tech industrial complexes concentrate in the peripheries of large cities (Bak et al. 1999; Castelles 1989; Scott 1988). Thus classification by pattern of industrial districts is suggestive in that it pays attention to traditional industrial areas centered on manufacturing industries as well as the development of new industrial areas centered around the IT industry.

The theory of industrial districts notes disparities in regional development by stressing the possibility that capital concentrates in a particular district. In accordance with the degree of development of social infrastructures, human resources, inter-corporate relations, and information service industries, a division is created between old industrial districts (where manufacturing production activities are agile) and the other regions, and between new industrial districts (where the IT industry agglomerate) and the others. The divisions between regional economies cause differences in areas such as education, environment, cultural life and welfare as well.

### **Regional Economic Disparities in the 1990s**

#### *Overview: Regional Disparities in Population and Industrial Activities*

Since Korea began industrializing in the 1960s, its population composition has been characterized by concentration in large cities and

overpopulation in the capital region. The population of large cities soared from 30% in 1970 to 42% in 1980 due to a high population increase in the three traditional large cities such as Seoul, Busan, and Daegu.<sup>1</sup> Many people migrated from rural areas to new industrial cities such as Ulsan, Pohang, and Ansan. The most striking population rise occurred in the capital region. The population share of the capital region continuously rose, and finally soared to 42.8% in 1990. Given that the area of the capital region accounts for only 12% of the nation's total area, the capital region was clearly already overpopulated in the 1980s.

The capital region's overpopulation accelerated in the 1990s. In 2000, the population of Seoul accounted for 21.4% of the entire population, and the capital region, including Gyeonggi-do province and Incheon, came to 46.3% of the total. Regions other than the capital region saw no noticeable changes since the 1980s, except for Busan, which experienced a population decrease to 7.9% in 2000.<sup>2</sup>

The most conspicuous change in the capital region's population composition in the 1990s was a population decrease in Seoul, and increase in areas surrounding the capital. Whereas Seoul's population share fell to 21.4% in 2000, that of Gyeonggi-do province rose from 14.2% in 1990 to 19.5% in 2000 and that of Incheon also increased. More people moved out of Seoul into Gyeonggi-do province and Incheon than the other way around. Between 1995 to 2000, for example, approximately one million people migrated from Seoul to Gyeonggi-do province (Table 1).

Population migration in the 1990s is closely related to each region's economic conditions and industrial activities. In 2000, the capital region accounted for 43.2% of the nation's Gross Regional Domestic Product (GRDP hereafter). As suggested by the changing

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1. The statistics on the population came from KOSIS (Korean Statistical Information System) Database.
  2. The population share of the Yeongnam region that occupied 29% of the total in 1990 remained more or less the same level in 2000, and that of Chungcheong-do provinces maintained an 11% level. But among the six metropolitan cities, only Busan saw its population share drop beginning in 1990.

Table 1. Population Migration in the Capital Region

(Unit: 1,000 persons, %)

	1985-1990	1995-2000
Migration within the capital region	1,656 (100)	1,962 (100)
Gyeonggi-do → Seoul	440 (26.6)	432 (22.0)
Gyeonggi-do → Incheon	102 (6.2)	122 (6.2)
Incheon → Seoul	64 (3.9)	65 (3.3)
Incheon → Gyeonggi	65 (3.9)	119 (6.1)
Seoul → Gyeonggi-do	825 (49.8)	1,098 (55.9)
Seoul → Incheon	160 (9.7)	126 (6.4)
Migration to the capital region	1,547 (100.0)	1,130 (100.0)
Seoul ← outside capital region	829 (53.6)	535 (47.3)
Incheon ← outside capital region	151 (9.8)	96 (8.5)
Gyeonggi-do ← outside capital region	567 (36.6)	499 (44.2)
Migration from the capital region	622 (100.0)	881 (100.0)
Seoul → outside capital region	392 (63.0)	432 (49.0)
Incheon → outside capital region	45 (7.2)	95 (10.8)
Gyeonggi-do → outside capital region	185 (29.8)	354 (40.2)

Source: Choe (2002).

process of population composition, the GRDP share of Gyeonggi-do province rose from 15.5% in 1990 to 18.7% in 2000, while that of Seoul fell from 26.3% to 20.3% (Table 2). Given the fallen GRDP share of Seoul and low GRDP share of Incheon, increased production activities in Gyeonggi-do province warrant a closer analysis.

Production activities of regions other than the capital region maintained a similar trend in the 1980s and 1990s. The Yeongnam region preserved a high production scale, about twice as high as that of the Honam region and higher than that of the Chungcheong region, including Daejeon. The traditionally backward Honam and Chungcheong regions still remained stagnant in the 1990s, while the Yeongnam region continued to function as an important production



base (Kim Won Bae 2003). Within the Yeongnam region, however, the weight of Gyeongsang-do provinces maintained an 18% level, whereas Busan fell from 7.8% to 5.8%. Such trends indicate that the Yeongnam region's economic activities are concentrated on its industrial cities, rather than the traditional large cities. The trends also provide some implications to the decline of the population in traditional large cities in the Yeongnam region.

*Table 2. Weight of Gross Regional Domestic Product (GRDP)*

(Unit: %)

	1985	1990	1995	2000
Nationwide	100	100	100	100
Seoul	25.8	26.3	23.6	20.3
Busan	8.2	7.8	6.7	5.8
Daegu	3.9	4.1	3.9	3.2
Incheon	4.3	4.9	5.0	4.2
Gwangju	—	2.2	2.4	2.1
Daejeon	—	2.4	2.2	2.1
Ulsan	—	—	—	4.8
Gyeonggi-do	12.9	15.5	17.0	18.7
Gangwon-do	3.7	3.0	2.7	2.5
Chungcheongbuk-do	3.4	2.9	3.3	3.5
Chungcheongnam-do	6.1	3.5	4.1	4.3
Jeollabuk-do	4.1	3.5	3.6	3.2
Jeollanam-do	7.6	5.2	5.3	4.9
Gyeongsangbuk-do	7.4	6.8	6.7	6.3
Gyeongsangnam-do	11.6	10.9	12.2	6.6
Jeju-do	0.9	1.0	1.0	0.9

Note: Under the 1997 administrative area revamping, Ulsan was elevated to a metropolitan city, and taken out of Gyeongsangnam-do province.

Source: KOSIS (Korean Statistical Information System) Database.

*Restructuring of the Seoul Capital Region*

The capital region's substantive changes involving population composition and production activities imply the spatial expansion of Seoul and spatial restructuring of the capital region in the 1990s. The spatial expansion of Seoul can be verified by the population increase in the Gyeonggi-do province surrounding Seoul. When the government constructed mammoth apartment complexes in Yongin and Bundang along the Seoul-Busan highway and in Ilsan (northwest of the capital) in an effort to resolve the Seoul's overpopulation, many Seoulites moved to the new towns. Given that the new towns are bed towns all located within 15 to 20 km from Seoul, the increased population in Gyeonggi-do reflects a fact that some Seoul citizens have merely relocated their residences to the new towns in Gyeonggi-do province (Yi G. 2002).

The distribution of major public agencies and industrial facilities also shows the spread of functions from Seoul to the capital region (Table 3). 59.3% of central government agencies, 65.4% of enterprises' head offices, and 51.9% of deposits with banking institutions were concentrated in Seoul. When the area is expanded to cover parts of Gyeonggi-do province and Incheon, the concentration of these institutions in the capital region exceeds 65%. Public agencies and private organizations established themselves in areas adjacent to Seoul, faced as they were with restrictions on the establishment of organizations that might induce overpopulation.

A consideration of each region's degree of relative weight according to industry verifies the progression in the 1990s of spatial restructuring of functions performed in the capital region. While Gyeonggi-do has been evolving into a manufacturing center, Seoul still remains the center of administrative facilities and finances (see Figures 1 and 2). In terms of the country's gross manufacturing output in 2000, Gyeonggi-do province accounted for the highest weight of 26.1%, compared to only 5.8% in Seoul. Manufacturing production activities are larger in Gyeonggi-do because the province has invested a great deal of capital in plants and residential buildings, and particularly

Table 3. Concentration in the Capital Region of Major Administrative and Economic Institutions in 2001

(Unit: each, %)

	Central Government Agencies	Gov't-Invested Agencies	Corporations' Head Offices
Nationwide	27 (100)	99 (100)	17,043 (100)
Capital region	27 (100)	83 (83.8)	11,144 (65.4)
Seoul	16 (59.3)	67 (67.7)	8,334 (48.9)
Gyeonggi-do & Incheon	11 (40.7)	16 (16.1)	2,810 (16.5)
Non-capital region	0 (0)	16 (16.2)	5,899 (34.6)

Source: KOSIS (Korean Statistical Information System) Database and Yi S. (2002).

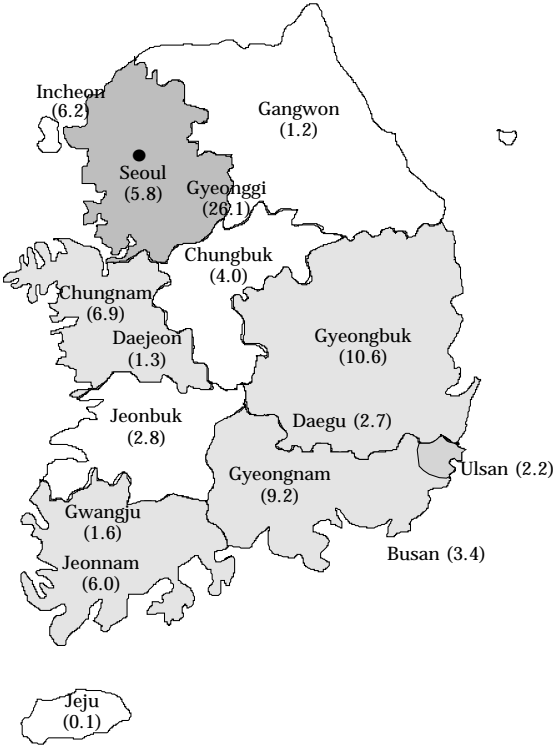


Figure 1. Regional Composition of Manufacturing Output (%)

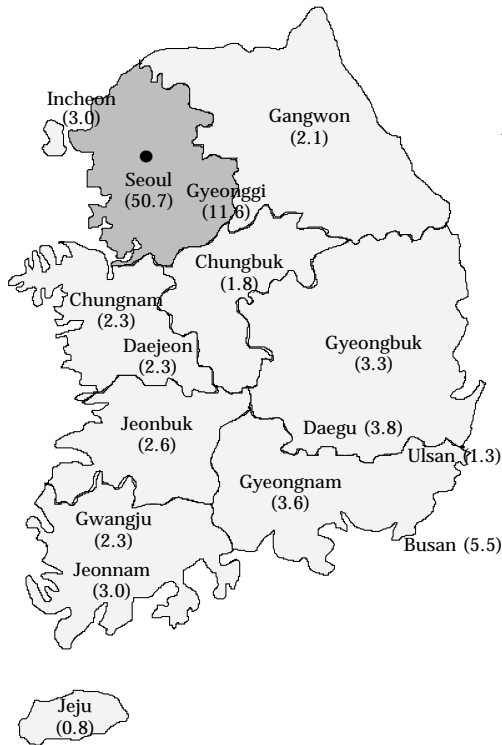


Figure 2. Regional Composition of Finance and Insurance (%)

because transport, warehousing and electronics corporations are clustered in the south of the province. On the other hand, banking institutions flocked to Seoul. The capital contains as much as 51.9% of the nation's entire bank deposits, three times the deposits in Gyeonggi-do province and Incheon combined.

Sassen (1991) asserts that enterprises need to establish their head offices near the stock market, and that major cities develop because professional or business services in banking, law and administration are available. In South Korea, economic activities are concentrated in the capital region, since professional or business services are mostly concentrated in Seoul and social infrastructures

involving manufacturing and logistics are developed in the Gyeonggi-do province.

### *Survival of Industrial Cities and the Decline of Local Large Cities*

Within the Yeongnam region, dynamic economic activities in Gyeongsang-do provinces and Ulsan contrast with economic decline in Busan, traditionally a center of light industries. Yeongnam industrial cities overcame the 1997 economic crisis earlier than other regions due to their continuous production activities (Kim Won Bae 2003). By contrast, Busan lost the competitiveness of its labor-intensive industries as early as the 1980s and failed to foster business or professional service industries like financing in the 1990s (Cho 1993). This led to the continuous fall of the city's production share in the country.

Such phenomena can be verified in the distribution of persons employed and enterprises operating in major industrial complexes where manufacturing firms are clustered. As of March 2001, 17% of the country's total enterprises are concentrated in Gyeongsang-do provinces and Ulsan, where industrial complexes were formed centered around machinery, steel, and heavy industries, while the share of Busan is similar to that of the Honam region, which traditionally lagged behind (Table 4). Comparison of employment numbers at manufacturing firms operating in each regional industrial complexes also indicate that employment is higher in the Gyeongsang-do provinces and Ulsan—which house large corporations—than in Busan and Daegu.

Korea's national and local industrial complexes accommodate substantial production facilities. In an effort to encourage large plants and their subcontractors to integrate their production facilities, the government developed production centers, such as chemical industry complexes and industrial districts, by providing substantial benefits in terms of road construction, industrial water supply, sewer and wastewater treatment system, power supply, and land price. Since the 1980s, the government has supported the clustering of large cor-

*Table 4. The Number of Operating Firms and Their Employment  
in National and Local Industrial Complexes*

(Unit: each, %)

	Number of Firms in Operation			Number of the Employed		
	National Industrial Complexes	Local Industrial Complexes	Total	National Industrial Complexes	Local Industrial Complexes	Total
Nationwide	12,403	5,384	17,427 (100)	537,833	316,443	854,276 (100)
Seoul	906	215	1,121 (6.4)	51,987	2,010	53,997 (6.3)
Busan	218	566	784 (4.5)	7,980	21,473	29,453 (3.4)
Daegu		1,465	1,465 (8.4)		65,763	65,763 (7.7)
Incheon	3,269	391	3,660 (21.0)	58,100	10,863	68,963 (8.1)
Gwangju	47	950	997 (5.7)	4,169	28,029	32,198 (3.8)
Daejeon		244	244 (1.4)		12,275	12,275 (1.4)
Ulsan	560		560 (3.2)		97,581	97,581 (11.4)
Gyeonggi-do	3,840	953	4,793 (27.5)	114,154	45,924	160,078 (18.7)
Gangwon-do	3	179	182 (1.1)	39	6,429	6,468 (0.8)
Chungcheongbuk-do	1	208	209 (1.2)	294	28,661	28,955 (3.4)
Chungcheongnam-do	29	140	169 (1.0)	1,803	16,377	18,180 (2.1)
Jeollabuk-do	163	388	551 (3.2)	7,839	24,650	32,489 (3.8)
Jeollanam-do	161	76	237 (1.4)	27,158	6,443	33,601 (3.9)
Gyeongsangbuk-do	481	659	1,140 (6.5)	77,166	32,112	109,278 (12.8)
Gyeongsangnam-do	900	415	1,315 (7.5)	89,563	15,434	104,997 (12.3)

Source: Korea Industrial Complex Corp. (2003).

porations and their small and medium-sized subcontractors, as well as the cooperative relationship between them.<sup>3</sup> In addition, when research institutions and universities, in collaboration with enterprises, moved to improve production activities, central and local administration agencies extended their support in terms of personnel and financing resources with a view to helping cooperative relationships between businesses and public agencies take roots in industrial complexes.

Disparities between Yeongnam industrial cities and other local economies in the 1990s accordingly reflect those in the degree of corporate integration or inter-corporate relationships within industrial complexes, which were formed before the 1997 economic crisis. Cooperative relationships among enterprises, especially between parent and sub-contractor companies have taken roots in Yeongnam industrial cities (Bak 1999). For example, 70% of small and medium-sized firms in Ulsan established sales networks within the same area, and 58% obtained necessary information there (Jo, Yi, and Hill 2002). In contrast, those in other traditional large cities within the Yeongnam region and the Honam region have had weak foundations for such corporate networks.

### *Growth of Information Technology Industry and Restructuring of Space*

Changes in spatial functions, especially the spatial restructuring in Gyeonggi-do and Seoul that have taken place in the process of regional development in the 1990s, are closely linked with the fostering of information-related industries.

The regional comparison of production activities in the IT indus-

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3. The government enabled private enterprises to develop industrial estates when "three or more enterprises need industrial land for industrial hierarchy and aggregation" or "large enterprises envisaging to occupy a specified proportion of an industrial estate intend to develop an industrial park for the purpose of distributing the remainder of the park to small and medium-sized firms producing related products (Kim G. 1999).

try reveals their concentration in the capital region (Table 5). As many as 67% of the country's IT production output is concentrated in the capital region while the aggregate of the six metropolitan cities falls below 10%. As Castelles (1989) notes, new high-tech industries

*Table 5. Comparison of Information and Telecommunication Industrial Output by Region (2001)*

(Unit: 100 million won, %)

	Information Service Industry	Software Industry	IT Equipment Manufacturing Industries	Entire IT Industry
Seoul	208,520 (72.7)	98,112 (91.4)	153,425 (14.5)	460,057 (31.7)
Busan	15,770 (5.5)	982 (0.9)	6,924 (0.7)	23,676 (1.6)
Daegu	10,632 (3.7)	681 (0.6)	2,824 (0.3)	14,137 (0.9)
Incheon	816 (0.3)	390 (0.4)	27,139 (2.6)	28,345 (1.9)
Gwangju	1,210 (0.4)	181 (0.2)	2,655 (0.3)	4,046 (0.3)
Daejeon	1,163 (0.4)	893 (0.8)	4,036 (0.4)	6,092 (0.4)
Ulsan	493 (0.2)	318 (0.3)	31,277 (3.0)	32,088 (2.2)
Gyeonggi-do	23,420 (8.2)	4,569 (4.3)	464,327 (43.9)	492,316 (33.9)
Gangwon-do	3,763 (1.3)	111 (0.2)	1,842 (0.2)	5,716 (0.4)
Chungcheong- buk-do	3,168 (1.1)	194 (0.2)	53,174 (5.0)	56,536 (3.9)
Chungcheong- nam-do	5,625 (2.0)	39 (0.03)	46,301 (4.4)	51,965 (3.6)
Jeollabuk-do	3,671 (1.3)	155 (0.1)	12,019 (1.1)	15,845 (1.1)
Jeollanam-do	5,985 (2.1)	104 (0.1)	543 (0.1)	6,632 (0.5)
Gyeongsang- buk-do	616 (0.2)	208 (0.2)	201,371 (19.0)	202,195 (13.9)
Gyeongsang- nam-do	742 (0.3)	359 (0.3)	50,993 (4.8)	52,094 (3.6)
Jeju-do	1,290 (0.5)	20 (0.02)	0 (0.0)	1,310 (0.1)
Nationwide	286,884 (100)	107,316 (100)	1,058,850 (100)	1,453,050 (100)

Source: Korea Association of Information and Telecommunications (2001).



are located in the center of financing and administrative activities, away from old industrial districts.<sup>4</sup>

IT production in the capital region, however, differs according to the industrial sector. In Seoul, concentration of software output stands at 91% and that of information services at 73%, whereas Seoul's concentration of IT equipment manufacturing output remains as low as 15%. In contrast, the concentration of software and information services in Gyeonggi-do province falls way behind that of Seoul, but the same IT equipment manufacturing output in Gyeonggi-do is more than triple that of Seoul. With respect to the IT industry, the research and development sector is concentrated in Seoul and the manufacturing sector in Gyeonggi-do province.

In general, the growth of new industry differs by region, according to the degree of development of related industries, the location of big enterprises, proximity to universities and research institutions, and policy support provided by the central government and local administrative agencies (Kwon and Kim 2002). Particularly, the IT industry develops through research and development personnel, banking, and managerial strategy of related industries. It is thus reasonable that information service and software industries concentrate in Seoul, where research institutions are agglomerated and human and financial resources needed for technological innovations are easily available. Information-related firms are clustered in Seoul's Gangnam district, south of the Hangang river, where the networking of economic institutions are easily made (Hwang 2000). In addition, the existence of world-reputed IT firms in Gyeonggi-do has spurred the concentration of small and medium-sized manufacturers in this province, which produce suppliers to the major companies on a sub-contract basis. This led to higher manufacturing output in the IT sectors in Gyeonggi-do province than in Seoul.

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4. Castelles (2000) defines Seoul as one of the mega-cities home to over 10 million people, linking information networks and performing higher functions of production and management.

Government policy changes are also related to the concentration of the IT industry in the capital region. In the interests of technology-intensive small and medium-sized firms, the government halved corporation and income taxes over the past five years, and exempted venture companies' clustering facilities from the "congestion charge" (Yi S. 2002). To induce foreign investment as a way of economic recovery, the government revised the Foreign Investment Promotion Act in 1998, and allowed foreign firms in twenty high-tech industries to establish or expand their plants in the capital region.

The regional distribution of the IT industry differs from that of manufacturing industries. The concentration of the IT industry in Yeongnam is far lower than that of traditional manufacturing industries in the region. For example, in the case of Ulsan and Gyeongsangnam-do provinces, which house a large number of traditional manufacturing-centered industrial cities, the weight of these regions' IT industry stands as low as 5% of the nationwide IT industry. Though the region has elevated cooperative relationships among enterprises to a certain extent, the Yeongnam region is weak in human and financial resources required for the development of new IT industries because most of such relationships were formed around production facilities of manufacturing industries.

In sum, the fostering of information-related industries has produced regional discrepancies dependent on human and financial resources and government strategies for combating the crisis. The government has encouraged the IT industry through public policies, but information-related industries have become further concentrated in the capital region. If South Korea sustains its development strategy centered on the "new" IT industry, the restructuring within the capital region will accelerate and the gap between the capital region and non-capital regions will continue to grow.

## Labor Market and Income Disparities

### *Labor Market Conditions*

Regional disparities in industrial structure and economic activities have an impact on the condition of labor markets. If the economic activities of a region remain unimproved after an economic crisis, unemployment rate rises due to companies' insolvency and layoffs. A region in which economic conditions continue to advance and overcome the economic crisis, on the other hand, will reap positive consequences.

In Korea, regional labor markets following the economic crisis reflect the status of regional economic activities. First, regions with the highest job creation rates are Gyeonggi (17.6%) and Seoul (17.3%), while those with the highest job disappearance rates are Gangwon-do, Jeju-do, Chungcheong-do provinces, and Gwangju (Table 6). Seoul, the center of corporate headquarters and which experiences a continuous influx of foreign investments, and Gyeonggi-do province, which enjoys active economic activities centered around IT manufacturing, transport, and warehousing industries, have revitalized themselves despite difficult economic conditions.

Second, the large industrial districts have the lowest rates of unemployment, whereas the traditional large cities in the local area have the highest. According to a study analyzing the Korean Labor and Income Panel Data (KLIPD),<sup>5</sup> Busan and Daegu are places where there is the highest possibility to lose employment or engage in non-economic activities, and the average employment period of the residents of these regions is much lower than the nationwide average (Jeong 2003). Given that the regional development disparities between capital and non-capital regions has continued since the economic crisis, and particularly that Yeongnam's traditional large cities—which

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5. KLIPD is a national data based on the method of panel survey, examining household members' economic activities, family structure, job experience, job training and other aspects in 5,000 households sampled across the country.

have a low possibility of economic recovery, limited job creation, and relatively small job sustenance—gradually lag behind, gaps in the labor markets are of no surprise.

Table 6. Job Fluctuations by Region (2001)

(Unit: %)

	Net Job Increase	Job Creation Rate			Job Disappearance Rate		
		Total	Inaugura- tion	Expan- sion	Total	Down- sizing	Discon- tinuance
Seoul	6.0	17.3	6.1	11.3	11.3	8.0	3.3
Busan	2.6	15.1	6.5	8.6	12.5	7.7	4.7
Daegu	2.2	14.8	6.2	8.6	12.6	7.9	4.8
Gwangju	2.4	15.9	6.7	9.2	13.5	9.2	4.3
Incheon	4.1	16.4	7.9	8.5	12.3	7.7	4.6
Daejeon	5.1	16.4	7.6	8.9	11.4	7.2	4.2
Ulsan	3.2	12.3	5.5	6.8	9.2	6.1	3.1
Gyeonggi-do	6.3	17.6	6.9	10.7	11.3	7.8	3.5
Gangwon-do/ Chungcheong-do	4.3	17.2	8.7	9.5	12.9	8.1	4.8
Jeolla-do	3.8	15.5	7.7	8.3	11.7	7.4	4.4
Gyeongsang-do	3.5	15.0	7.2	8.7	11.5	7.5	4.1
Jeju-do	3.4	17.2	6.3	8.7	13.8	7.9	5.9

Source: Quoted from Jeon (2002).

Regional Income Disparities

Regional differences in economic activities greatly influence inhabitants' household income levels (Kim Won Bae 2003). According to the National Survey of Household Income and Expenditures conducted by the Korea National Statistical Office, Seoul had the highest average household income in the 1990s and the total household income disparities between Seoul and the rest of the country widened further following the economic crisis. Average household income in

Busan and Daegu had corresponded to 85 through 90% level of Seoul until 1996, but fell to 77 to 82% level in 2000. On the other hand, the average household income of Gyeonggi-do province and Ulsan maintains over 90% that of Seoul. These figures are much higher than not only the traditionally backward Honam region, but also the big Yeongnam cities of Busan and Daegu (Table 7).

Table 7. Comparison of Household Income by Region (1996–2000)

(Unit: 10,000 won, %)

Region \ Year	1996	(Seoul = 100)	2000	(Seoul = 100)
Seoul	2,911	100	3,501	100
Busan	2,626	90.2	2,726	77.8
Daegu	2,476	85.1	2,873	82.1
Incheon	2,405	82.6	2,733	78.1
Gwangju	2,524	86.7	2,831	80.9
Daejeon	2,438	83.8	2,829	80.8
Ulsan	—	—	3,384	96.7
Gyeonggi-do	2,383	81.9	3,162	90.3
Gangwon-do	2,279	78.3	2,666	76.1
Chungcheongbuk-do	2,281	78.4	2,640	75.4
Chungcheongnam-do	2,585	88.8	2,598	74.2
Jeollabuk-do	2,349	80.7	2,491	71.2
Jeollanam-do	2,288	78.6	2,738	78.2
Gyeongsangbuk-do	2,110	72.5	2,946	84.1
Gyeongsangnam-do	2,514	86.3	2,925	83.6
Jeju-do	2,515	86.4	2,756	78.3
Nationwide	2,577	88.5	3,036	86.7

Source: KOSIS (Korean Statistical Information System) Database.

Discrepancies in household income are not confined to work-related income; they are wider in non-business income. For example, work-related income of Gangwon-do province and the Honam region corresponds to below 70% of Seoul, while non-business income is only about 60%. Gyeonggi-do's work-related income is 95%, but its non-

business income equals 70%. With respect to non-business income, even Ulsan, where average household work-related income is higher than that of Seoul, corresponds to 70% that of Seoul (Table 8).

*Table 8. Regional Disparities of Income Components (2000)*

(Units: 10,000 won, %)

	Work-related Income	Business Income	Non-business Income	Transfer Income
Seoul	1,884 (100)	1,055 (100)	222 (100)	204 (100)
Busan	1,454 (77.2)	866 (82.1)	139 (62.7)	175 (85.2)
Daegu	1,383 (73.4)	952 (90.2)	162 (72.7)	178 (87.1)
Incheon	1,587 (84.3)	818 (77.6)	128 (57.3)	108 (52.7)
Gwangju	1,445 (76.7)	765 (72.5)	162 (72.7)	300 (146.8)
Daejeon	1,537 (81.6)	723 (68.5)	143 (64.1)	218 (106.4)
Ulsan	2,313 (122.8)	709 (67.2)	149 (66.9)	72.4 (35.4)
Gyeonggi-do	1,786 (94.8)	996 (94.4)	157 (70.6)	122 (59)
Gangwon-do	1,282 (68.1)	701 (66.5)	209 (94.2)	206 (100)
Chungcheongbuk-do	1,491 (79.2)	673 (63.8)	131 (58.9)	202 (99)
Chungcheongnam-do	1,444 (76.7)	744 (70.5)	130 (58.5)	145 (71)
Jeollabuk-do	1,320 (70.1)	701 (66.5)	147 (66.1)	206 (100)
Jeollanam-do	1,336 (70.2)	883 (83.7)	117 (52.9)	170 (83)
Gyeongsangbuk-do	1,429 (75.8)	966 (91.6)	158 (71.2)	131 (64)
Gyeongsangnam-do	1,533 (81.3)	1,030 (97.7)	120 (53.9)	136 (66.6)
Jeju-do	1,451 (77.1)	807 (76.6)	153 (68.9)	167 (81.3)
Nationwide	1640 (87.1)	922 (87.4)	166 (74.5)	168 (82.1)

Source: KOSIS (Korean Statistical Information System) Database.

Conceptually, work-related income means wages and other earnings arising from one's occupation, and non-business income includes earnings coming from real estate and building leases. If regional income disparity is wider in non-business income than in work-related income, Seoul residents possess more real estate from which they earn lease income than other regions, and the value of real estate is

much higher than that owned by residents in other regions. According to publicly notified land prices (Ministry of Construction and Transportation 2003), regional disparities in land prices have been aggravated since the 1997 economic crisis. Land in Seoul is worth 477 trillion won (US\$404 billion), which is equivalent to 32% of the total value of the real estate across the country. The value of real estate in Gyeonggi-do province accounts for 22% of the national total. In addition, the land price increase ratio in the capital region was recorded at 18.6%, and that in Seoul 20.8%, the highest in the country. But the value of real estate in traditional large cities such as Busan and Daegu was below 4% of the nation's total, and land prices fell in Gwangju (-0.18%) and Chungcheongbuk-do (-0.3%) at the same period.

## **Conclusion**

Regional development disparities in Korea changed little in the 1990s. The existing disparities between the capital and non-capital regions and between the Yeongnam industrial districts and the rest of the country did not lessen even after the economic crisis. As the capital region overcame the economic crisis earlier than other regions, disparities widened between the capital region and other regions. With Seoul's traditional functions extended to the capital region, concentration in the region was able to proceed uninterrupted. Particularly, information-related industries that emerged as the new growth engine have increased the gap between the capital region and the rest of the country. Inside the Yeongnam region, the traditional large cities have shown signs of decline, whereas economic activities are dynamic in the industrial districts that functioned as a center of manufacturing products in the 1980s.

Regional economic activities following the economic crisis were determined by such regional economic circumstances as industrial structures, conditions for business management, and clustering of the enterprises into industrial complexes. Regional economies in the

1990s developed primarily in the old and new industrial districts (Bak 1999). The process of upgrading existing industries, for example by transforming the heavy and chemical industries into industries with high added value, took place in the Yeongnam industrial districts where corporate networks between parent and subcontractors have taken root. The growth of a new high-tech industry began developing in the capital region, where financial resources are easily available and research institutions are concentrated.

Differences in regional development produced disparities in labor market and household income. Depending on each region's speed of economic recovery, regions with high potential for job creation were differentiated from those with low job creation potential. Not only the Honam region and Gangwon-do province, whose economies have long lagged behind others, but also the traditional large cities such as Busan and Daegu witnessed continual decline in employment. The capital region, however, created more jobs than the other regions because its economic activities recovered earlier and it received new investments. Average household income also differed by region, reflecting such disparities in regional development.

The process of regional development in the 1990s offers an example in understanding the relative importance of the state and capital in regional development. The 1990s are marked by a reduced state role and freer movements of capital. Despite the government enforcement of various steps to contain concentration in the capital region and to promote balanced regional development, little evidence can be found that concentration in the capital region has been eased or that regions that previously lagged behind have caught up with others. Even when enterprises relocate their head offices outside Seoul, their destinations are confined to areas adjacent to the capital because human and financial resources as well as information are concentrated in this region. When enterprises expand their production facilities, the activity is concentrated mainly in Yeongnam industrial cities where the link between major corporations and their part suppliers are deeply rooted. The decisions made by enterprises are rational, for the capital region and Yeongnam industrial cities are full



of the essential factors relevant to their industrial activities. If the state's positive intervention in economic development led to spatial differentiation until the 1980s (Kim W. 1992; Markusen 1996), the freer movement of capital in the 1990s resulted in spatial concentration and restructuring.

These findings also offer policy suggestions as to the state role in promoting balanced regional development. If free choice of capital is barely capable of resolving regional economic disparities, balanced regional development warrants new government policies. With this in mind, the following current projects underway call for our attention. The Roh Moo-hyun administration inaugurated in 2003 has proposed special legislation concerning balanced regional development, the relocation of the administrative capital, and power decentralization. If such efforts are to resolve disparities in regional development, the government should look back to the experiences of the 1990s. In the situation in which the government has limited control of free flow of capital, it must create regional economic circumstances for business activities and capital accumulation. Efforts to rebuild the social infrastructure of each region and promote network relations among the economic actors in each industrial district, for example, will bring about the integration of capital and thus contribute to balanced regional development.

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