Redefining the Goal and Strategy of
Regional Development Policy in Korea

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Abstract

This paper aims to put forward some policy suggestions regarding the goal and strategies of the regional development policy in Korea. We first survey past regional policies and examine the regional disparity in Korea. It is found using the OECD data that although population and income are highly concentrated, inequalities of income and other living standards do not seem as problematic as to call for strong government intervention. Moreover, recent development in the new economic geography implies that the 'capital vs. non-capital area' framework that has been shaping the Korean regional development policy should be reconsidered. The main message of this paper is that it is not desirable for the central government to disperse agglomeration to enhance regional equity and that local governments should be responsible for regional development. Therefore enhancing the autonomy and accountability of the regional government is essential.

1. Introduction

Since the 1970's when Korea began to accelerate its unprecedented economic growth, regional development policies have been carried out in various forms and names. They reflected the development stage, socioeconomic environment and the priority set by the government of the time. On one hand, it is quite natural and to some extent desirable for regional policy to reflect such social, economic, and political factors. On the other hand, however, it is hard to deny that Korean regional development policy has been somewhat ad hoc; it has been set up and changed arbitrarily lacking established goal and consistent strategy.

Most of all, the goal of regional policy itself has been vague. Should it be to disperse the concentration of population and economic activity in the capital area? Should it be to reduce the disparity across regions? What is the rationale for the goal, if any, of regional policy? No such fundamental questions have been seriously asked and answered. Also, discussion about how to attain such a goal has been scarce. Therefore, it is very important to establish the meaning and goal of regional policy and find an optimal strategy. This is the more important at this point in time when Korea is going through a downturn of economy coupled with worsened income distribution.

One characteristic feature of Korean regional policy is that it virtually means balanced regional development policy. That is, regional development policy in Korea usually refers to a policy aimed at reducing inequality among regions. This seems to cause many confusions and inefficiency, and undermine the efficacy of policy. In particular, the framework of 'capital vs. non-capital area' seems to capture people's recognition of regional policy. The typical argument from this perspective goes as follows. Most material and human resources, public institutions, top universities and big companies are concentrated in the Seoul National Capital Area (SNCA)[1] and this impoverishes non-capital areas. Moreover, people in the SNCA also suffer from congestion. Therefore, government should control further expansion of the SNCA and instead relocate various facilities to non-capital areas. Although this argument seems very persuasive, it does not survive a careful scrutiny. Detailed discussion will follow later, but a brief

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[1] This consists of Seoul, Incheon, and Gyeonggi-province.

counterargument is as follows. According to the new economic geography, agglomeration arises naturally as the economy develops and it is in itself not something to be fixed; it is only when agglomeration generates bad externality or regional disparity is very severe that the government needs to take action. Also, examining relevant data suggests that the current regional disparity in Korea is not as serious as to call for equalization across regions. Therefore, current policy focus on regional equity should be reconsidered.

Incidentally, what is often ignored when regional development policy pursues regional equity is that balanced development is in general not compatible with growth or national competitiveness. Development in the research on spatial structure of economic activities such as the new economic geography and the recent experience in many countries together suggest that balanced regional development by means of relocating resources of the core area to peripheral areas is a policy objective that is not compatible with economic growth. Pursuing balanced regional development without understanding this point may result in an unintended policy outcome.

Moreover, if the policy goal of balanced development policy is to improve income distribution across regions, not only it is an ineffective means but also it may actually worsen income distribution. In the discussion of inter-regional transfer, a region is usually treated as a unity. But in fact a region is a collection of many heterogeneous individuals and households, and a poor person may live in a wealthy region and vice versa. Therefore, transferring income from a rich region to a poor one may cause a poor person in a wealthy region to subsidize a rich person in a poor region. If the improvement of income distribution is the policy goal, the right target of income transfer should be individuals or households, not regions; balanced regional development policy is not a good tool to tackle income distribution.

From this perspective, the goal and strategy of regional development policy in Korea should be redefined. Specifically, regional policy should be designed to induce autonomous regional growth so that each regional government is held responsible for its own growth. That is, regional governments should be endowed with both autonomy and accountability. The role of the central government should be limited to monitoring and coordinating regional projects.

The remaining of the paper is organized as follows. Section 2 briefly overviews the

regional development polices in Korea. Section 3 examines the current status of regional disparity. Section 4 introduces the new economic geography and draws implications for Korean regional policy. Section 5 evaluates past policies and proposes a new policy goal and strategy. Section 6 concludes.

2. A Brief Overview of Korean Regional Development Policy

In this section, we divide the economic development stage of Korea into three periods, [2] and briefly overview the regional policy in each period focusing on the industry location policy, the SNCA regulation, and poor region support policy. Evaluating these policies and getting implications for future policy will be done in Section 5 after we examine the current regional disparity and overview related researches.

2.1 1970 ~ 1980's: Industrialization, Growth and Population Concentration

This period observed an unprecedented economic growth and a huge inflow of population into Seoul. Notwithstanding the crises due to the oil shocks and political turmoil, Korea accomplished a tremendous growth through industrialization and export in this period. [3]

The characterizing feature of regional policy in this period is that it was used as an auxiliary tool for economic growth instead of having an independent role of its own. The policy that took the highest priority was industry location policy; the government determined industry location by efficiency standard. The Korean economy in the 1960's was mostly light industry-centered but as the less developed countries began to catch up in the 1970's, Korea began to lose its comparative advantage in light industry. In order to overcome such difficulties and advance the industry structure, the Korean government concentrated on fostering heavy industry such as the steel, automobile, electronic, shipbuilding, and petrochemical industries. These industries were mostly located in

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[2] This is based on Choi et al. (2007), who divided the economic development stage into i) 1970~1980's, ii) 1990~foreign exchange crisis, and iii) post-crisis period according to economic growth, industrial stage, regional migration, regional income disparity and so on.

Gyeongsang-province, the southeastern part of the Korean Peninsula, such as Changwon, Gumi, Pohang and Ulsan. This was mainly because these areas had a good access to the Pacific Ocean, but it is true that political factors also worked.

At the same time, efforts were also made to induce manufacturing industry to locate in non-capital areas. Benefits and incentives were given to firms that moved out of the metropolitan area to mitigate the congestion in the SNCA.

The policy direction that takes regional disparity into account was strengthened in the 1980's. Under the recognition that the strategic concentration of industry on some key bases generated regional disparity and many other problems, the government sought to disperse small- and middle-sized industrial complexes all across the country. This was intended to serve many purposes such as facilitating regional growth, dispersing concentrated population, and fostering small and medium enterprises. Measures were also taken and laws enacted to create income basis for rural and less developed areas by attracting the manufacturing and the service industry to those areas.

In the mean while, as the inflow of population into Seoul that had started in the 1960's accelerated in the 1970's, concentration and congestion in the SNCA began to be recognized as an important social issue. The government enacted various laws and regulations to deter concentration and disperse industry.

In the same vein, serious consideration was given to deal with underdeveloped poor regions. The Comprehensive National Development Plan in 1982 explicitly declared balanced regional development as one of the policy goals, and various projects were executed to sponsor rural and back regions and special regions such as small islands that lagged far behind.

2.2 1990 ~ Economic Crisis in 1997: Open Economy, Deindustrialization, and Regional Disparity

In the worldwide tide of globalization and open market economy, Korea began to substantially open up the market by abolishing preferential tariffs and lowering import duties on many items. The need to enhance competitiveness led the government to boost

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[3] The nominal per capita GDP jumped from US$254 in 1970 to US$5,418 in 1989.

up the independence and autonomy of the private sector. The favorable economic conditions in the late 1980′s such as low oil price, low interest rate, and weak US dollar, accelerated this trend. Domestic market expanded considerably in this period due to the economic boom and wage increase, and deindustrialization started as the share of the telecommunication, finance, and service industries increased. Regional disparity gradually increased in this period, which is ascribable to the development of transportation and communication and the expansion of knowledge-based economic activities. At the same time, however, the population concentration in the SNCA showed a slowdown; the population share of the SNCA increased from 42.1% in 1989 to only 45.7% in 1997. This was mainly because less people migrated to the SNCA.

As for the industry location policy in this period, more stress was put on expanding the industrial base of the underdeveloped regions. As the disparity between the capital and non-capital areas and the gap between urban and rural areas deepened as a result of fast economic growth and became an important social issue, the third Comprehensive National Development Plan in 1992 put emphasis on building the basis for balanced regional development. The plan specifically promoted fostering the development of non-capital areas, controlling the expansion of the capital area, and constructing new industry areas in underdeveloped regions.

The capital area regulation in this period continued to seek for mitigating the overcrowding of this area, and various measures were taken for this purpose in the form of regulating firm location or economic activities, setting a ceiling on the number of firms in an area, levying a congestion charge, and introducing differential tax, charge, and subsidy.

Efforts were also made to improve the living standard of underdeveloped regions. Various plans and laws were promoted and enacted to develop poor coastal and island areas and interior back regions. New laws were also enacted to support small and medium enterprises in the non-capital areas. All these policies targeted on improving the living standard of the underdeveloped areas and supplying SOC.

2.3 Post-Crisis Period: Knowledge-Based Economy, and Aggressive Regional Policy

The Korean economy went through a thorough restructuring in various aspects after the economic crisis in 1997 that left a deep scar on the overall society. The remarkable growth rate slowed down considerably and the share of the knowledge-based industry in the national economy rose substantially. The distribution of the knowledge-based industry shows a significant regional disparity; about 60% of the work force in the industry is located in the SNCA. In the process of knowledge-based industrialization, R&D investment, which is essential to innovation capability, also increased substantially. The distribution of R&D investment also shows regional disparity.

The number of people migrating into the SNCA, which slowed down in the 1990's, started to increase again from 1999, but this trend then reversed in 2003 and the inflow into the SNCA has been decreasing since then. However, the economic condition of the underdeveloped regions is still inferior in spite of the various development plans and projects, and the population is still decreasing there.

Regional policy was driven forward aggressively in this period in the form of balanced regional development policy. The Kim Dae-jung administration that kicked off in 1998 right after the economic crisis placed strong emphasis on reducing the inter-class and inter-regional gap. It established the Balanced Regional Development Committee to design, coordinate, and promote various regional policies. Several government offices and institutions such as the Office of Supply, Custom Service and the National Statistical Office were relocated to Daejeon which is about 140km south of Seoul. Promotion of regional industry to build up basis for regional development continued to be carried out. Regulations on the SNCA also continued, but in the process of restructuring after the crisis some exceptions were also made such as relaxing location regulation to induce foreign investment or loosening greenbelt regulation. In the reconciliatory mood of the Korean peninsula, development projects were also driven forward for the borderland near the DMZ.

Regional policy underwent an epochal change as Roh Moo-hyun administration took off in 2003. Setting balanced development as one of the national agendas of the highest priority and elevating the status of balanced regional development policy to 'Balanced National Development Policy (BNDP),' the Roh administration put a strong drive on balanced regional development. Various institutional apparatuses such as Balanced National Development Plan, Special Law for Balanced National Development and Special

Accounting for Balanced National Development were made to support the policy systematically. The Second Stage Plan for Balanced National Development announced in 2007 introduced various measures to support non-capital areas such as reducing corporate tax for the firms relocating to non-capital areas, reducing the medical care contribution share of the employers in underdeveloped regions, and subsidizing universities in non-capital areas.

The three principle of BNDP is as follows. The first principle is a 'comprehensive approach,' which means that the plan seeks for balanced development not by fragmented support but by comprehensive means such as decentralization and constructing a new administrative city. The second one is the 'construction of regional innovation system,' which means that departing from the traditional input-driven growth, the new system aims at autonomous localization by building up regional innovation system and transform the regional economy into an innovation-driven one. The third one is 'developing non-capital regions first and then managing the SNCA systematically,' which is intended to develop both the capital and non-capital areas.

The projects of BNDP can be classified into three categories. The first is to relocate government ministries and agencies out of Seoul by constructing the administrative city, 'innovation city,' and 'enterprise city.' The second is to foster regional innovation by promoting regional industry, strengthening the ties between industry and academia, fostering the innovation capability of local universities, building regional industrial clusters, and so on. The third is to support underdeveloped regions through promoting regional industry and designating districts for specialized development.

BNDP is also distinguished from the past policies in many respects. Past regional policies were usually planned and executed by ministries and offices in the central government without proper coordination, which caused lack of consistency and inefficiency due to overlapping investment. To fix these problems, the Roh administration changed the execution system completely so that each regional policy can be planned and enforced for each region. That is, each region became the unit of planning and execution of regional policy. Also, the Presidential Committee on Balanced National Development was founded as a control tower, and Special Accounting for Balanced National Development was established to manage balanced development policy independently and systematically.

3. Regional Disparity in Korea

3.1 Regional Disparity in Korea

Ever since the overpopulation and agglomeration of the capital area became an important social issue, there have been many studies on regional disparity in many respects. (E.g. Hwang [1982], Huh [1989], Kim et al [1991], Byun [1999], Kim [2003], Moon [2003], Choi et al. [2007]) In spite of the different approach and methodology adopted, theses studies show similar results on the time trend of regional disparity. Meanwhile, what is often stressed and talked of in the discussion of regional disparity in Korea is the gap between the capital and non-capital areas. Although the gap between the two is recognized as a malignant phenomenon, systematic studies on this issue seem rare. In this subsection, we will first examine the regional disparity in Korea, and then critically evaluate the argument stressing the gap between the capital and non-capital areas.

Most studies on regional disparity use the regional Gini index or coefficient of variation of per capita GRDP to measure regional disparity. According to the analyses, regional disparity in Korea was decreasing from 1970 until the mid 1990's, but then the trend reversed and has been increasing ever since. See <Table 1>. Regional disparity is getting bigger especially after the economic crisis in 1997 and this seems to be related to the knowledge-based industrialization which is occurring geographically unevenly.

<Table 1> Regional Disparity in Korea (1970~2005)

	Gini Coefficient	Coefficient of Variation
1970	0.1147	0.2228
1975	0.0917	0.1708
1980	0.1097	0.2197
1985	0.0843	0.1670
1990	0.0734	0.1442
1995	0.0582	0.1119
2000	0.0877	0.1626
2005	0.0910	0.1686

Source: Choi et al. (2007)

Meanwhile, Moon (2003) examines the regional disparity in other countries and finds that regional disparity in Korea is close to those in developed countries. According to this study, disparity in Korea is actually smaller than some other centralized countries such as France and Italy. This shows that although regional disparity in Korea has been worsening recently, it is not that high in the international standard. This study also shows that the disparity measured by consumption expenditure, which may represent the economic power of a region better than GRDP, is significantly smaller than that measured by GRDP. Moreover, in contrast to the movement of the disparity measured by GRDP, the disparity measured by consumption expenditure is improving. See <Table-2>. This suggests that the degree of regional disparity in Korea may not be as serious as it looks.

<Table 2> Regional Disparity in Korea: Income vs. Consumption

	Regional Income Per Capita		Regional Consumption Per Capita	
	Gini	CV	Gini	CV
1995	0.0988	0.1875	0.0427	0.0897
1996	0.1070	0.1993	0.0462	0.1008
1997	0.1163	0.2152	0.0459	0.1000
1998	0.1254	0.2320	0.0424	0.0933
1999	0.1306	0.2406	0.0411	0.0876
2000	0.1363	0.2507	0.0379	0.0740
2001	0.1379	0.2543	0.0369	0.0756

Source: Moon (2003)

Now let's consider the argument highlighting the gap between the capital and non-capital areas, which occupies an important place in the discussion of regional disparity. The argument that emphasizes the gap between the two is as follows. The SNCA is holding too much of everything for its relative size, such as population, firms, public offices and institutions, universities, financial institutions, and so on. More specifically, the SNCA, which accounts for only 11.8% of Korea territory, holds about 50% of total population, employees, hospitals, and economic power, about 70% of total financial transactions and about 85% of government offices and public institutions. Hence, the

SNCA suffers from congestion and inefficiency and at the same time other regions are impoverished. Moreover, the argument goes, such concentration is hard to be found in other countries; the population share of the capital area is 47.6% in Korea, 32.6% in Japan, 18.7% in France, and 12.2% in the UK. Such arguments that regard the concentration of population and resources in the SNCA as the main source of regional disparity have been widely accepted and have had big influence on various regional policies. However, this argument seems faulty in many respects and policies based on it may be problematic. We will examine this argument closely below.

Let's first think about the concentration of population and economic power in the SNCA. It is true that the SNCA holds a lot for its area share, but in fact the same phenomenon is true of all the other big cities in Korea. <Table 3> shows the share of area, population, and income of major cities in Korea with respect to the surrounding regions. It turns out that the high proportion of core city is a universal phenomenon. <Table 4> also shows the ratio of population and income share to the area share for each region, and the concentration index measured this way is actually lower for the SNCA than for most of the other big cities. Therefore, if the concentration in the SNCA is a big problem, then the same issue should be raised to the concentration elsewhere as well. It is not clear why only the concentration in the SNCA matters.

<Table 3> Share of Major Cities (%)

	Area Share			Population Share			Income Share		
	1995	2000	2005	1995	2000	2005	1995	2000	2005
SNCA/Korea	11.8	11.8	11.8	45.2	46.2	48.1	47.7	47.8	47.3
Daejeon/Chungchung	3.3	3.3	3.3	28.7	29.3	30.1	23.4	21.9	20.3
Gwangju/Jeolla	2.4	2.4	2.4	24.1	25.8	28.2	21.3	21.6	21.4
Daegu/Gyeongbuk	4.4	4.4	4.4	47.8	47.7	48.6	37.8	35.1	31.6
(Busan+Ulsan)/Gyeongnam	6.1	14.7	14.8	49.8	61.1	60.0	36.8	62.2	61.6

Data: Korea National Statistical Office Portal (http://www.kosis.go.kr)

<Table 4> Ratio of Income and Population Share to Area Share (2005)

	Population Share /Area Share	Income Share /Area Share
SNCA/Korea	4.08	4.01
Daejeon/Chungchung	9.12	6.15
Gwangju/Jeolla	11.75	8.92
Daegu/Gyeongbuk	10.84	7.18
(Busan+Ulsan)/Gyeongnam	4.05	4.16

Data: Korea National Statistical Office Portal (http://www.kosis.go.kr)

Moreover, according the new economic geography that we will discuss in detail later, concentration or agglomeration arises naturally as a result of the development of transportation and market activity, and it is in self not a pathology to fix. It is when agglomeration generates externalities or when the regional disparity is so high that it generates social problems that the government may need to intervene. However, the usual dichotomy argument seems to miss these points and lack scrupulous study on how to judge whether the current concentration is excessive or how to measure negative externalities.

The argument that the degree of concentration in Korea is higher than those in other countries also seems faulty. The usual argument that compares the degree of concentration across countries does not mention the area share of the capital area of other countries. Recall that the population share of the capital area is 47.6% in Korea, 32.6% in Japan, 18.7% in France, and 12.2% in the UK, which seemingly shows that concentration is very high in Korea. However, it should be noted that the capital area in Korea, Japan, France, and the UK respectively account for 11.8%, 3.5%, 2.2% and 8.5% of the territory of each country. Therefore, one can argue that actually the degree of concentration is higher in Japan and France than in Korea. Anyhow, what is clear is that the mere comparison of the population share without considering other factors may be quite misleading.

It should be also noted that the dichotomous framework of capital vs. non-capital area may miss the heterogeneity within the non-capital regions, and hence may result in unintended policy outcomes. Each non-capital region has different population and

income, and treating all the non-capital regions as one unity is not reasonable; the disparity among the non-capital areas may be a more important issue. Also, the argument in the framework of capital vs. non-capital areas implicitly assumes that the SNCA enjoys a stronger economic power than other regions, but this is not supported by the data. Some industrialized regions like Ulsan and Gyeongnam-province actually have higher per capital GRDP than Seoul.

There are also arguments that assert that the overpopulation of the SNCA undermines national productivity and competitiveness. (PCBND [2004]) This claim, however, is not well-founded. It is only based on the mere observation that population of the SNCA and the national productivity moved in the same direction recently, and does not show any evidence that the latter is actually caused by the former. In fact, according to the analysis of Hahn and Shin (2007), the recent slowdown of the Korean economy is ascribable to diminishing inputs rather than to declining productivity. Choi et al. (2007) also find no relation between national competitiveness and regional disparity. Therefore, the claim that the overpopulation of the SNCA undermines the national productivity and competitiveness seems to lack theoretical and empirical basis at this stage.

Most importantly, what the capital vs. non-capital areas argument seems to be missing fundamentally is the consideration about the right policy goal. The final goal of regional policy should address the individual or household welfare. However, how regional disparity or the gap between the capital and non-capital areas is related to the individual or household welfare is not clear. To begin with, non-capital areas cannot be treated as a unity due to heterogeneity. Also, poor people may reside in wealthy region and vice versa. Transferring income from a wealthy region to a poor region may end up making a poor person in a wealthy region subsidize a rich person in a poor region. If the income disparity is a problem, then the redistribution policy should target each individual or household, not region.
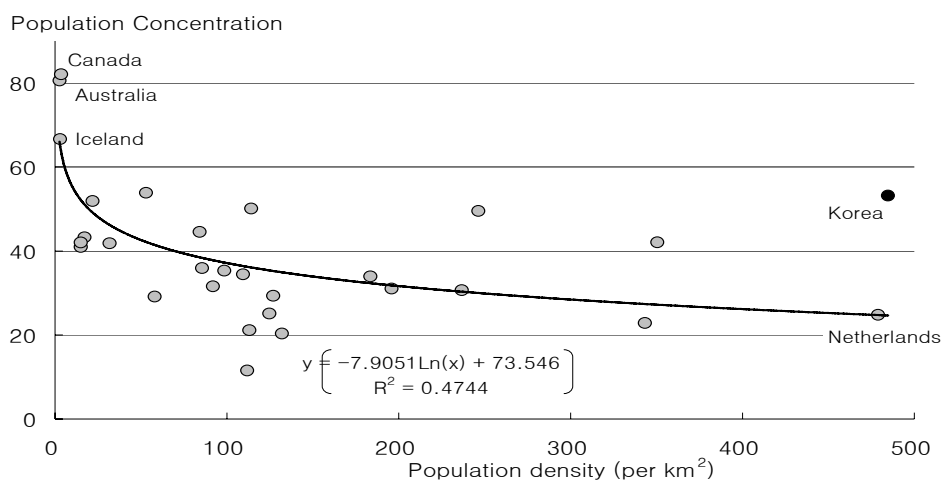
3.2 Comparisons with the OECD Countries

Comparisons of regional disparity across countries usually use as a measure the regional Gini index or variation coefficient. The OECD (2007) data enable us to go further. In this subsection, we present some of the analyses in Koh et al. (2008) based on the
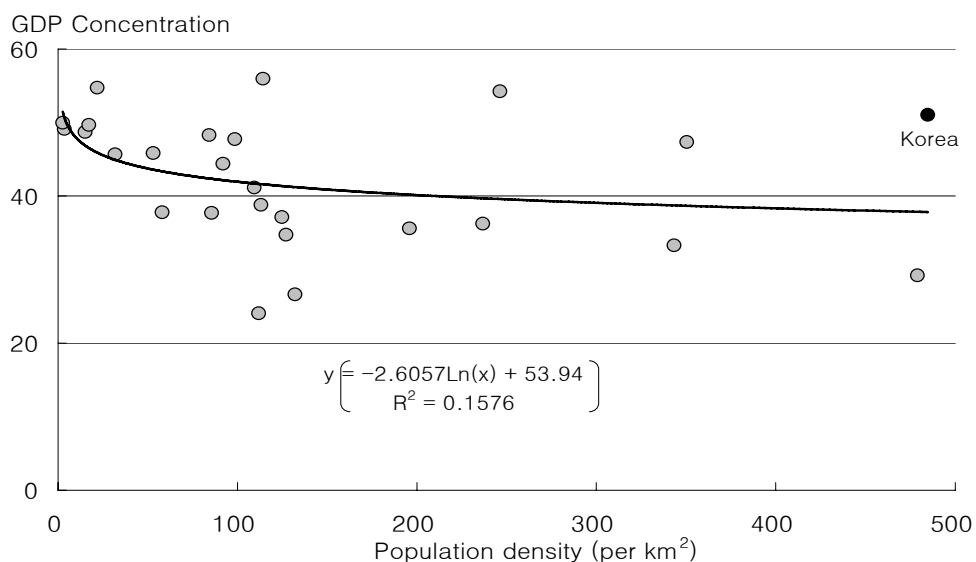
OCED (2007) and add a few more comparisons.

To begin with, the concentration index of population and income is very high even after controlling for population density as [Figure 1] and [Figure 2] show.

[Figure 1] Population Concentration and Population Density (2003)

Population Concentration
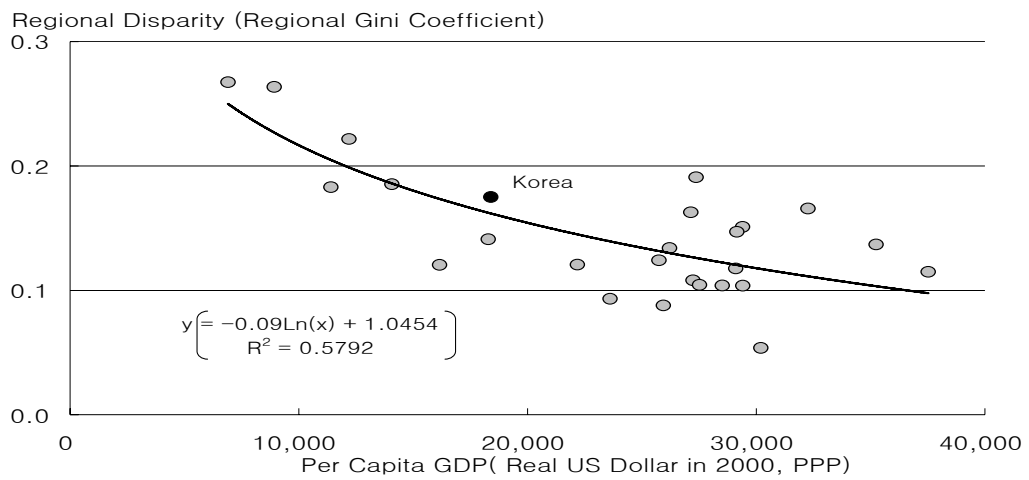

$$y = -7.9051\text{Ln}(x) + 73.546$$
$$R^2 = 0.4744$$

Population density (per km^2)

Source: Koh et al. (2008)

[Figure 2] GDP Concentration and Population Density (2003)

GDP Concentration

$$y = -2.6057\text{Ln}(x) + 53.94$$
$$R^2 = 0.1576$$

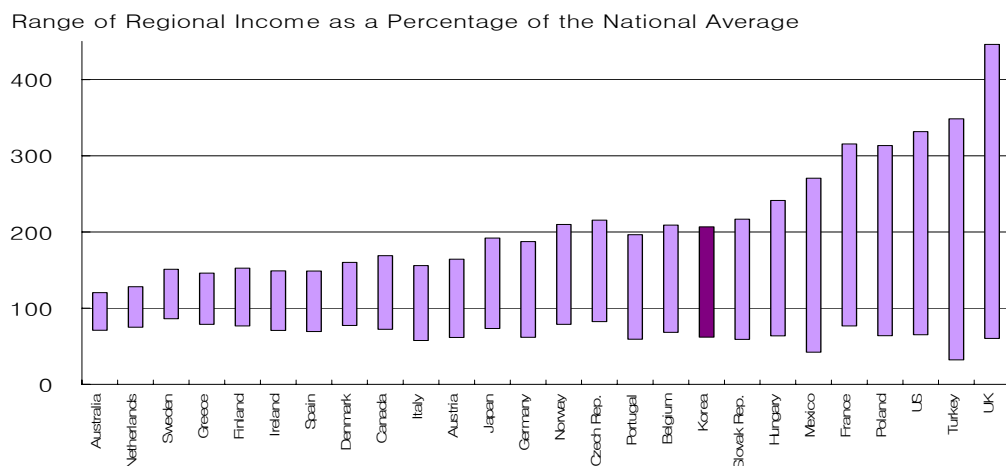Population density (per km^2)

Source: Koh et al. (2008)

In spite of the high concentration, however, disparity in income and other living standards do not seem very high. [Figure 3] shows the regional Gini index of each OECD country and finds that after controlling for population density the regional Gini index of Korea is only slightly higher than the average. In [Figure 4] which shows the gap between the income of the richest and the poorest region, Korea ranks just about the middle.

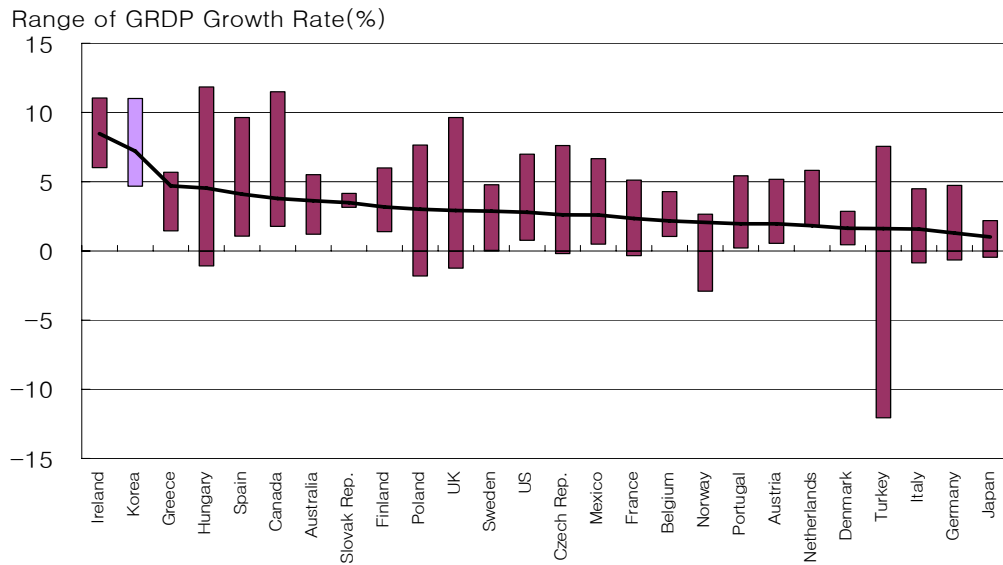[Figure 3] Regional Disparity and Per Capita GDP (2003)

Regional Disparity (Regional Gini Coefficient)

$$y = -0.09Ln(x) + 1.0454$$
$$R^2 = 0.5792$$

Per Capita GDP(Real US Dollar in 2000, PPP)

Source: Koh et al. (2008)

[Figure 4] Distribution of Regional Income (2003)

Range of Regional Income as a Percentage of the National Average
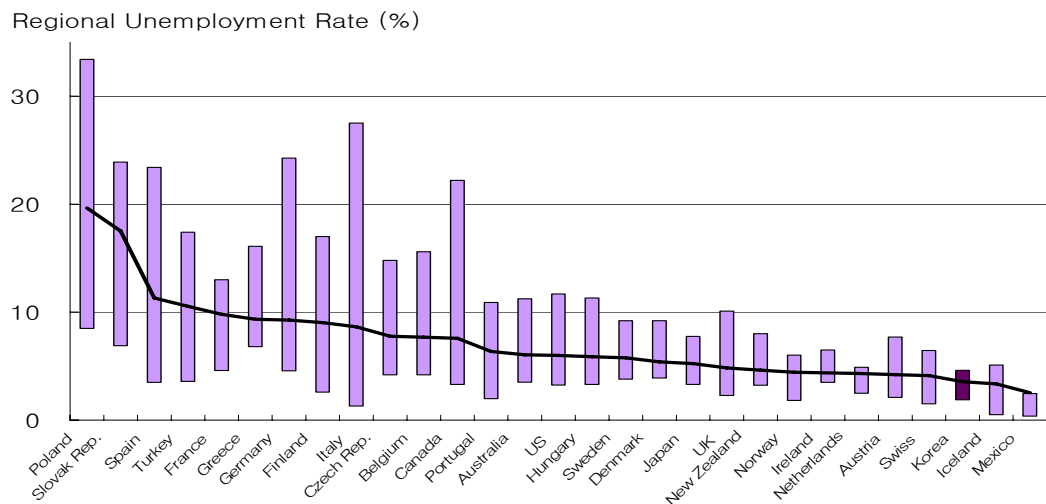
Source: Koh et al. (2008)

Korea also enjoys a high regional growth rate with small disparity as [Figure 5] shows, and the unemployment rate in Korea, which is fairly low in absolute value, also shows small regional disparity as shown in [Figure 6].

[Figure 5] Growth Rate of GRDP (1998~2003)

Range of GRDP Growth Rate(%)

Source: Koh et al. (2008)

[Figure 6] Distribution of Regional Unemployment Rate (2003)
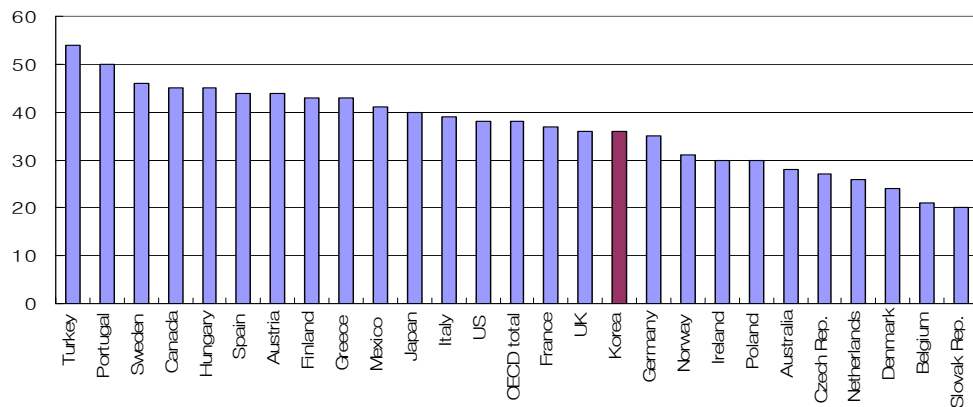
Regional Unemployment Rate (%)

Source: Koh et al. (2008)

[Figure 7] shows the percent of national GDP in the top 10% of the regions when ranked by GRDP, and the value of Korea, 36%, is almost the same as the OECD average, 36.7%.

[Figure 8] shows the area share of the 10% regions with the highest concentration of GDP, and according to it this share is 7% in Korea and is just about the same as the OECD mean, 6.85%.

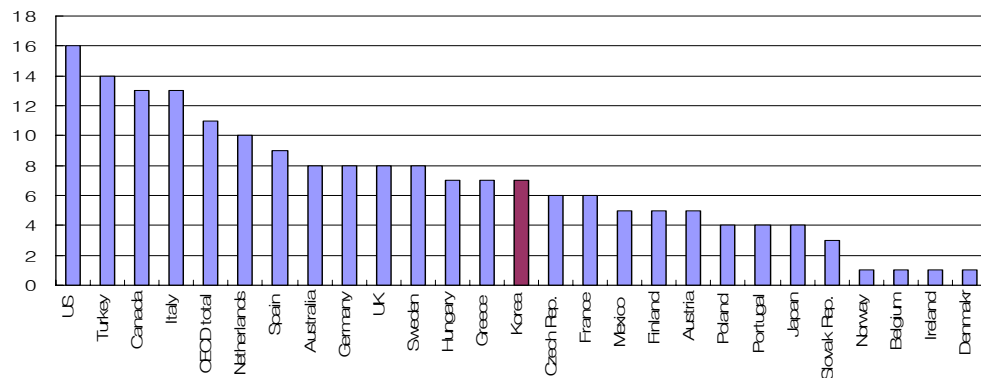[Figure 7] Income Share of the Top 10% Regions

Percent of national GDP in the top 10% of the regions
when ranked by the GDP of regions, 2003

Data: OECD (2007)

[Figure 8] Area Share of the Top 10% Regions in Income Concentration
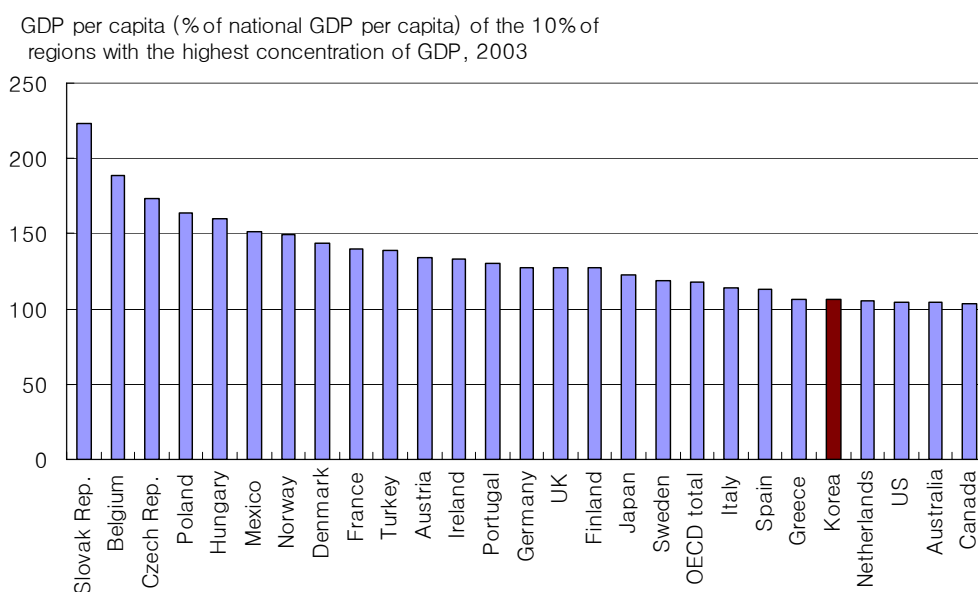
Area share of the 10% regions with the highest concentration of GDP, 2003

Data: OECD (2007)

Finally, [Figure 9] shows the GDP per capita of the 10% of regions with the highest concentration of GDP in percentage of national GDP per capita. Korea records 106%, which is significantly smaller than the OECD average, 134%, and ranks fifth from the bottom.

[Figure 9] Income Level of the Top 10% Regions in Income Concentration

GDP per capita (% of national GDP per capita) of the 10% of
regions with the highest concentration of GDP, 2003

Data: OECD (2007)

Taking all these into account, we can say without a logical gap that although Korea has high concentration of population and income, regional disparity in various respects such as income, growth rate and unemployment is not very serious compared with the other OECD countries.

4. Implications of the New Economic Geography

The new economic geography (NEG), which was initiated by Krugman (1991), is a branch of spatial economics that aims to explain the formation of economic

agglomeration in geographical space.[4] NEG uses a general equilibrium model framework and micro-founded mechanism to determine the location of agglomeration. In this section, we briefly overview the main message of NEG and seek to draw some implications for the goal and strategy of regional development policy.

4.1 Key Idea of the New Economic Geography

According to the analysis of NEG, agglomeration occurs through pecuniary externality, and regional disparity may deepen further because of increasing returns to scale. This is in contrast with the prediction of neoclassical economics, according to which regional disparity will eventually dissolve due to the adjustment of input prices. In addition, NEG asserts, agglomeration of economic activity occurs and maintains itself through self-reinforcing mechanism rather than by comparative advantage. Overall, the discussion of NEG takes a pessimistic view of balanced regional development. To see this in more detail, we briefly overview the development in NEG.

The basic framework of NEG is well illustrated in the core-periphery model in Krugman (1991), which shows how the interactions among transport costs, factor mobility and increasing returns can result in agglomeration. The main idea is as follows. When the transport costs are very high, firms will locate near the market to save transport costs. As the transport costs go down, the incentive to locate near the market gets smaller and the incentive for firms to gather and enjoy increasing returns to scale gets bigger. This agglomeration of firms boosts the demand for labor and hence the wage rate will rise. This will attract workers, which in turn will attract more firms. That is, agglomeration is strengthened by self-reinforcing process.

Agglomeration effect occurs through many channels. In the labor market, firms can easily find workers and workers can easily find a job as the labor market expands. In the production sector, producers of final goods and intermediate goods gather together, which facilitates specialization. Also, firms can enjoy economies of scale by producing in bulk. The SOC utilized jointly by the firms contributes to reducing production cost. Exchange of knowledge due to agglomeration also facilitates the creation and

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[4] See Fujita and Mori (2005) for a survey of NEG.

accumulation of knowledge. As for consumption, agglomeration creates various markets that meet consumers' demand, and this attracts more people to the core. Hence the population inflow from the periphery into the core occurs.

According to the above argument, regional disparity may deepen as agglomeration progresses. This phenomenon is mostly market-driven, and it is not necessarily undesirable even from the perspective of equity as will be discussed later.

NEG also implies that government's effort to disperse agglomeration may result in an unintended outcome. Venables (1996) in particular shows that weakening a location's industrial base makes the location less attractive and beyond some critical point may lead to complete deindustrialization of the location unless the disadvantage of a small industrial base is offset by a sufficiently low wage.

NEG also studies the effect of agglomeration on growth. Noting that the disparity in growth rate across countries is diminishing but the intra-national regional disparity is widening at the same time in Europe, Martin (1998) shows theoretically and empirically that regional policy may generate unintended outcomes. He shows that supporting low income areas can be hardly effective and investment in infrastructure that reduces transport cost may induce firms in poor areas to relocate to high income areas, which will impoverish underdeveloped regions even further. He analyzes the European data and finds that investment in infrastructure hardly benefits poor areas although it often benefits developed areas. This study hence shows that regional policy of this fashion may be problematic not only from the viewpoint of efficiency but also from the viewpoint of equity. This study also shows that there may exist a tradeoff between growth rate and regional convergence.

Martin and Ottaviano (1999, 2001) combine endogenous growth with endogenous industry location, and study their interaction. They show that the reduction in transaction cost due to economic integration induces firms to locate where R&D takes place, and this increases the growth rate there. Importantly, this study shows that increase in technological innovation through spatial agglomeration may benefit the periphery area as well; if the transaction cost is low enough and the effect of innovation through agglomeration is big enough, poor regions may benefit. Fujita and Thisse (2003) also come to a similar conclusion with respect to welfare. They show that if the technological innovation through agglomeration brings in high growth, agglomeration can benefit

every region even without any inter-regional income transfer. However, this may widen inter-regional gap in absolute income if the core region grows by more. In this sense, growth through agglomeration may be regressive, and the effect of growth on equity crucially depends on the objective function or social welfare function.

4.2 Implications for Regional Policy

One of the main messages of NEG is that spatial agglomeration is a natural phenomenon that arises through the interaction of many economic activities; agglomeration arises and reinforces itself through self-reinforcing mechanism when factors of production is mobile and there exist transport cost and increasing returns.

The first implication from this is that any effort to disperse agglomeration is unlikely to be very successful. It is the natural functioning of market that generates agglomeration and, regardless of whether to regard it as a 'market failure' or an efficient outcome by the 'invisible hand,' it is obvious that it will be hard to work against the market forces.

More specifically, suppose the government intends to relocate firms from the core to peripheries using a policy that affects firms' location decision. For such a policy to succeed, firms should be provided with incentives that exceed the current advantage of staying in the core. This means that a policy limited in magnitude can hardly be effective and that the cost of executing an effective policy will be big. If the final goal of the government is the autonomous development of peripheries and not the dispersion of agglomeration itself, significant number of firms should relocate, and this means that the cost will be huge. This will naturally give rise to questioning the effect of such policy for the cost; if cost exceeds benefit, the policy will not be validated.

What is more important in this regard is that even if the policy somehow disperses agglomeration of the core successfully, the intended policy goal may not be achieved. If the benefit from agglomeration and resultant growth occur only above a certain level and magnitude of agglomeration, decentralization may fail to bring about the development of peripheries if it ends up with two agglomerations below the critical level. Moreover, even when the peripheries benefit from decentralization, decentralization may harm national growth if the benefit of peripheries is smaller than the loss the core incurs. The study of Venables (1996) which shows that decentralization may result in complete

decentralization of the core shows an extreme possibility of such a case.

Incidentally, this argument also suggests that the government's effort to induce an industry to be concentrated in a specific region doesn't seem promising (Kim [2003]); firms will not relocate unless the government's intervention generates enough linkage effects for agglomeration to form. Taking advantage of the spillover effect from agglomeration may be more effective for the development of underdeveloped areas.

However, the argument of NEG is not necessarily in conflict the government's effort to seek for balanced regional development. On the contrary, NEG may provide a rationale for balanced development if it is the case that agglomeration, which arises by the market forces, generates externality and the socially optimal level of agglomeration is actually much smaller. According to this view, agglomeration causes overpopulation, increases pollution and transport cost and impoverishes peripheries. In short, agglomeration is a market failure and the government should come in to fix it. Theoretically, this argument makes sense as well and hence a close examination is necessary to evaluate it.

To begin with, it is very hard at least theoretically to judge whether the current level of agglomeration is socially excessive or not. (Kim [2003]) The opposite assertion can be also made that the current agglomeration is actually too small because firms do not take into account the social benefit of agglomeration.

The argument that agglomeration impoverishes other regions also needs to be checked closely. The absolute income level of peripheries may decrease in the beginning stage of concentration, but eventually the growth of the core may benefit peripheries as pointed out by Martin and Ottaviano (1999, 2001) and Fujita and Thisse (2003). The absolute gap between the core and peripheries may widen even when the income of the core and peripheries both increase. However, the regional disparity measured by the Gini index may increase or decrease depending on the specific pattern of growth. Moreover, even when the core-driven growth increases the Gini index, we need a specific criterion by which to judge whether such core-driven growth aggravates regional equity or not. To summarize, the statement that agglomeration deepens regional disparity may hold very limitedly, and we really need to establish a criterion for judgement to go further.

5. Directions for Future Policies

5.1 Evaluation of the Past Policies

There have been many regional development polices since the 1970′s, an era of fast growth. One important aspect that is found consistently in these policies is that they all aimed at regional equity; regional development policy implicitly or explicitly meant balanced regional development policy in Korea. Regional disparity was discussed in the framework of capital vs. non-capital area, and many measures were taken to reduce the gap. Such measures include constructing SOC in underdeveloped regions, providing incentives for firms in the SNCA to relocate to non-capital regions, building up and subsidizing industry bases in underdeveloped regions, controlling the expansion of the SNCA, and so on.

It is hard to evaluate the efficacy of such policies, but judging from the fact that questions are still being raised about the gap between the capital and non-capital areas, it seems hard to conclude that such policies were successful.

More importantly, recent development in spatial economics and experiences in other countries suggest in common that regional equity may be a wrong target. As discussed in the previous section, NEG shows that agglomeration is market-driven and dissolving it will be hard. Moreover, as the growth through agglomeration may eventually benefit peripheries, seeking for regional equity by dispersing agglomeration may be harmful. The turn in the direction of regional policies in other countries also give similar implications. Countries like France sought for regional equity by decentralizing and transferring income to ease off concentration in Paris in the past. However, in the changing environment of industry restructuring, globalization, knowledge-based economy and competition, they changed the direction of regional policy and began to focus on the competitiveness of the capital area, growth potential of the nation and international competitiveness. They also turn to decentralization for regional autonomous growth. Such a trend implies much for the direction of regional polices in Korea that is in the similar environment.

The Balanced National Development Policy (BNDP) in Roh administration which explicitly pursued regional equity merits a more thorough discussion. As discussed in

Section 2, BNDP stands out among various regional policies in many respects. It took a comprehensive approach and used many systematic apparatuses, streamlined the process of regional projects and emphasized the autonomous development of regions.

Some critics of BNDP point out that in practice the role of local governments was subsidiary contrary to the spirit of BNDP and little progress was made to foster regional autonomy. Such criticism is relevant, but problems of those kinds were inevitable to some extent since BNDP was only at the beginning stage and the capability of local government is still weak. A more fundamental question has to do with the viewpoint and approach taken by BNDP.

First of all, BNDP regards the gap between the capital and non-capital area as a pathology that should be cured to reinforce national competitiveness. However, as discussed in detail in Section 3, the framework of capital vs. non-capital area is problematic and may cause distributional unfairness as well as loss of economic efficiency.

Moreover, some of goals of BNDP seem incompatible with each other. BNDP defines balanced regional development as "improving the quality of life, pursuing sustainable growth and reinforcing national competitiveness by facilitating regional equity and promoting regional development capability." However, it is generally agreed that balanced development is in conflict with national competitiveness; balanced development usually comes at a cost of efficiency loss.

Besides, one may question the feasibility of balanced development itself. BNDP seeks to promote the potential of all the regions and hence maximize national competitiveness. However, promoting the potential of all the regions may be infeasible. It is international competitiveness, not domestic competitiveness, that is necessary in the globalized world, and promoting the potential of all the regions seems to ignore comparative advantage argument or cost-benefit analysis-type of consideration.

BNDP may also overlap with other existing policies. The core of BNDP is to raise the income of underdeveloped regions. However, there already exist policies that support poor individuals or households and how BNDP relates to those policies is not established well.

Finally and very importantly, one may question whether BNDP is a timely policy at this point of time. Koh et al. (2008) argues that the national agenda that should be given

priority to is to boost up growth and improve income distribution. As balanced development is likely to conflict with both of the two, they argue, it is not desirable for balanced development to take priority. Considering the recent slowdown in growth and aggravating income distribution, this assertion seems quite persuasive.

To sum up, BNDP has many aspects that improve on the past polices but at the same time still suffer from some problems shared by the past policies. It is of utmost importance that we learn our lesson from the past policies and use it constructively in designing future policy.

5.2 Goal and Strategy of the Future Regional Development Policy

As is evident from the discussion so far, regional development is a very complex subject in which various factors are entangled. Thus, it would be too ambitious if one tried to establish the goal and strategy of regional development policy from the general and somewhat abstract discussion so far. Nonetheless, it will be still meaningful to put the discussion so far together and attempt to seek for the goal and strategy of regional policy, be it somewhat vague and abstract.

The first thing to point out is that the paradigm of regional development policy should depart from focusing on promoting regional disparity. Attempts to raise regional equity is likely to come into conflict with growth or national competitiveness, and may also have a negative effect on distribution contrary to the intended plan. The negative effect on distribution may occur because raising regional equity may ignore intra-regional heterogeneity and hence violate vertical and horizontal equity. As for methodology, recent studies and experiences in other countries imply that raising regional equity by relocating the resources in the core region to peripheries is not only hard to succeed but may result in unintended outcome. Of course, support for underdeveloped region should be maintained. But the purpose of such a policy should be to guarantee a certain level of living conditions everywhere, not to reduce the absolute gap among regions.

In this regard, regional development plan should be carried out in two directions. One is to provide public goods or merit goods to guarantee a certain level of living conditions everywhere. Of course such a policy need not belong to the category of regional

development policy. For example, the existing inter-governmental grant system is already playing a role in inter-regional redistribution in part, and hence the above policy may be included in this category.

The other is to focus on maximizing the growth potential of each region and promote regional innovation capacity for autonomous growth. This seems to be the most crucial element in designing future regional development policy. The current system in which the central government takes the lead in carrying out regional projects is bound to result in negative side effects; local demand is not represented correctly and local governments are preoccupied in getting grants from the central government instead of working on reinforcing autonomous capability. To solve these problems, local governments should be eventually responsible for regional development so that they hold accountability and the sense of ownership. That is, each region should reinforce capacity and find an autonomous growth engine to build up its own income base. The role of the central government should be limited to coordinating and monitoring regional projects ex ante, and evaluating the result ex post. Of course, the central government should provide necessary assistance when local governments lack initial resources or impetus. Such division of roles between the central and local governments is essential and should be established firmly.

However, reinforcing the accountability of regions by such division of roles presupposes an important change. Local governments should be endowed with sufficient autonomy, in particular funds to finance regional projects. Without this, solid regional capacity is hard to achieve since local governments will spend most of the time and resources to attract grants from the central government.

To sum up, local governments should be held responsible for regional development, and at the same time be given necessary autonomy and means. The central government should coordinate, evaluate and foster regional projects instead of taking initiatives.

6. Concluding Remark

This paper puts forward some policy suggestions regarding the goal and strategies of the regional development policy in Korea. We first find that although population and

income are highly concentrated, inequalities of income and other living standards do not seem as problematic as to call for strong government intervention. Moreover, recent development in the new economic geography implies that the 'capital vs. non-capital area' framework that has been shaping the Korean regional development policy should be reconsidered. The main message of this paper is that it is not desirable for the central government to disperse agglomeration to enhance regional equity, and that the regional government should be responsible for regional development; therefore enhancing the autonomy and accountability of the regional government is essential.

Finding the growth engine for autonomous regional development by raising autonomy and accountability of the local governments seems essential for sustainable growth and national competitiveness in a globalized world where the share of knowledge-based industry is increasing. Efforts should be made to find the specific strategies to achieve this goal in the long view, and it should be avoided that a premature policy is enacted or policy direction frequently changes regime by regime.

Admittedly, the policy suggestion made in this paper is somewhat too general and abstract, lacking specific and concrete ideas. Still, it is very important to view the big picture and try to get a perspective, be it abstract or vague. This paper should be regarded as one of such attempts. More studies on this important subject should follow in the future.

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