Inclusive Growth and Fiscal Policy: Complementarity Between Fiscal Decentralization and Sectoral Policy

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Introduction

After a period of explosive growth, the Republic of Korea is now standing at an economic and social turning point. Its economic growth rate, which held above four percent until the mid-2000s, has dropped to the high two-percent range, and is in a downward trend to the one-percent range in the long term. The direct cause of this economic downturn is the prolonged global economic recession that started in 2008. More fundamentally, however, an aging population and low fertility rate are greatly changing the country’s economic and social landscape. Currently, Korea is facing the problems of severe polarization on top of declining economic vitality. A large portion of the elderly population who did not prepare for retirement in the era of economic development live in poverty, and many young people are unable to secure stable jobs due to the weakened growth engines.

The problems of declining economic vitality and polarization, in particular, are also plaguing the United States and most other advanced countries, albeit to different degrees. Many European countries have been affected by the 2008 economic crisis and the European debt crisis, and are currently suffering from economic recessions and high unemployment. Recently, the United States is showing signs of economic recovery, but the mid- to long-term outlook is yet uncertain, while political and economic polarization has intensified.

Due to the economic and social difficulties all across the world, international organizations, such as the IMF, OECD, and the World Economic Forum (WEF), as well as many countries including the United States are paying more attention to “inclusive growth” policies as a means to relieve polarization and acquire
new growth engines. The definition of inclusive growth varies depending on the perspective, but theoretically refers to economic growth in which the benefits are distributed fairly between individuals and regions and opportunities for productive labor are increased to enhance productivity and quality of life at the national level. In this aspect, inclusive growth is more than necessary in Korea, since the potential for growth is beginning to decline amidst intensifying economic and social polarization.

Various economic and social policies have been implemented to meet the goals of improving the nation’s growth potential and securing a social safety network. For instance, policies on redistributing wealth (tax and fiscal progressivity), securing human resources (education), expanding opportunities in the labor market (employment policy), and enhancing quality of life (welfare policy) have been implemented and enacted with great importance. In other words, while the term “inclusive growth” only began to be used by the OECD, IMF, and WEF in the 2010s, it is possible to make the argument that many policies that aimed to accomplish “inclusive growth” have already been implemented. However, the most important characteristic of the inclusive growth emphasized by the IMF and OECD is that there is virtually no trade-off between efficiency and equity, which is the traditional economic paradigm as presented in the famous book written by Okun (1975). The key to the theory of inclusive growth is that there is complementarity, instead of an inverse relationship (or trade-off), between these two dynamics, as Stiglitz (2016) asserts. The theoretical arguments concerning the complementary relationship between efficiency and equity, which explain the importance of inclusive growth policies, are explained in Stiglitz (2016) and CEA (2016), with empirical studies by Ostry et al. (2011, 2014) supporting the theories. Ostry et al. conducted a series of research, and using long-term time series data from many countries across the world, found that the lower the income inequality, the higher the economic growth.

Discussions on inclusive growth in the past have been focused on analyzing the inverse relationship between income inequality at the individual level and

1) "One of the ways, however, that our understanding of growth and development has changed is that we now see equality, growth, and stability as complements.” (Stiglitz, 2016, p. 11).
economic growth. This study, however, expands the unit and subjects of analysis for inclusive growth policies and focuses on the disparity in economic capabilities between regions rather than individuals, as well as differences in population density, employment opportunities, and accessibility to education, etc. Moreover, instead of the relationship between income disparity and economic growth, this study examines the effectiveness of the policies in major areas that impact growth potential, such as low fertility, employment, and education. Considering the existence of a considerable number of inclusive growth policies that have been implemented at the individual and regional levels, this study focuses mainly on the complementarity between them rather than analyzing individual policies, because despite the validity of individual policies, analyses of consistency and coherence occasionally reveal that they are less efficient or contradictory. Therefore the purpose of this study is to analyze the coherence of inclusive growth policies in the major areas of low fertility, employment, and education that have been implemented at the regional level and to provide alternative policies that can increase efficiency.

A brief examination of previous research on inclusive growth policies shows that many are focused on the individual, as mentioned above. However, analyses of the effect of inclusiveness were particularly substantial in research on the European Union, since narrowing the economic strength gap between the member countries was important. Moreover, through studies such as OECD (2016a, 2016b), the OECD, which emphasizes the importance of enhancing “quality of life” rather than a simple increase in GDP through inclusive growth stresses that the benefits of economic growth should be inclusive at the regional level, and not only at the individual level. McCann (2016) conducted a study in a similar context, although not from the perspective of inclusive growth, analyzing the United Kingdom’s economic growth strategies and asserting that the idea that London is spearheading the UK’s economic growth is nothing more than an illusion. McCann also argues that such unbalanced economic growth strategies allowed the UK to remain an average nation in Europe and also brought about Brexit. This study is noteworthy in that it has been conducted in the UK, where

2) See Bachtler et al. (2017).
the capital region exerts an extremely intense influence, albeit not as severe as in Korea, and analyzes inclusive growth policies at the regional level. 3) The problem of policy coherence, which will be discussed in this paper, is a research area that has gained attention recently. De Macedo (2008, 2010) analyzed the importance of coherence of general policies related to economic growth, while Filippetti and Sacchi (2015) pointed out the importance of coherence between related systems for fiscal decentralization to contribute to economic growth. Enikolopov and Zhuravskaya (2007) conducted an empirical analysis of coherence between political decentralization and fiscal decentralization, and Kim (2015) discussed the issue of coherence in terms of central and regional tax sharing, fiscal systems, and political systems. However, not a lot of prior research has been conducted on the coherence between inclusive growth policies and fiscal decentralization that takes regional differences into consideration, which this paper explores.

According to the findings of this report, major policies implemented by the various divisions of the central government do not fully consider the spatial or regional heterogeneity of Korea. More specifically, the concentration of population and capital in Seoul, the capital of Korea, is so severe that there is no comparison across the world. Despite the strong correlation between the geo-economic characteristics of Korea and the efficacy of various government policies, policies in different sectors are being pursued without sufficient understanding of this relationship. Understanding the “dominant capital” issue in Korea is important because the primate city favoritism 4) that began in the early 1970s led to a dramatic increase in land prices in Seoul through capitalization, 5) and this phenomenon is negatively affecting economic efficiency.

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3) Inclusive growth policies that the British government is pursuing through regional policies will be introduced in Chapter III.

4) There are a number of studies on inefficient concentration (sprawl) in the capital region due to political power or financial benefits: Ades & Glaeser (1995), Davis & Henderson (2003), Henderson (2005, 2009, 2010), Duranton (2015), and Duranton and Kerr (2015). Among the OECD countries, this issue of sprawling capital region, as discussed in Kim (2011) and Kim Jeong-hoon (2011), is particularly severe in Korea, whose capital region was formed during its economic development.

5) A large number of studies on the process of capitalization, in which the gap between the net benefit (taxes and expenditure) of regions induces the movement of population and capital and ultimately increases housing costs (asset value) in the regions with larger net benefit have been conducted, led
not only in Seoul but also throughout the country. The capitalization of Seoul, in particular, provided a wide range of capital gain to the previous generation of wealthy residents (homeowners). Today, however, most of the current generation has to reside in the Seoul area where economic activity is most active while paying enormous housing costs. As a result, many Koreans are forced to live in the capital region despite the low quality of life.\(^6\)

Based on awareness of this problem, this study analyzes three major influences of inclusive growth — low fertility, employment, and education — to examine the coherence of Korea’s inclusive growth policies and spatial heterogeneity. The fertility rate in Korea dropped to 1.05 children per woman in 2005, the lowest in the world, and in response the government began to promote policies to reverse this situation, beginning with establishment of its Basic Plan on Low Fertility and Ageing Society. According to this Plan, KRW 80 trillion has been invested over the past decade to address low fertility, with another KRW 100 trillion expected to be spent on the issue in the next five years. Yet, despite the size of this tax investment, Korea’s fertility rate has not changed significantly since the policy’s inception in 2006.

One thing to note about Korea’s fertility rate is that it is not low all across the country but particularly in densely populated areas with higher housing and transportation costs, particularly in the capital region. While fertility rates in South Jeolla Province and North Gyeongsang Province are about 1.4 to 1.5, Seoul’s fertility rate was in the 1.0 range from 2001 to 2015 and has begun to drop further in recent years. Moreover, fertility rates in cities adjacent to Seoul are also much lower than in different parts of the country. In light of this, it may be difficult to improve the average fertility rate in the Seoul area, where 50 percent of the nation’s population reside, even after investing KRW 100 trillion in the next five years and hundreds of trillions of won afterwards.\(^7\)

\(^6\) “… primate city favoritism harms the favored primate city by making it larger than it should be. It also harms smaller cities, which are, in effect, heavily taxed. The gap that is created between the primate city and other cities may also have negative dynamic effects because, for most educated workers, there is nowhere to go except to stay in this primate city.” (Duranton, 2015, p. 63).

\(^7\) Seoul’s fertility rate was respectively 1.06, 0.97, 0.98, 1.0, and 0.94 per woman in the recent five years.
In Korea, since the inauguration of the Moon Jae-in administration, there has been active debate on the establishment of a “decentralized nation,” whose fundamental characteristic would be in expanding the role (clerical responsibility) of local governments to the extent of state governments in federal nations (to include education and healthcare). It is therefore necessary to first review the possibility, and only upon deciding that a “decentralized nation” is appropriate for Korea, discussions on the transfer of central government finances should be held as a means to effectively support the process. However, the current debate on the decentralized state is blindly focused on the transfer of national taxes to local governments rather than on the function of those local governments.8) The problem of simply focusing on the transfer of tax resources for decentralization is the fact that more than 65 percent to be transferred will be vested in the “local government” of the capital region. In other words, a policy that grants additional financial benefits to a region already receiving excessive financial benefits, is being blindly promoted under the slogan of “decentralization.” With the possibility of improving the fertility rate, on which Korea’s future hangs but is mired in trouble due to overpopulation of the capital region, the transfer of national taxes to local governments becoming a reality would not only result in a wasteful transfer of financial resources that increase pressure on the national debt but also strengthen the factors that led to overpopulation in the Seoul area. It is highly likely that fertility rate policy, in which trillions of won are scheduled to be invested, will be ineffective.

Aside from low fertility, another difficult policy area for the Korean government is employment. While policies in this area have been implemented so far by the central government, considering that labor markets are often

(2012–2016), which is expected to drop to the 0.8-range in 2017 (Kukmin ilbo, October 30, 2017). According to the OECD Gender Data Portal 2016, commuting time in the Seoul area is two hours a day, which is twice as long as the OECD average (one hour), and even longer than China (94 minutes) and India (64 minutes) (Chosun ilbo, April 6, 2016). From this, it is easy to assume that housing costs and low quality of life are the two major factors in the significant drop in fertility in Seoul compared to other parts of the country.

8) "We will narrow the financial gap between regions by dramatically expanding local finance (through the transfer of national tax to local governments) to support the operation of local autonomy. (Yonhap News, June 14, 2017, Kim Bu-gyeom will "bring about decentralized, balanced development in the Republic of Korea" http://www.yonhapnews.co.kr/bulletin/2017/06/14/02000000000AKR20170614115400001.HTML, accessed on December 13, 2017).
connected to regions and labor policies affect laborers in the frontlines, local governments need to play a stronger role. It is particularly important to consider the fact that even if labor policies are formulated and implemented at the central government level, their effectiveness may be compromised if regional differences are not fully taken into account. One example is the recent debate on minimum wage. The minimum wage in Korea was increased from KRW 6,470 to KRW 7,530 in 2017, and discussions are being held to raise it to KRW 10,000 in the future.

It is worth noting that under the nominal minimum wage system in Korea, the effects of increasing the minimum wage may vary from region to region, since the real minimum wage that reflects living expenses varies by region. If it increases sharply in the short term, the positive effect could be larger in the Seoul area, where the increase rate of real minimum wage is low, while negative effects may be greater in the rest of the country, since the increase rate of real minimum wage is greater. In short, a sharp increase in nominal minimum wage may result in the unintentional side effect of intensifying regional disparities between the capital region and the rest of the country, since the latter’s economic vitality is relatively low.

In this situation, some argue the need to vary minimum wage by region. However, not a lot of research has been conducted on regional minimum wage systems, which this study aims to review from a variety of aspects. Since the existence of a minimum wage system can be considered an inclusive growth policy, this study explores regional minimum wage systems to pursue policy coherence and expand on the systems’ positive effects.

Of the various policies contributing to inclusive growth, the most important area in terms of fundamental effectiveness is education, which increases a society’s human capital. According to OECD and other studies, Korea is among the top OECD member states in terms of educational achievement and inclusiveness. Therefore, from the perspective of inclusive growth, Korea’s education situation is better than its fertility rate and employment. However, in recent years, the country’s education policies are becoming less inclusive, and the polarization of educational achievements is intensifying at both the individual and regional levels. If such a trend continues, education outside the capital region may become more and more for low-income households.
As the number of students in Korea is decreasing in general and the number of students from outside the capital region is likely to decline even more, investment in education outside of the capital region is very likely to decrease accordingly. This phenomenon is not desirable in terms of inclusiveness and expansion of Korea’s human capital base, since income disparities between regions lead to a widening income gap between individuals. Therefore, discussion is necessary on ways to strengthen inclusiveness in regional education in the process of reorganizing fiscal decentralization and education finances.

This paper is organized as follows: Chapter II examines the proportion of population and GDP in the capital region and in the metropolitan economies of OECD member states, and analyzes the causes of the inefficient enlargement of the Seoul area based on theoretical discussions on the net financial benefits of the regional public sector and regional public goods. Chapter III introduces the existing literature on inclusive growth, and Chapter IV explores inclusive growth policies in other countries. In Chapter V, we conduct empirical analysis of the effects of inclusive growth policies, such as those on low birth rate, education, and employment, taking into account the population and economic characteristics of different regions in Korea. Chapter VI provides a summary of this study as well as policy implications.
Excessive Concentration in the Capital Region & Theoretical Discussion

Of the total population in Korea, the proportion in the capital region (Seoul, Gyeonggi Province, Incheon) rose by 6.7 percentage points, from 42.8 percent in 1990 to 49.5 percent by 2015. In the same time period, about 3.3 million people (of the nation’s 50 million) have migrated there. Meanwhile, the capital region’s GDP as a share of total GDP rose by 1.9 percentage points, from 47.5 percent to 49.4 percent. The proportion of GDP varies by time period unlike the proportion of population, hitting 48.6 percent in 1993 and 48.2 percent in 2011. As seen in [Figure II-1], the inflow of 3.3 million people in 25 years contributed insignificantly to the increase in GDP. The share of population in the city of Seoul itself has continued to decrease since 1990 due to population outflow to Gyeonggi Province, dropping by about 5 percentage points from 24.4 percent in 1990 to 19.5 percent in 2015. Meanwhile, its proportion of GDP decreased by 6 percentage points from 26 percent in 1990 to 22 percent in 2015. This shows that over the past 25 years, the decrease in Seoul’s GDP was larger than the decrease in population.
According to “Net capital stock of land by province and city (nominal, year-end),” in the National Wealth Statistics published by Statistics Korea, Korea’s capital stock of land (nominal asset value) was KRW 6.571 quadrillion in 2015, representing a 3.9-fold increase over two decades above the capital stock of land in 1995 of KRW 1.692 quadrillion. Per capita, this capital stock rose 3.4 times, from KRW 37.52 million in 1995 to KRW 128.8 million by 2015.

However, a closer look at the value of capital stock of land by region reveals that the changes in land prices have varied considerably. [Figure II-2] illustrates the increases and decreases of the capital stock of land in Seoul, the capital region, four metropolitan cities (Busan, Daegu, Gwangju, and Daejeon), and the provinces over the past 20 years. Seoul’s capital stock of land per capita increased 3.84-fold, from KRW 45.75 million in 1995 to KRW 175.82 million in 2015; the capital stock of land per capita in the capital region rose 3.75-fold, from KRW 39.88 million in 1995 to KRW 149.64 million in 2015. On the other hand, the capital stock of land per capita in the provinces rose three-fold,
from KRW 39.49 million in 1995 to KRW 120.48 million in 2015, while the capital stock of land per capita in the metropolitan cities rose only 2.47-fold, from KRW 33 million in 1995 to KRW 81.61 million in 2015.

In terms of absolute price, an examination of the trends in land price by region shows how big the increase in land prices were in Seoul and the capital region over the past 20 years. In 1995, Seoul’s land price per capita was about 1.4 times higher than in the four metropolitan cities, but by 2015 this had risen to about 2.2 times higher. If such differences had not occurred, meaning if Seoul’s land price per capita remained at about 1.4 times higher instead, then Seoul’s land price per capita would be about KRW 110 million. This means that in the past 25 years, it rose KRW 65 million more than in other metropolitan cities. This per-capita price includes the area’s population of 25 million. Considering that ownership of land and housing is restricted to a certain class, the land price per landowner in the capital region is several tens of millions
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According to a textbook discussion of urban economics (Roback, 1982; Rosen, 1978), higher urban productivity is accompanied by an increase in land value due to the inflow of labor and capital. In addition, as explained in economic geography studies, such as Quigley (2013), Duranton and Puga (2014), and others, large cities generally enjoy the effect of agglomeration, and therefore the proportion of land value in large cities tend to increase more than the proportion of population and capital. As a result, the increase in the land value in Korea’s capital region, as illustrated in [Figure II-2], can be interpreted as a natural phenomenon of the effects of agglomeration. However, as [Figure II-2] also shows, the economic and population structure of Korea’s capital region has been in contrast to the general discussion of economic geography theories. In the past 25 years, as over 3 million people have moved to the capital region from outside, the capital region’s productivity (GDP/population) has actually decreased.

As will be discussed in detail in the next section, non-market effects, as well as market functions, can play a significant role in causing economic concentration (concentration of population and capital) in a region. Korea’s capital region, in particular, is one that has been largely affected by non-market factors (public sector).9) The fact that the Korean capital region is the only capital region with low productivity is confirmed by data from international organizations such as the OECD. The section below will examine this phenomenon in detail.

9) Since the achievement of Paul Krugman (1991) that contributed to his receiving the Nobel Prize, many studies have been published in the field of economic geography. However, most of these studies explain the formation of urban areas solely focusing on market functions. In addition, research on concentration has been conducted mainly on cities in developed countries where settlements began about a century ago. Duranton and Kerr (2015) introduced previous economic geography studies and explained, “developing economies face many challenges that are mostly absent in advanced countries. Three examples include dual housing markets, inefficient migration, and city favoritism” (p. 6). In this way, the need for studies on the formation of metropolitan areas in developing countries is being raised only recently. However, there is still a great limitation with the existing research literature of economic geography in explaining the sprawl of Korea’s capital region, which shows exceptional characteristics.
Concentration in the Capital Region in Functional Urban Areas of OECD Member Countries

As discussed in detail in OECD (2012), there is a difference between the definition of metropolitan areas as administrative divisions and the economic activities performed in the area (see the comparison of Paris and Rome in [Figure II-3]). Understanding this difference, OECD (2012) announced 281 functional urban areas (FUAs) from 1,148 metropolitan areas (with population above 500,000) in its 28 member countries. The OECD explained its methodology to identify the functional urban areas as follows:

First, in Korea and Japan, areas with a density of 1,500 inhabitants per square kilometer are defined as high-density clusters. A municipality (dong-district in Korea) is defined as being densely inhabited if at least 50 percent of the population of the municipality lives within the urban cluster. The administrative area consisting of connected densely populated areas is defined as an urban core. The second step in the methodology is to connect the urban cores. Two urban cores are considered to be part of the same polycentric metropolitan area, if more than 15 percent of the residence population of either of the cores commutes to work or school in the other core. The third step is to identify the urban hinterlands, related to the polycentric metropolitan areas. Urban hinterlands are defined as municipalities with at least 15 percent of the employed residents working in the urban core and are considered part of metropolitan areas.

10) For the latest division of the OECD’s functional urban areas, see OECD (2016).
The result of the OECD’s methodology applied to Korea’s functional capital region (KR004) is shown in [Figure II-4]. Geographically, Korea’s functional capital region according to OECD standards is similar to Korea’s capital region based on the country’s administrative unit, encompassing Seoul, Incheon, and Gyeonggi Province. The only difference is that the functional capital region does not include the rural areas of Gyeonggi Province and the city of Pyeongtaek (KR008, KR009). There is no significant difference between Korea’s capital region defined by Korea’s administrative division and the area functional capital region identified by the OECD methodology. According to the OECD’s statistics for metropolitan areas of its member countries, the total population of the Seoul area accounted for 49.5 percent of the total national population as of 2014, while its GDP accounted for 46.3 percent of national GDP as of 2013. Compared to the Seoul area as an administrative unit, the OECD’s capital region has a similar proportion of population, while its GDP is approximately 2.4

percentage points lower, since, by the Korean administrative division standard, GDP of the Seoul area was 48.7 percent in 2013.

An examination of the changes in the proportion of population, employees, and GDP of the Seoul capital region as defined by the OECD compared to those of the whole country in the past 15 years [Figure II-5] reveals a clearer trend of population concentration in the core cities of the Seoul area compared to the changes of population and GDP in the Seoul capital region as defined by Korea’s administrative division [Figure II-1]. However, the population concentration in the Seoul area not only failed to improve productivity but actually accompanied a decrease in productivity. In other words, while the
proportion of Korea’s population in the Seoul capital region increased by 7 percentage points, the share of Korea’s GDP in the Seoul area did not rise but surprisingly fell. Aside from the proportion of population, [Figure II-5] also shows the changes in the proportion of employment and labor force in the Seoul capital region. While this did not increase as much as population, it did increase, and yet the proportion of GDP in the Seoul area decreased. In sum, over the past 15 years, the Seoul capital region functioned inefficiently in terms of economy, as it saw an increase in population but a decrease in its contribution to the nation’s GDP.

The population and economic structure of Korea’s capital region, of course, contradicts the theoretical characteristics of economic concentration discussed in economic geography research conducted by Combes et al. (2010), Duranton and Puga (2004), and Puga (2010), as well as the trends in five OECD member
countries (US, UK, Germany, Spain, and Mexico) analyzed by the OECD’s Ahrend et al. (2017). Specifically, Ahrend et al. (2017) analyzed the correlation between the population of metropolitan areas in the five countries and productivity per capita (GDP/number of employees) in those areas, and concluded that there is positive correlation between the two factors in all five countries.13) [Figure II-6] shows the reproduction of [Figure II-1], using the statistical data on the OECD metropolitan areas used in the study conducted by Ahrend et al. (2017). This graph also contains the correlation between population and productivity per capita of metropolitan areas in Korea and Japan. It confirms that population increases in metropolitan areas are accompanied by an increase in productivity per capita in not only the five countries studied by Ahrend et al. (2017), but also in most OECD member countries. Japan and Korea, however, are exceptions to this trend. In Japan, an increase in the population of a metropolitan city does not cause changes in productivity per capita. This means that the population and economic structure of metropolitan areas in Korea is unique in that an increase in population leads to a decrease in productivity per capita. The crucial cause of such a phenomenon is that productivity in the Seoul area, which is the largest functional urban area in Korea, is much lower than the FUAs in other countries.14)

13) See ‘Table 1’ (p. 5) and ‘Table 2’ in Ahrend et al. (2017).

14) The cross section data of [Figure II-6] might lead one to conclude that, aside from Ulsan (top left in the graph), there is no particular correlation between population and productivity per capita in Korea’s metropolitan areas as in Japan. However, as seen in the time series data in [Figure II-5], productivity in Korea’s capital region continued to decrease throughout the past 15 years, and among all capital regions in OECD member countries, Korea’s is one of the few that have lower productivity (GDP/population) than the national average.
The fact that Korea’s capital region has lower productivity than other capital regions in OECD member states is also evident in a comparison of the proportion of population and GDP. [Figure II-7] shows the proportion of population and GDP in metropolitan areas of OECD countries based on the OECD data. For most OECD countries, the metropolitan area contribution to GDP (proportion of GDP from metropolitan areas of total GDP) was more than 10 percentage points higher than the proportion of population in the same areas. In Ireland, Greece, Hungary, Portugal, and Sweden, the proportion of economic strength in the capital regions is 10 percentage points higher than the proportion of population. In France, the proportion of population in the Paris area is 18.7 percent, while the proportion of GDP is 30.8 percent, just over 12 percentage points higher. Even in the UK, where regional policy gained importance due to overconcentration in the capital region, the proportion of GDP (28.3%) exceeds the proportion of population (19%) in the capital region by over 9 percentage
points. Likewise, Denmark is another country with a capital region (Copenhagen) that plays an important role in the country’s economy. The proportion of the capital region’s population is 36 percent, while the proportion of the GDP is 42.2 percent, 6 percentage points higher.

Even in Tokyo, which suffers from what is known as “Tokyo hyperconcentration,”15) the capital region’s population accounts for 28 percent of the total population, while its GDP accounts for 32 percent, or 4 percentage points higher. Norway and Australia are less economically reliant on their capital

15) "Heads of 26 metropolitan areas in Japan say 'Japan has future only after resolving the Tokyo hyperconcentration problem' (Yonhap News, July 22, 2016).
regions, and the proportion of the capital region’s GDP and population are nearly identical. Korea is the only country in the above graph that has a capital region where the proportion of national totals held by regional GDP (47 percent by OECD metrics) is lower than the proportion held by the population (45.8 percent by the same metrics).

Over the past 60 years, Korea underwent a rapid journey to becoming a developed country, which may explain why the Seoul area’s population characteristics and economic structure maintain the less efficient nature of developing countries. However, even compared to developing countries, let alone OECD member countries, Korea’s capital region is unwieldy. [Figure II-8] shows the population of metropolitan areas and the share of national population in

[Figure II-8] Population of Metropolitan Areas Across the World & Their Share of Total Population

Sources: 1. Population of Metropolitan areas: The City Mayors Foundation (http://citymayors.com/).
those areas. As illustrated therein, the largest metropolitan areas in the world, in terms of population, are Tokyo (Japan), Shanghai (China), Jakarta (Indonesia), Karachi (Pakistan), and Mumbai and Delhi (India), followed by Seoul. However, as also clearly show, Korea is the world leader in terms of population concentration in the metropolitan area. Even with Tokyo’s “hyperconcentration,” population of the metropolitan area accounts for less than 30 percent of the national population. In China and India, while the metropolitan populations are large, they account for a much lower share of total population.

The seriousness of the Seoul area’s inefficiency and excessive concentration is also confirmed by comparing the core cities of metropolitan areas across the world and their populations. [Figure II-9] illustrates the correlation between share of national population in the core cities for 100 metropolitan areas (x axis) and the share of national population in metropolitan areas (y axis), showing that most countries have a difference of about 10 percentage points or less. This means that across the world, the sprawl of core cities occurs within 10 percentage points of the total population in FUAs (functional urban areas). Japan and France face particularly severe city sprawl. In Paris, France, the economic area surrounding the city is large, as illustrated in [Figure II-3], with 15 percent of the national population residing in the surrounding area. Similarly, about 20 percent of the population resides in the metropolitan area surrounding Tokyo, which shows that the issue of population concentration in the capital region is relatively serious around the world. However, Korea faces a much more serious population concentration problem than either France or Japan, as 20 percent of the nation’s population resides in Seoul and as much as 30 percent in the FUA surrounding it.
3 Implications of Population Concentration in the Seoul Capital Region

The reason Korea’s capital region has such a high concentration of population despite low productivity is not simply due to market functions. Rather, it is possible that non-market factors mentioned in Duranton and Kerr (2015) were
the cause over a long period of time during Korea’s rapid economic development. More specifically, a closer look at the fiscal structure of local governments in Korea shows that an increase in population is accompanied by a proportional rise, at minimum, in local income tax, property tax, local consumption tax, and other local taxes, but the burden of annual expenditures do not increase in proportion. In other countries, including OECD members, local governments take on the primary fiscal burden of expenditures that increase in proportion to population (education, police, healthcare, welfare, firefighting, etc.). In Korea, however, the central government is primarily responsible for procuring financial resources for these public services. If the expenditure that local governments are responsible for is maintained at the same level regardless of increasing population, while local tax revenue increases proportionally, local governments with larger populations, such as the capital region, gain greater financial benefit. These benefits lead to an increase (capitalization) in the land (housing) value of the regions with high concentrations of population. The fiscal benefits given to the capital region and the following problems of population inflow and economic concentration happen worldwide, as pointed out by Barca and McCann (2010). However, Korea’s capital region, unlike the capital regions in other countries, has a structure of tax revenues that change with the size of population and expenditures that do not, and therefore the financial surplus in the public sector is much larger than in other countries. In addition, aside from the fiscal structure of local governments, roads, railways, airports, and newly developed cities constructed in the capital region serve as benefits pointed out by Barca and McCann (2010) that the central government has granted to the capital region.

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16) For instance, in terms of education and police services, which are areas that require huge fiscal resources, Korea’s central government provides over KRW 15 trillion, despite the fact that the local governments in the Seoul capital region have sufficient funds to spend on those areas.
17) "agglomerations are the effect of billions of dollars—rupies—euros—renminbi of taxpayers’ money used by governments to boost agglomerations."
18) Theory on the relationship between the characteristics of Korea’s public good and concentration in the capital region is discussed in detail in the following chapter.
19) Another major example of capitalization through the public sector instead of market functions is the city of Sejong. A total of KRW 22 trillion has been invested in its construction, and according to data released by Statistics Korea, the land prices in Sejong have increased over KRW 20 trillion in the past five years.
Despite the severity of the problems in the region, a superficial understanding of the attributes of concentration there is the most important and the fundamental cause that distorted fiscal policies in Korea’s local governments. The next chapter examines the reasons why population concentration occurs in one area and the desirable fiscal policies to address it.
Existing Literature on Inclusive Growth

Studies on redistribution have been ongoing for a long time in the field of economics, but research on inclusive growth, which has received much attention in recent years, is significantly different, in some aspects, from the research on redistribution and the labor share of national income. First, studies on redistribution are from the viewpoint that improvement in equity (redistribution) is necessary, even if that means accepting a bit of inefficiency—or Okun’s law (1975), which states that there is an inverse relationship between efficiency and equity. On the other hand, the theory of wage-led growth emphasizes the necessity of raising the labor income distribution rate, which is on a clear decreasing trend (since the 1980s around the world, and since the 2000s in Korea), and raises policy implications for raising the minimum wage and strengthening the ability of labor to negotiate.

Unlike these studies, the theory of inclusive growth, in the spotlight in recent years, is a study of comprehensive redistribution that stresses socio-economic “inclusiveness”—including a progressive tax system and fiscal expenditure in support of low income households, as well as expenditures in education, healthcare, and labor—as positively impacting economic growth.

In terms of academic studies, the most representative research on the relationship between income inequality and economic growth was conducted by Kuznets (1955), which showed that inequality is high during the economic development phase and decreases again with economic growth. This has long been an established theory among academia in this field. Okun (1975), in particular, is a significant study that asserted the inevitable trade-off between
efficiency, which leads economic development and growth, and equity, which requires redistribution.

In the 1990s, studies on endogenous growth theories and political economics began to take off, and studies contradicting traditional assertions were published. Alesina and Rodrik (1994) and Persson and Tabellini (1994) published results of research based on theoretical and empirical models, which ran counter to the assertions made by Kunzet (1955) and Okun (1975). Alesina and Rodrik (1994) argued that, in terms of political economics, excessive income disparity leads to an increase in the progressive tax burden according to the median voter theorem, and as a result economic inefficiency of the economy increases. Persson and Tabellini (1994) used the overlapping generation model and found that excessive income disparity increases the level of tax burden for redistribution and the resulting reduction in savings leads to the reduction of accumulated capital that is helpful for later generations, and in the end negatively affects growth.

As shown in the study of relevant literature conducted by Boix (2009), research on the relationship between inequity and growth (development) has been continuously conducted since the early 1990s. Studies such as those performed by Forbes (2000) and Barro (2000), which proved a positive relationship between the two variables, unlike the findings in Alesina and Rodrik (1994) and Persson and Tabellini (1994), also reported various results. Forbes (2000) used a fixed effects model that takes into consideration the institutional, legal, and cultural differences between countries, which showed an inverse relationship between equity and growth. Barro (2000) demonstrated that, in low-income countries, excessive inequity hinders growth in the initial phase, while redistribution hinders growth in developed countries.

The term “inclusive growth” began to be used and spread by the World Bank (World Bank, 2009). However, there is a considerable difference between the concept of inclusive growth defined by the World Bank from the concept

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20) The median voter theorem states that the number of voters with the mean income or above is smaller than the number of voters with the median income, and therefore voters with less than the mean income will take advantage of their status as deciders by exercising their political influence (for redistribution policy) by voting.
of inclusive growth that the IMF and OECD adopted afterward. “Inclusive growth” in World Bank (2009) ultimately focuses on the “growth” of developing countries, and therefore is characteristic of a development strategy (growth model) that differs from the traditional safety net theory or a pro-poor growth theory. Rather than income redistribution policy, which focuses on short-term effects by providing equal opportunities for the various social classes in markets, resources, and regulations, World Bank (2009) emphasizes a long-term growth policy. Therefore, inclusive growth in the World Bank study is not a relative concept from the perspective of pro-poor growth, but an absolute concept that aims to relieve poverty through growth, and emphasizes the importance of growth policy (creation of new jobs, etc.) instead of inclusiveness. Since the main task of the World Bank is policy support for developing countries, there is a risk of those developing countries losing their growth engines if they overemphasize redistribution. It seems that, in order to lower such risk, World Bank (2009) used concepts like inclusive growth to stress the importance of securing growth engines over redistribution. However, in terms of theory, the argument made in that report about growth overriding redistribution is not a new idea nor is the World Bank asserting that both equity and efficiency can be improved simultaneously, and therefore its assertions are not much different from the traditional theories put forth by Kuznet (1955) and Okun (1975). In particular, World Bank (2009) did not define the concept of inclusive growth based on a theoretical model or empirical analysis. It could even be assessed that the concept of inclusive growth discussed is merely a declaration without new content. As a result, its research did not cause much reaction in developed countries, such as those in the OECD.

Inclusive growth came to be discussed widely in the US, Europe, the World Economic Forum (WEF), the G2, and developed and developing countries as well as international organizations in recent years due to a series of studies published by the IMF since 2011 (Ostry et al. (2011), Ostry et al. (2014)). An IMF study published in 2014, in particular, received a great deal of attention from the world’s mainstream media. As the Financial Times21) suggests, the

21) “To my surprise, the staff of the IMF, the most staid of institutions, addressed these questions in February in a note entitled Redistribution, Inequality and Growth,” (Financial Times, April 4, 2014), “A more equal
IMF, a conservative international organization that emphasizes market functions, began to strongly advocate inclusive growth, which grabbed the attention of the media and governments around the world. In addition, the OECD, which is centered on European countries with a strong governmental role and redistribution policy, has also introduced inclusive growth as a major agenda at the OECD Forum, considered to be one of the highest standing OECD meetings, since the early 2010s. Inclusive growth has now become a policy agenda for almost every country.

According to the IMF study conducted by Ostry et al. (2014), the lower the inequity (Gini coefficient) the higher the economic growth rate, and the impact of intense redistribution on economic growth rate is uncertain. From this, we can summarize the characteristics of the inclusive growth study as follows: first, this research showed an inverse relationship between inequity and growth not through a theoretical model but through empirical analysis based on macro data. Second, unlike the World Bank and its assertions about inclusive growth and policy implications in certain areas (human resources, jobs, etc.), the IMF study provides a broader significance of inclusive growth, arguing that resolving problems of inequity or expanding inclusiveness across societies and economies would resolve issues of inequality and contribute to economic growth.

Meanwhile, a series of research reports released by the OECD (2011, 2014, 2015, 2016, etc.) shows that inclusive growth can be studied largely in three different ways. The first is by analyzing the relationship between redistribution growth through study of the statistics related to inequality, such as income and asset inequality, that have gained particular interest since Piketty (2014), based on the quality data provided by OECD members. The second is similar to the study conducted by the World Bank (2009), as it suggests policy direction in different sectors (education, labor, corporate competition, and technological innovation) as well as active policy for implementation. The third study reveals the characteristics of independent research. Seeing that there was a clear limitation to using GDP as an index for measuring the success of inclusive growth, the OECD developed the Better Life Index as an alternative and is
Existing Literature on Inclusive Growth

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making efforts to determine the success or failure of inclusive growth based on changes in it.

The policy implications of research on inclusive growth, which started to gain traction in the late 2000s, are now linked to implications for real-life policy, appearing in the White House report (2016) and WEF reports (2015, 2017). In particular, the series of studies published by the WEF has created types of inclusive growth policy that each nation can immediately implement and even assesses the level of inclusive growth-related policies for each country. For instance, the WEF’s Inclusive Growth and Development Framework consists of seven pillars and 15 sub-pillars. Areas and sectors presented in the Framework are associated with improved quality of life for economic agents through inclusive growth.

[Figure III-1] The Inclusive Growth & Development Framework

Inclusive Growth Policies in Foreign Countries

1 United States

The US is known to have significant inequality, and the Occupy Wall Street protests in 2011 provided a starting point for the worldwide spread of demonstrations against inequality in social and economic forms. Because of this reality, the US has a high interest in inclusive growth, and inclusive growth accounts for a large portion of a report written by the White House Advisory Committee (February 2016). This chapter examines US inclusive growth policy framework described in the White House report (CEA, 2016), created by the White House Council of Economic Advisers.

CEA (2016) emphasizes the importance of strengthening the middle class toward continued growth of the American economy, and that middle class income depends on increases in productivity, participation in the labor market, and fair distribution. The middle class is at the center of inclusive growth, and policies for strengthening aggregate demand, promoting equality of opportunity, reducing market power concentration and rent-seeking behavior, and protecting low-income families against the consequences of inequality while fostering mobility are important in the effort to promote inclusive growth.


First, with regard to strengthening aggregate demand, the US government emphasizes the need to consistently implement appropriate demand management policies. An increase in aggregate demand causes a situation in which there is more demand than supply, thus promoting higher wage and labor market participation rates. This contributes to the improvement of worker skills and increases in productivity, and as a result, creating great potential for continued growth.

US policies for strengthening aggregate demand include fiscal expansion and accommodative monetary policy, such as the American Recovery and Reinvestment Act of 2009, which was implemented in response to the global financial crisis, and the expansion of unemployment insurance. The goal of these policies is to raise reduced income levels, particularly among low-income households, during the financial crisis, and reduce inequality by increasing aggregate demand.

Promoting equality of opportunity is highly relevant to improving access to education and vocational training, as such access must be provided equally to all for people to accept the outcomes of market competition. To this end, the American government has prioritized policies on improving access to childcare services and early childhood education programs, which provide quality education for young learners, especially children from low-income families. The US president has also approved the bipartisan Workforce Innovation and Opportunity Act (WIOA), which is expected to improve access to education and training, coordination between vocational training and jobs, employment services, and educational programs for older persons.

Policy to reduce market power concentration and rent-seeking behavior can reduce inequality without decreasing social welfare. The increase in rent-seeking behavior, resulting from increased market dominance, intensifies inequality, reduces competition, and hinders efficiency. Thus, policies that change the allocation of land can contribute to mitigating inequality and improving efficiency.

In this regard, government support policies for minimum wage and collective bargaining can affect the original allocation of rents by enhancing the negotiating power of laborers who have to bargain with their employers. Increasing workers’ economic rent can lead to not only a rise in their wages, but also in an increase
Inclusive Growth and Fiscal Policy

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in productivity through improved labor environments and expanded educational opportunities, which can have positive consequences for both workers and employers. In other words, in a situation where the total economic rent is fixed, it is possible to expect an increase in efficiency as well as a reduction in inequality by adjusting the ratio.

Strengthening antitrust laws and rational licensing conditions, mitigating land-use regulations, and implementing adequately designed intellectual property laws all help to reduce excessive rents, a reduction which has a positive impact on reducing inequality and increasing efficiency. In addition, it is also important for policymaking authorities to create a systemic environment that makes it difficult to pursue rent-seeking activities through lobbying.

Since protecting families against the consequences of inequality while fostering mobility is an issue of importance not only at the individual level but also at the societal level, the US government is paying close attention to the issue. Low-income households are highly likely to experience inequality of opportunity most frequently, and such experiences are likely to reduce their labor participation rate and ultimately have a negative impact on economic growth. Therefore, support for low-income households reduces inequality and provides a way for better participation, which is an economic growth process, and contributing to growth.

Institutions such as unemployment insurance, the Affordable Care Act, and wage insurance in the US have contributed to reducing inequality and protecting low-income households. Such policies not only have an impact on after-tax income for benefiting households but also pre-tax income, and are being proposed as the ultimate measures to mitigate inequality in the market.

Programs for low-income households are not only helpful for them in the short-term but also appear to increase their productivity and income and contribute to growth in the long-term. The Supplemental Nutrition Assistance Program, earned income tax credits (EITC), and Medicaid, a healthcare program for low-income families, positively affect education, wages, and mortality rates. Moreover, the US government is certain that high education levels and low mortality and crime rates will have a positive impact on productivity and potential growth in that they will comprehensively add to economic growth. The impact of the government’s redistribution policy is significant as it increases the social
benefits for individuals, improves the productivity of economic agents and the growth potential of nations, and contributes to sustainable growth.

2 United Kingdom

In terms of inclusive growth, the United Kingdom emphasizes the role of the region, such as the transfer of fiscal authority to cities and provinces, in an effort to improve the quality of living in the non-capital region that has been stagnant since industrialization. Since 2016, the UK has operated the Inclusive Growth Commission, which conducts research on practical ways to achieve inclusive growth centered on local governments, and proposes relevant policies. This section examines the UK’s inclusive growth policy based on the content of the report published by the commission (RSA 2017).

The RSA’s inclusive growth is based on the integration of economic and social policies and focuses on the establishment of social and physical infrastructure, implementation of inclusive industrial policy, enterprise-led improvement of productivity and creation of jobs, and support through regulation. As a measure to achieve these goals, the RSA proposes region-based industrial strategy, reestablishment of central-local relations, inclusive public investments, and redefining of the concept of inclusive growth. It is characteristic that they emphasize the role of regions and local governments.

Region-based industrial strategies in the UK involve local institutions, such as universities, hospitals, and major enterprises in the region, to directly engage and increase the productivity of local residents and create demand. These strategies aim to bring together enterprises and civic groups to establish infrastructure and create quality jobs. Region-based industrial strategies place a particular emphasis on support for improving productivity in low-wage sectors, such as hospitality, care, and logistics, and also include information on the establishment of civic enterprises or new enterprises that link the business and

education sectors together. The strategies also stress the need for cooperation and alliance of individual cities and provinces for the modernization of industry, and also reflect the understanding of regional assets, provision of quality jobs for local residents, and management of and support for continued projects following Brexit.

Regarding the reestablishment of central-local relations and the transfer of power to regions, the RSA emphasizes the integration of social and economic policies by region and the necessity of new partnerships to improve the effectiveness of public sector spending. One of the major examples in this sector includes the British government’s Northern Powerhouse Initiative (NPI) announced in 2014 to encourage growth and prosperity by granting rights to cities and regions to rebalance and reestablish local economies.26) The NPI helped to expand and integrate policies for the Local Enterprise Partnerships (LEP) in Manchester, Leeds, Liverpool, Newcastle, and Sheffield and the local authorities to cooperate strategically on key issues, and particularly supported social overhead capital investments necessary for the private sector and the market.

In addition, the UK places emphasis on regional flexibility, maximizing the utilization of local resources, establishing a co-commission to implement timely and practical measures, and reviewing local budgets and spending in relation to the transfer of authority to regions. In terms of securing regional flexibility, the British government proposes that each region establish policies based on national standards and operate public services in collaboration with other regions. With regard to maximizing the use of local resources, social contracts between cities and the government would make regional cooperation for public spending much easier. In this way, through the signing of contracts between the central government and local governments, the heads of local governments can have the authority to handle fiscal projects and also take responsibility for their outcomes. Moreover, the British government also proposes regional service cooperation, such as in healthcare and social care through the co-commission, be applied to other areas, such as the mayoral combined authorities,27) education,

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job training, and employment support. The government also stresses that the review of local budgets and spending are also not simply carried out by department but comprehensively undertaken to figure out total spending and investment. To this end, it proposes the need for regional accountability, horizontal integration of services, accountability for specific social and economic achievements, and multi-year financial arrangements.

27) Mayoral combined authorities have jurisdiction over local governments across regions, the military, and cities. It utilizes large-scale investment funding for services, such as education, planning, and provision of skills, as well as for the development of local economies, provision of new housing, and improvement of public services (Department for Communities and Local Government, 2017, p. 3).
Economic-Geographical Characteristics of Korea & the Effect of Inclusive Growth Policies

1 Population Policy & Economic-Geographical Characteristics

The fertility rate in Korea has dropped sharply to below 1.25 in the early 2000s to 1.05 mid-decade, before recovering since then 1.2 to 1.25. This trend in Korea is significant when compared to Japan. While Korea seems to be following in the latter’s footsteps, just 25 years later, in terms of economic growth rate and population aging, it surpassed Japan in low fertility rate 15 years ago. Northern European countries, including Sweden, have a higher rate of population aging than Korea, yet have maintained a fertility rate in the range of 1.75 to 2.0 for a long time, while Canada maintains a fertility rate of 1.5 to 1.75.

Korea has the lowest fertility rate of the 35 OECD member states, followed by the Eastern European countries of Poland (1.34), Slovenia (1.35), and Slovakia (1.4), as well as Japan (1.41), and Germany (1.44). Korea’s fertility rate is, in fact, the lowest in the world. According to the CIA World Factbook (2017), Korea ranked 220th of the 224 countries in the world in this area. Only Taiwan (1.12) and city-states, such as Macao (0.94), Hong Kong (1.19), and Singapore (1.2), have lower fertility rates than Korea.
As illustrated in [Figure V-1], Korea’s total fertility rate has remained almost unchanged since it dropped below 1.25 in the early 2000s. A closer look at the trend in the last 15 years shows that it rose from 1.12 in 2006 to 1.3 in 2012, then dropped again to 1.21 in 2014 and further to 1.17 in 2016, showing no sign of an increase. The Presidential Committee on Ageing Society and Population Policy aims to increase Korea’s fertility rate to 1.5 by 2020, but, as the trend in the past 15 years attests, it is very unlikely the plan will become reality. It seems nearly impossible to increase the fertility rate by 0.25 points to 1.4, let alone 1.5.
Improving the fertility rate, on which Korea’s future hangs, is difficult. An important fact overlooked by the Basic Plan on Low Fertility and Ageing Society is that the regional distribution of fertility rate paints a completely different picture than the low average fertility rate. The distribution of fertility rate by region (metropolitan area) in [Figure V-2] shows that the average fertility rate in Seoul is about 1.0; about 1.1 in Busan; about 1.2 in other metropolitan cities (Daegu, Incheon, Gwangju, and Daejeon); about 1.3 for Gyeonggi Province, Ulsan, and Jeju; and about 1.4 for other provinces. This means that Korea’s fertility rate shows a clear inverse relationship to population density, with the exception of Jeju.

Another noteworthy aspect of the regional distribution of fertility rates in Korea is that while Seoul’s rate did not fluctuate more than 0.05 over the past 15 years, in other regions it has fluctuated quite a bit. [Figure V-3] shows that Busan and Daegu recorded the lowest fertility rates of 0.88 and 1.0, respectively,
in 2005, and recovered to 1.14 and 1.22 in 2015, representing an increase of 0.26 and 0.22 respectively. Of course, the important factor in such a large increase is that both cities recorded the lowest fertility rate in Korea in 2005. However, a difference between these two metropolitan cities and Seoul is that there is a possibility that the current increasing trend in the former will continue while there is no indication of a significant increase in Seoul’s fertility rate in the future, as during the same period, Seoul’s fertility rate rose by 0.08, from 0.92 in 2005 to 1.0 in 2015. According to the 2016 fertility rate distribution, released in August 2017, the average rate in Korea dropped by 0.07, from 1.24 in 2015 to 1.17 in 2016. While Seoul’s fertility rate fell by 0.06 from the previous year to 0.94, fertility rates in Busan and Daegu each recorded 1.1 and 1.19, only decreasing by 0.04 and 0.03 respectively. Another city with a higher fertility rate is Ulsan, where it rose by over 0.3 between 2005 and 2015, from 1.18 to 1.486. While it recorded 1.42 in 2016, a decrease of about 0.6 from the previous year, it is still higher than the national average.

The increasing trend in fertility rate since 2005 is observed not only in Busan, Daegu, and Ulsan, but in most provinces (North Chungcheong, South Chungcheong, North Jeolla, South Jeolla, North Gyeongsang, South Gyeongsang, and Jeju). However, in Gyeonggi Province, which is part of the Seoul capital region, the fertility rate increased by only 0.1, from 1.17 in 2005 to 1.27 in 2015, and recorded 1.194 in 2016. Gyeonggi Province shares the lowest fertility rates in Korea with Seoul and shows no indication of a possible increase in the future. Incheon, which is also part of the Seoul capital region, is in a similar situation. Although its fertility rate increased by 0.15 between 2005 and 2015, from 1.065 to 1.216, it dropped to 1.144 in 2016.

In conclusion, an important characteristic of South Korea’s fertility rate overlooked by the Committee on Ageing Society and Population Policy in its Basic Plan on Low Fertility and Ageing Society is that the cause of Korea’s low fertility rate and low variability is related to the low fertility rate in the capital region.
Figure V-3 Fertility Rate Trends in Korea’s Metropolitan Cities (2000-2015)

Source: Statistics Korea (http://kosis.kr/), 'Population Trend Report.'
2 Employment Policy & Economic-Geographical Characteristics

A. Background Information on the Discussion of Regional Minimum Wages

In Korea, a single national minimum wage is imposed on employees, and there are no differentials across regions, occupations, or industries. This study examines whether there is a need to introduce a regional minimum wage system. There are two main discussions that need to be scrutinized. The first is the relationship between the minimum wage system and inclusive growth. The minimum wage system itself is often presented as a discourse on inclusive growth or income-led growth. New York City has proposed the #OneNYC strategy to offer “well-paying jobs and opportunities for all New Yorkers to live with dignity and security,” which includes measures for education, government services, and an increase in minimum wage. Basu and Yusuke (2013) suggested that, as long as it is well-designed with appropriate regulators, the minimum wage system will increase income level and future employability of workers without having a large impact on the demand for labor. In this context, it seems only natural to take the minimum wage system into consideration in determining the policy direction for inclusive growth.

28) Discourses on inclusive growth and income-led growth both mention minimum wage policy, and therefore, for the purpose of this section, the two growth theories are not differentiated.

29) “The #OneNYC strategy is identified as ‘the plan for a strong and just city,’ aiming to make New York City an ‘inclusive, equitable economy that offers well-paying jobs and opportunities for all New Yorkers to live with dignity and security’ (JRF, https://www.jrf.org.uk/sites/default/files/jrf/files-research/international_cities_newyork.pdf, Accessed December 18, 2017.)

30) “The plan’s more specific goals include lifting New Yorkers out of poverty (800,000 by 2025), promoting pre-kindergarten education for all, delivering a ten-year affordable housing plan, better integrating social and government services delivery (and reorganising the workforce development system), raising the minimum wage, promoting criminal justice and reducing traffic fatalities to zero.” (JRF, https://www.jrf.org.uk/sites/default/files/jrf/files-research/international_cities_newyork.pdf, Accessed December 18, 2017.)

31) “In sum, a minimum wage policy, if carefully designed and implemented with supportive adjustment policies by governments, could be a powerful macroeconomic and labour market policy instrument to increase incomes for workers, boost domestic effective demand and help narrow the income/earning gap. Moreover, it forces firms to improve production efficiency and hence contributes to economy-wide productivity growth and increases firms’ competitiveness.” (Basu and Yusuke, 2013, p. 4.)
The second discussion is related to the present Korean administration, which was inaugurated in 2017, and its pledge to raise the minimum wage. In the Five-year Plan for the Administration of the State, the Moon Jae-in Government promises to raise the minimum wage to KRW 10,000 by 2020 and consider measures to ease the burden on small business owners as it seeks to reduce the wage gap as part of policy to make workplaces non-discriminatory. As part of such efforts, the Korean government raised the minimum wage for 2018 by KRW 1,060 (16.3%), from KRW 6,479 to KRW 7,530 on August 4, 2017.\(^\text{32}\) In order to increase the minimum wage to KRW 10,000 by 2020, minimum wage in Korea needs to be increased by about 15 percent in 2019 and 2020. It is difficult to find a case internationally in which such a high increase has been applied to the minimum wage within three consecutive years.

One of the main concerns surrounding these measures is that there may be stronger negative than positive consequences, when the same minimum wage is applied nationwide without taking regional differences into consideration. This is also closely related to policy coherence. If the minimum wage system inherently contains positive effects of inclusive growth, policy coherence is necessary to realize or maximize those effects.

This paper examines the regional minimum wage system as a way to reflect the geographical heterogeneity of the national minimum wage system. Of course, under the current national system, it is difficult to determine the impact of a sharp increase in minimum wage on regional economic disparities and local labor markets, and the way the effects of a regional minimum wage system may differ from the national minimum wage system is unclear. Therefore, the main purpose of this study is not to argue that one of the two systems is more conducive to inclusive growth policy, then collect and expound on evidence to support the argument. Rather, this study aims to examine whether there is a possibility to minimize the negative effects by introducing a regional system in the short term in the process of increasing the minimum wage to KRW 10,000 by 2020, and also review the precautions that should be considered when introducing such a regional system.\(^\text{33}\)

B. Theoretical Review of the Impact of Increased Minimum Wage

How would the wages, employment, and inter-regional movements in a regional minimum wage system differ from those of the national minimum wage system? To answer this question, first we will examine a simple theoretical model. We will study the effects of minimum wage on regional economics with a focus on formal and informal sectors.

There are two ways to increase minimum wage: 1) increase the minimum wage identically across the nation, or 2) apply a regional minimum wage. [Figure V-4] presents the case of raising the minimum wage identically nationwide. When the prices of goods and services in the capital region are $P_a$, and the prices of goods and services in the non-capital region are $P_b$, an increase of minimum wage from the current level $MW_a$ to $MW_a^*$ would result in a lower real minimum wage in the capital region ($MW_a^*/P_a$), compared to the real minimum wage in the non-capital region ($MW_a^*/P_b$).

If the nominal minimum wage increases significantly, the real minimum wage in the non-capital region will increase sharply, which will then increase excess labor supply from the current level $U_b^*$ to $U_b^{**}$. This may result in pushing out a considerable number of formal sector job seekers in the non-capital region to the informal sector. As can be seen in the right hand graph in [Figure V-4] (2), labor supply in the informal sector of the non-capital region will then increase from $S_b^*$ to $S_b^{**}$. Since the demand for labor cannot be met in the formal sector, labor demand in the informal sector will also increase from $D_b^*$ to $D_b^{**}$. The wage in the informal sector in the non-capital region will then be maintained at the market equilibrium wage ($w_b^*$), as it had been at the time when there

33) In the Korean version of this paper, we introduce Korea’s minimum wage system and its current status, Japan’s minimum wage system and its current status, as well as quantitative analysis through regional panels. However, in the English version, we have only included the details of a theoretical review of regional minimum wage.

34) When $P_a, P_b$ are price indices based on 100, the real minimum wage can be calculated by dividing the nominal minimum wage by these price indices and multiplying by 100. Since the relative size is important in this case, however, the real minimum wage is not calculated.
was no minimum wage.

At the same time, under the same scenario of increasing the nominal minimum wage across the country, the increase in real minimum wage in the capital region will not be much larger than that of the non-capital region. [Figure V-4] (1) shows this smaller increase. Similarly, the size of employment in the capital region informal sector will not be significantly larger than in the non-capital region.

The above scenario does not consider the possibility of inter-regional movement. If it is possible to move between the capital and non-capital region, and take only the wage effect into consideration without considering various welfare benefits in the capital region, then it is possible for workers in the capital region to move to the non-capital region for its high real wage. The dotted lines in the graph in [Figure V-4] (2) reflect this possibility of inter-regional movement. In this case, the informal labor supply of the non-capital region will increase even more, lowering the wage level in that sector in the long-term. On the other hand, due to the migration of workers to the non-capital region, the wage for the capital region informal sector will increase.

In short, when the nominal minimum wage is raised equally across different regions (national minimum wage), the real minimum wage in the non-capital region would particularly grow, resulting in an enlargement of the informal sector. If the gap between the real minimum wage in the capital region and the non-capital region is large enough, workers will migrate from the capital region to the non-capital region. As a result, the wage in the capital region’s informal sector will increase while in the non-capital region’s informal sector it will decrease. Therefore, if the nominal minimum wage is increased, employment in the non-capital area’s informal sector may increase while the wage will decrease. In other sectors (the capital region’s formal and informal sectors, the non-capital region’s formal sector), employment may decrease while wages increase.
(1) Formal Sector

[Capital region]

[Non-capital region]

(2) Informal Sector

[Capital region]

[Non-capital region]

Source: created by the author.
[Figure V-5] shows the effects of regional minimum wage in the formal and informal sectors of the capital and non-capital regions. The existing minimum wage has been set at the same level throughout the nation, and the real minimum wage in the capital region and non-capital region are noted as $w_a^*$ and $w_b^*$, respectively. Then we assume the minimum wage is further increased and varied by region. There are probably a number of different regional minimum wage systems. For the purpose of this paper, we provide an extreme case, assuming that the real minimum wage in the capital region and the non-capital region is equal. For instance, if the nominal minimum wage is linked to the regional price, and the nominal minimum wage in the capital area and non-capital area become $P_a x_a$ and $P_b x_b$, respectively. And if we take into consideration that $x_a = x_b = x$, the real minimum wage will be the same across all regions.

[Figure V-5] shows an example of employment and wage effects when the nominal minimum wage is designed so that the real minimum wage can be the same in the capital region and in the non-capital region. The figure illustrates the case when the new real minimum wage is higher in both the capital and non-capital regions than the real minimum wage from the previous increase. However, a different graph can be derived depending on the value of $x$. If $w_b^*$ is sufficiently higher than $w_a^*$, then it is possible for the real regional minimum wage in the capital area to be higher than $w_a^*$, but the real regional minimum wage in the non-capital region may be lower than $w_b^*$.

Although different conclusions may be drawn in different circumstances, what [Figure V-5] is trying to show is that the regional minimum wage system can reduce the negative effects of the national minimum wage system, as long as $x$ can be set accurately. [Figure V-5] shows that the rise in unemployment in the formal sector is relatively smaller than in [Figure V-4]. As a result, expansion of the informal sector in both the capital and non-capital regions, resulting from an additional increase in minimum wage, will not be noticeable. And since the real minimum wage in the formal sector is the same in both the capital and non-capital regions, the incentive to migrate between the regions disappears.35)

The implications of the above model are summarized as follows. First, if
the nominal minimum wage is increased sharply without taking the real prices in regions into consideration, both positive and negative effects are expected to occur. One of the positive effects would be an increased minimum wage in the informal sectors in both the capital and non-capital regions, and an increase in wage in the capital region’s informal sector. In addition, there is a possibility for the population of the capital region to move to the non-capital region, which would alleviate the severe concentration in the former.

Negative effects, on the other hand, include the possible decrease in employment in the formal sectors of both regions and an increase in the informal sector of the non-capital region. Analysis of the model leads to an expectation that employment in the capital region’s informal sector will decrease. However, if we take into consideration the possibility of foreign workers coming into the capital area, where the real minimum wage is high and there are many employment opportunities, the capital area may also see an increase in the informal sector. In this instance, the increase in the nominal minimum wage will likely reduce the percentage of employment in the official sector in both the capital and non-capital regions.

It is particularly important to note that the higher the relative real minimum wage, the greater the decline in the formal sector. If the economic growth rate of a region tends to decrease when the informal sector increases, then an increase in the nominal minimum wage suggests that the economic gap between the non-capital area, where the real minimum wage is high, and the capital-area, where the real minimum wage is low, may be widened.

Moreover, note that in this model, the possibilities of increase in the median wage and above mean wage, increase in the human capital of minimum wage earners, and the increase rather than decrease in employment have not been considered in line with the increase in minimum wage.

35) Even if a wage gap is formed in the informal sector, the level of wages in that sector in both the capital and non-capital area may not be very high, and therefore it is difficult expect that the gap will be great enough to make up for moving costs. Thus it would be difficult to expect inter-regional migration to occur due to the wage gap between the informal sector in either region.
We are even more cautious to draw implications from analysis of the model of regional minimum wage, because there is the problem of how to differentiate the minimum wage by region. Of the numerous possibilities, in this study we have examined a special case, where the real minimum wage in all regions is the same by using a certain value $m w^f \in (m w_a, m w_b)$ derived from somewhere.
in the middle between the real minimum wage in the capital region ($m_w_c$) and the real minimum wage in the non-capital region ($m_w_n$) in comparison with the national minimum wage ($MW^*$). When the regional difference in wages in the informal sector is not significant enough to induce inter-regional migration, the cause for such migration disappears. Moreover, when postulating the regional real minimum wage as $m_w'$, the resulting increase in real minimum wage in both capital and non-capital areas is not as noticeable as in the nominal minimum wage system.

Thus, regional minimum wages accomplish the goal of the minimum wage system to increase the wages of low-wage workers, and also contributes to maintaining the individual economic conditions in each region by reducing negative effects in the size of the informal sector and changes in employment. However, as emphasized above, this is only one of various potential regional minimum wage systems, and it is therefore difficult to regard these possibilities as general effects of these other possible systems.

C. Section 2 Summary & Policy Implications

This section offers the summary of the chapter and proposes related policy implications. First, Korea’s minimum wage system has been developed based on the nationwide nominal minimum wage system. Recently, the business sector has been demanding differentiated minimum wages depending on the industry or the region, but has been unable to reach a compromise with the workers. This contrasts markedly with the case of Japan, which has naturally adopted the differentiated minimum wage by region since the minimum wage system was introduced. However, Japan’s regional minimum wage system was able to be introduced and established, not because of the government’s strong will to pursue regional coherence, but because a user-oriented minimum wage system was introduced during the initial phase of realigning related laws, and this user-oriented minimum wage law was easily accepted by the people.

Policymakers considering a regional minimum wage law can gain three implications from examining the development process and current state of Japan’s minimum wage law. First, implementation of regional minimum wage needs to be supported by credible data. Such data is essential to calculating the cost
of living and wage levels by region to establish an effective regional minimum wage system. Second, it is necessary for labor and management to discuss this issue on equal footing, since regional minimum wage systems can be implemented in a direction favorable to employers, losing such a system’s original purpose. Third, it is essential to discuss a regional minimum wage system that does not intensify regional disparities. In Japan, regional disparities are increasing over time. Since regional minimum wages would reflect the overall economic circumstances within the regions, it is necessary to conduct additional research on whether the “widening minimum wage gap between regions” is caused by the regional minimum wage system or the natural economic development process.

In addition, it is also possible to consider establishing long-term policy to prevent the minimum wage from expanding across regions. For instance, to minimize the negative effects of a short-term increase in minimum wage, the government may introduce a regional minimum wage system for a limited period of a few years during which there is a sharp increase in the minimum wage, and consider increasing it in the long term toward the end of the limited period so that the differences in regions in terms of nominal minimum wage can be evened out.

What is the current minimum wage level in Korea like compared to foreign countries? Among 26 countries, Korea is considered one of the countries with a high increase rate of minimum wage between 2005 and 2015 in terms of both the nominal minimum wage and the real minimum wage, which reflects purchasing power. As a result, the level of Korea’s real minimum wage rose from below middle rank to the middle rank among 26 countries, and the ratio of minimum wage to the median wage also rose considerably during the same period. In terms of the ratio of minimum wage to the median wage, Korea saw the highest increase between 2005 and 2015 of the 26 countries, along with the increase rate of wage levels. It is difficult to conclude that these results are only due to the effect of the increase in minimum wage, since the growth rate of the median wage is relatively low in Korea. Nevertheless, one could argue that, to some extent, (nominal and real) minimum wage has contributed to narrowing down the hourly wage gap among workers.

It is difficult to find a comparative study of the economic effects of a regional
minimum wage system and a nationwide nominal minimum wage system. Therefore, this paper aimed to examine a simple economic model to compare the effects of the two. For the purpose of this experiment, we divided Korea into the capital region and the non-capital region, and assumed that each region consisted of a formal sector, where the minimum wage system is applied, and the informal sector, where the minimum wage system is not applied. Since this dual labor market system is common in Korea, this assumption is plausible.

The analysis of the model shows that when the nominal minimum wage increases sharply, the real minimum wage in the non-capital region also increases sharply. As a result, the size of the formal sector decreases while the informal sector increases in the non-capital region. Furthermore, when inter-regional migration is possible, workers can move from the capital region with lower real wage to the non-capital region with higher real wage. The formal sector in the non-capital region experiences a decrease in employment due to an increase in real wage, while new workers flow into the informal sector of the non-capital area. As a result, the wages in the non-capital region’s informal sector fall. This implies that if the minimum wage system, which was originally implemented to improve the wage level for low-wage laborers, does not take into consideration the prices of goods and services in different regions, and cost of living, then the wages in the informal sector of the non-capital region, where the real minimum wage is high, will actually decrease. On the other hand, wages in both the formal and informal sectors of the capital region will increase, and therefore it is difficult to determine the signs of net profit of the whole economy, considering the results of the labor markets in the capital and non-capital regions, with a model.

One important implication in this model analysis is that potential inter-regional migration may not lead to positive outcomes. When there is a sharp increase in the nominal minimum wage across the nation, people move from areas with low real minimum wage to areas with high real minimum wage. One might argue that this is a result of reducing concentration in the capital region. However, it would not be advisable if this measure ends up enlarging the size of the informal sector in the non-capital area, even if it does alleviate concentration in the capital region. This is particularly bad if the potential growth rate of a region decreases with the increase in informal sector
size over the formal sector.

A similar model was used to analyze the effects of a regional minimum wage system as well. Since there are many ways to differentiate minimum wages by region in reality, it is impossible to figure out the “universal” effects of the regional minimum wage system. This study took the regional minimum wage system that allows real minimum wages in the capital and non-capital regions to be the same when the minimum wage is increased. In this case, depending on the level of existing minimum wage in each region, the level of increase in the informal sector is determined by region and the real minimum wage becomes the same across all regions. As a result, there is no incentive for people to migrate between the capital area and the non-capital area.

It is difficult to grasp the effect of the nominal minimum wage increase in reality, where there are a number of factors, without conducting a quantitative analysis. This study divided the nominal minimum wage into land price or rent price to define “land price-based” or “rent price-based” real minimum wage, and analyzed the correlation between the regional disparity in real minimum wage and in mean wages (or the wage disparity by company size). Our findings showed that the increase in the real minimum wage gap led to a decrease in the mean wage gap across regions and wage gap by company size. On the other hand, a close look at the effects of population migration suggests that people move to areas with high real minimum wage. However, when environmental variables, such as fine dust, are additionally controlled, the impact of real minimum wage on population migration did not turn out to be statistically significant.

Individual & Regional Inclusiveness of Education Policy

A. Significance of Analysis

With prolonged low growth after the financial crisis, the concentration of wealth is intensifying and the resulting income inequality continues to worsen. Most countries, including the developed ones, are introducing a variety of education reforms to alleviate this income inequality and improve overall national
productivity in the long term. Securing equity in educational opportunities and thereby expanding job prospects are considered the most direct policies to reduce income inequality.

The degree of educational inequality in Korea is relatively low according to international standards. However, domestic research on public perception reveals the actual severity, hinting at the huge gap between the awareness of scholars, experts and policymakers, and that of individual citizens. The results from studies conducted with aggregate data based on international organization standards are completely different from domestic studies based on micro data. This study suggests that, if there is a huge disparity between the provision of educational opportunity for the younger generation according to parental income and benefits, there is a need to analyze whether there is room to reduce some of this gap through the nation’s finances.

This analysis begins with the question “Who will work in what way to maintain the educational ecosystem to produce highly-educated people even from low income families?” Educational inequality is a socio-economic phenomenon, and therefore it is not easy to look at the whole picture with research results based on financial indices. However, this study is still significant in that it examines where the problem of educational equity is concentrated in Korea, and to what extent the government’s finances can be used to improve educational equity. In addition, this study aims to examine the trends of developed countries in this regard and looks at what can be reflected in future policies.

B. The Role of Education in Inclusive Growth

Inclusive growth means that sustainable growth is possible when the opportunity to participate in socio-economic activities is fairly equal for all people through the reduction of social and economic inequality. Inclusive growth is important because, if we focus only on growth itself, the continuously increasing income inequality will create a cost burden and ultimately encroach on growth, making it difficult to ensure its sustainability. According to existing studies, the differences in investment in education, healthcare, and other areas that arise from income inequality have a direct impact on equality of opportunity, and therefore the core value of inclusive growth is in mitigating income inequality.
Existing studies (Hanushek and Woessman, 2011) and publications by international organizations (OECD, 2017) discuss the importance of consistent education policy as a key policy for inclusive growth. The most direct policy often proposed to reduce income inequality is to secure equity in the provision of educational opportunities and expand the possibility of entry into the labor market. The subjects, themes, and priorities for that should be included for the expansion of equal educational opportunities may change depending on each country’s economic status, financial size, fiscal investment trends, and socio-political background. Most studies so far related to inclusive growth and education mainly concern themselves with expansion of the minimum educational opportunities (low-income households, women, etc.) to overcome absolute poverty in developing countries or underdeveloped countries. These studies include research that has been conducted by international organizations to expand educational opportunities in Asian countries, such as “Framework of inclusive growth indicators” by the Asian Development Bank (ADB) (2014) and “Promoting inclusive growth through higher education” by the Philippine Institute for Development Studies (2016). In addition, there is a study that estimated the necessity and impact of building up human capital for African countries to escape poverty: “Skills for inclusive growth: towards a long-term strategy for higher education and training” by the Development Bank for Southern Africa (DBSA) (2010). Meanwhile, a document related to India’s economic development policy in 2007 proposes the direction of educational policy in India and reveals that economic development is built on the foundation of education.

Most developed countries, however, have established compulsory education, and therefore expansion of educational opportunities is no longer a policy issue. Rather, income inequality has become a major issue since the financial crisis, and the content and subjects of inclusive policies in developed countries are now much broader than in the past. The reason that developed countries choose education as a major policy agenda that has an impact on inclusive growth is because the most effective means to reduce income inequality is to secure skilled

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36) "Inclusive growth and education: on the approach to the eleventh plan five-year plan,” Economic and political weekly, 2007
human capital. OECD countries recognize that the ultimate goal of growth in the macroeconomic flow is changing over time and are therefore focusing on minimizing socio-economic costs. This is because it is difficult to guarantee the sustainability of growth in any country unless income inequality is reduced to include all generations and all classes of people.

In inclusive growth data from countries around the world, including the developed world, education has been proposed as the most important policy (Pillar 1). In the White House Council of Economic Advisers Report that the White House submitted to Congress, the US government stated that early childhood education was the priority in educational policy for inclusive growth. Another study proposed that early childhood education opportunities could have a significant impact on income levels and quality of life in 30 years. According to OECD data on the percentage of “resilient students,” the gap in educational opportunities in the US is wider than in other developed countries, and the provision of quality educational opportunities is a key agenda not only at the state level but at the federal level as well.

The evaluation of Korea on the expansion and utilization of human capital as a growth engine allows us to determine policy priorities for inclusive growth. In the WEF’s 2017 Global Competitiveness Report, Korea ranked 26th of 137 countries surveyed, remaining at the same level as the previous year. The WEF stated that Korea needs to accelerate its paradigm changes, such as by expanding investment in human capital and innovative growth, in order to improve Korea’s national competitiveness, which it pointed out has been in decline for the past decade, with imbalances standing out in 12 areas. It also brought attention to the low efficiency of Korea’s labor market, assessing that it was the chronic factor in stunting national competitiveness and emphasized the need to maintain its lead in capacity for innovation over its competitors.

38) "Public investment that improves the inputs in a child’s early years can help to close critical achievement, health, and development gaps, and can lead to benefits such as higher earnings that accumulate over a lifetime. Closing these gaps is not just about education, but also about more broadly alleviating the budget constraints facing families of young children” (CEA, 2016, p. 154)
As these are issues unique to Korea that we have been aware of, their mention by the WEF only shows that it is important to think of specific improvement directions and measures.

C. International Comparison & Assessment of Korean Education

The indicators of educational conditions in Korea, which are emerging from the perspective of inclusive growth for international comparison, are excellent. According to a survey on the percentage of resilient students, which the OECD conducts every three years, Korea has a higher percentage than other developed countries. In its survey, the OECD uses two standards. Students are considered resilient if they are part of the bottom 25 percent in terms of social, economic, and cultural background yet perform among the top 25 percent of students with similar backgrounds across all participating countries and economies.

Regarding education, the Korean media has recently highlighted concern about the declining number of resilient students in Korea. From 2006 to 2015, the average percentage in OECD countries rose by about 1.5 percentage points, from 27.7 percent to 29.2 percent. Meanwhile, during the same period, the percentage of resilient students in Korea decreased from 43.6 percent to 40.4 percent. One notable country is Japan, which has a higher absolute percentage of resilient students, and yet it has grown in the same period from 40.5 percent to 48.8 percent. It is also worth noting that students from different social,

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40) "Resilience is characterized by academic success where socio-economic and structural family factors would predict failure (Gordon Rouse, 2001). --Resilience defines academic attainment in the face of socioeconomic adversity, which is a major risk factor acknowledged to influence children’s and adolescents’ social and emotional functioning, as well as cognitive competence (Schoon, 2006)” (as cited in Boon, 2008, p. 82)

41) Conducted every three years based on the socio-economic backgrounds of students, the survey uses the ESCS (Index of Economic, Social and Cultural Status) developed by the OECD and PISA. "Disadvantaged students" are those in the bottom 25 percent in terms of economic, social, and cultural status, yet perform among the top 25 percent across all participating countries and economies. (OECD, PISA 2015 Database, (Table 1).6.7 http://dx.doi.org/10.1787/888933432786, accessed on September 28, 2017).

42) Chosun Ilbo, December 12, 2016, "There are fewer resilient students in Korea while the number of resilient students is growing in the US and Japan," (http://news.chosun.com/site/data/html_dr/2016/12/12/2016121200245.html, accessed on October 13, 2017).
economic, and cultural backgrounds are gradually closing the gap in their performance scores in the US and UK, while in Korea the gap is actually increasing. This is important because, unlike in European countries, the competition to enter colleges is as competitive in the UK and the US as it is in Korea, and their education market is completely open based on capitalism. Therefore, the trend of a decreasing educational gap in the US and the UK has many implications for Korea.

However, a close look at the data makes it difficult to come to a firm conclusion that the percentage of resilient students in Korea is a problem. As you can see in data since 2005, the percentage of resilient students in Korea is among the highest, following Japan and Estonia. It is also difficult to say that there has been a decreasing trend in this area over the past decade, because the percentage of resilient students in Korea was 56 percent in 2009, particularly high and nearly twice the OECD average. Finland is showing a similar trend - that nation used to boast excellent educational conditions and performance, but these seem to have deteriorated due to the decline in economic conditions in recent years.

In addition, the intensified use of private tutoring due to worsening income inequality makes us wonder whether our society can be inclusive in the future. Regarding rigid class hierarchy through the intensification of private tutoring, based on micro data analysis, many Korean research papers doubt the inclusiveness of education in Korea. In a recent study, Oh Sung-jae and Ju Biung-ghi (2017) created an index through analysis of labor panel data and highlighted the phenomenon in which a family’s wealth and level of education are handed down to their children. The researchers came to the conclusion that it is difficult to move up the social hierarchy through children’s education in Korea. Furthermore, the issue of deteriorating quality of student life has already become a major concern society.

In terms of the areas related to education and labor productivity seen through the youth unemployment rate and the costs of majors failing to match available jobs, of OECD member countries, Korea remains in the bottom ranks, and the results of the Program for the International Assessment of Adult Competencies (PIAAC) contrast dramatically with PISA scores. This shows the difficulty of generalizing and simplifying the direction towards improving Korea’s educational
conditions for inclusive growth. In addition, investments in education are considered part of the comprehensive process of education that happens in both schools and at home under social, economic, and cultural backdrops. It is even more difficult to evaluate educational achievements and policies through fiscal investment indices or policy changes.

D. Issues in Korean Education: Inequality in Credentials & Qualifications Resulting from Income Inequality

The phenomenon of income inequality leading to inequality in credentials and qualifications being passed down to the next generation like the intergenerational transmission of wealth has been an important research topic for a long time. An Chong-Bum and Jeon Seung-Hoon (2008) studied the data from the 1st, 2nd, 7th, and 8th Korean Labor and Income Panel Study and built and horizontally connected the data on households of children not living with their parents, and confirmed the existence of intergenerational transmission, in which the parents’ level of education not only affects the parents’ income level but also the child’s income level. The findings of that study imply that balanced provision of educational opportunities allows a healthy intergenerational transmission of wealth. Since then, Yeo Yu-jin et al. (2007) and Kim Hee-sam (2009) also studied the issues of inequality in credentials and qualifications due to income inequality using a variety of data and hypotheses. The theoretical papers related to the above discussion are based on the studies of Stiglitz (1975), Schultz (1961), and Mincer (1974), who explained the link between labor productivity and education in the production function.

Research conducted at the local government level also supports the above argument. A study led by the Seoul Metropolitan Office of Education and conducted by Yoo Han-gu and Lee Hye-sook (2011) analyzed a multi-level model for the disparities in school education in Seoul and found that the average monthly household income for students from special-purpose high schools was KRW 7.27 million, while that for low-achieving students from public high schools was KRW 4.1 million. This study asserted that the differences in school performance resulting from differences in home environment became more distinct as students transition from elementary to middle to high school, and
emphasized the need to prevent a widening of the education gap from elementary to high school.

There are also many studies that disagree with the idea that parental income levels affect children’s performance in school, and that the gap in academic achievement leads to income disparity in the labor market, causing children to have similar income levels to their parents. According to an international comparative study conducted by Kim Jin-young et al. (2014), the difference between parental education level and children’s academic success is relatively small, which agrees with the average national figures from international comparative data. In addition, Byun Yanggyu et al. (2012) used data from the National Youth Policy Institute Panel Survey (2003-2007) to demonstrate that the gap between children’s academic achievement in different family income levels is actually narrowing. The gap between children’s academic achievement based on their parents’ education level is also decreasing, and ultimately educational disparity is in a decreasing trend in terms of academic success. This allows room for the assertion that there is no evidence that the intergenerational transmission of wealth has intensified.43)

However, it is important to note that when private education comes into the picture—or in other words when considering the burden of education costs that the public can feel—there is a continuous publication of studies that argue that the role of education as a social ladder is still closely related to the concentration of wealth due to income inequality. Studies conducted by Oh Sung-jae and Ju Biung-ghi (2017) and Ju Biung-ghi (2016) also showed that the increase in achievement gap due to the intensification of private education is causing a decline in the proper function of education. An analysis of environmental factors, such as the male guardian’s education level and the average monthly household income, revealed that these factors have an effect

43) Kim Bong Ju (2015), who analyzed the efficiency of securing funding for public education, studied the optimal method for the Korean government to secure public education through taxes or private education in relation to the income gap between different classes. When there is a significant income disparity, the public education burden (tax burden) might be effective, but if the income disparity is relatively small, it is effective to improve equality through private education (burden on the public). In other words, Kim demonstrated that unconditional expansion of free education is inefficient as it increases the externality of educational services.
on the inequality in foreign languages in the verbal and foreign language section of the college entrance exam. In addition, using analysis that proved the general opinion that the capacity to spend on private education affects the opportunities for academic achievement, studies show that students from rural farming and fishing towns experience inequality in education opportunities when compared to students from urban areas, which led the authors of these studies to support equal opportunity programs such as the Balanced Regional Student Selection Program.

In addition, according to the status of education report by the National Assembly Budget Office (Ma Kang-Rae and Kang Eun-Taek, 2016), higher spending on private education results in higher college entrance rates, including into the top 10 universities in Seoul. The study suggests that the root cause for the investment in private education is that society is based on academic cliques and the systems of college ranking and college entrance, yet there have been only feeble attempts to resolve this issue.

In conclusion, in a country like Korea, where there is a high dependence on private education, the problem of inequality in qualifications and credentials due to income inequality cannot be completely overcome with public education policies. The problem of intensifying private education can be fundamentally resolved by reducing income inequality, and it would be effective to minimize the distortion of basic resource distribution and increasing government intervention.

E. Empirical Analysis: The Relationship between Educational Investment & Percentage of Resilient Students

1) Materials & Hypothesis

This section aims to examine the relationship between OECD member countries’ investment in education and the percentage of resilient students. We applied the data and analytical framework used by Kim Hyun-A (2017),44) based on the Busemeyer (2008) model, and examined the dependent variable with the percentage of resilient students.

44) Applying the data and analytical framework used in Kim Hyun-A (2017), "IV. Empirical Analysis,"
(Hypothesis 1) An increase in income inequality (regional disparity) leads to a decrease in the percentage of resilient students

Hypothesis 1 is an examination of the macroeconomic effects, and assumes that an increase in income inequality leads to a decrease in the percentage of resilient students. According to Kim Hyun-A (2017), an increase in income inequality leads to an increase in educational investment and a decrease in PISA scores. Benabou (1996) also pointed out that a large gap between the financial capabilities of different regions result in the large difference between educational funding, which induces an imbalance in educational achievement and ultimately leads to income inequality in adulthood. In addition, the study demonstrated that the higher the income inequality, the lower the average scores of students who are relatively unprotected.

![Figure V-6] Correlation between Level of Income Inequality & Per-Capita GDP in OECD Countries (2005-2015)

[Figure V-7] Percentage of Resilient Students & Gini Coefficient

(Hypothesis 2) An increase in educational investment amounts to an increase in support for low-income households and educationally underdeveloped areas and also increases the percentage of resilient students.

Since the percentage of resilient students based on PISA scores corresponds to the results of investment in public education, it is necessary to examine the relationship between the percentage of resilient students and the size of educational investment in Hypothesis 2. Moreover, in OECD countries, local governments are responsible for the main financing of primary and secondary education curricula, and therefore we used the indices about revenue decentralization and expenditure decentralization as well. Existing studies...
conducted by Kim Hyun-A (2017), Fredriksen (2013), and Busemeyer (2008) show that an increase of investment in public education positively affected PISA scores. This paper took that research a step further and used PISA scores to examine the impact of investment in public education on the percentage of resilient students.

(Hypothesis 3) The higher the interest of the school, teachers, and parents in the students, the larger the percentage of resilient students

Hypothesis 3 examines the impact of schools and parents, which are considered the most important factors in students’ grades. For studies on the economic, social, and cultural impact on resilient students, we consulted the research conducted by Agasisti and Longobardi (2012, 2014) and Boon (2008). In these studies, teachers’ views of education and parental education and income level were considered major influence variables.

2) Analysis of Factors Affecting Percentage of Resilient Students

<Table V-1> shows data from OECD member countries from 2005 to 2015. First, the results of empirical analysis show that the coefficient of the Gini index is negative and statistically significant. This confirms that the higher the income inequality in a country, the greater the decrease in percentage of resilient students. If income inequality within the country intensifies, it becomes more likely for underprivileged students and those from low-income households to find themselves in the blind spots of educational opportunity and less likely to earn relatively good academic scores. Since this also implies an effect on the probability of students to find quality jobs, it supports the hypothesis that the higher the income inequality, the weaker the function of education as a social ladder.

Second, this analysis shows that public education expenditure increases the percentage of resilient students. In this model, public education expenditure uses two variables: educational expenditure relative to GDP, which is the burden on both central and local governments, and local expenditure decentralization, which is the burden on the local government. In most developed countries, local governments bear the financial burden for primary and secondary education.
While the relationship with total educational expenditure is not statistically significant, the percentage of resilient students increases when the size of local government expenditure decentralization, or local government fiscal responsibility, is great. In other words, a total increase in educational expenditure positively impacted average PISA scores overall, but its influence on the percentage of resilient students was not statistically explained. On the other hand, in Model 1, the decentralization of local expenditure appeared to increase the percentage of resilient students in a statistically significant manner, which implies that the financial capabilities of the local governments in OECD countries can influence the grades of students in relatively poor learning environments. There is some difference between the findings of this analysis and the findings of previous studies. Previous studies demonstrated that the educational expenditure of central governments of OECD countries had a positive impact on overall PISA scores, while this study empirically shows that expenditure decentralization, or educational expenditure by local governments, can influence not only average PISA scores but also the educational achievements of students from low-income families.

### Table V-1: Variables that Affect Percentage of Resilient Students in OECD Countries (2005-2015)

<table>
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<th>Dependent variable: percentage of resilient students</th>
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<tbody>
<tr>
<td>PISA Score</td>
<td>14.25**</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>(3.57)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gini coefficient</td>
<td>–</td>
<td>–17.30**</td>
<td>–14.70*</td>
<td>–13.18*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(7.89)</td>
<td>(8.38)</td>
<td>(7.70)</td>
</tr>
<tr>
<td>Number of students per grade</td>
<td>1.13(1.91)</td>
<td>3.54(2.65)</td>
<td>4.22(2.82)</td>
<td>3.02(2.57)</td>
</tr>
<tr>
<td>Wages for new teachers</td>
<td>–5.26**</td>
<td>–8.17***</td>
<td>–7.87***</td>
<td>–7.83***</td>
</tr>
<tr>
<td></td>
<td>(2.32)</td>
<td>(2.30)</td>
<td>(2.19)</td>
<td>(2.23)</td>
</tr>
<tr>
<td>Wages for teachers with 15 years of experience</td>
<td>4.54**</td>
<td>11.35***</td>
<td>10.89***</td>
<td>11.09***</td>
</tr>
<tr>
<td></td>
<td>(2.15)</td>
<td>(2.43)</td>
<td>(2.34)</td>
<td>(2.34)</td>
</tr>
<tr>
<td>Educational expenditure relative to GDP</td>
<td>0.21(0.24)</td>
<td>0.34(1.34)</td>
<td>0.36(0.27)</td>
<td>0.26(0.24)</td>
</tr>
<tr>
<td>Local expenditure decentralization</td>
<td>3.87**</td>
<td>–</td>
<td>0.33(2.83)</td>
<td>2.18(1.93)</td>
</tr>
<tr>
<td></td>
<td>(1.91)</td>
<td></td>
<td>(2.83)</td>
<td>(1.93)</td>
</tr>
</tbody>
</table>
### G. Empirical Analysis: Level of Income Inequality & Educational Finance

The results of the above empirical analysis confirm that decreasing income inequality is the most important means to realizing inclusive growth through educational equality. In this analysis, we will examine the relationship between the level of income inequality and educational finance variables. For the analytical model, we assumed that factors that impact income inequality were a nation’s 1) individual income level (poverty rate, wage level, and unemployment rate), 2) conditions of economic society (per-capita GDP, tax burden, economic and growth rate), and 3) education level and education finances (college education or above, and PISA scores).

(Hypothesis 1) The higher the income level and maturity of the socio-economic conditions of a nation, the lower the level of income inequality

(Hypothesis 2) Investments in compulsory education and college financing contribute to reducing income inequality
First, the simple correlation agrees with the intuitive hypothesis. There is such a strong correlation between the level of income inequality and poverty rate over the past decade in OECD member countries that they could be considered the same variable. The level of income inequality and average wage are negatively correlated in simple correlation. In addition, the figures show that, in the simple correlation between Gini coefficient and major variables, income inequality decreases as per-capita GDP and tax burden rate increase.

[Figure V-9] Level of Income Inequality & Poverty Rate
Figure V-10: Level of Income Inequality & Average Wages

Economic-Geographical Characteristics of Korea & the Effect of Inclusive Growth Policies

[Figure V-11] Level of Income Inequality & Tax Burden Rate

[Figure V-12] Level of Income Inequality & Percentage of College Education Financing

Empirical analysis of the level of income inequality and major variables revealed the following. First, we examined the relationship between income inequality and the variables that explain the level of personal income in a country. We confirmed that the higher the poverty rate, the higher the income inequality, even in consideration of numerous variables. In Model 2, we saw that an increase in the average wage level led to a statistically significant decrease in income inequality. Model 3 showed that an increase in the unemployment rate led to a worsening of income inequality. For reference, Park Jongkyu (2017) estimated the determinants of Gini coefficient in Korea, which showed that the higher the employment rate, the lower the Gini coefficient. 45)

Second, analysis of the relationship between income inequality and major macro variables that explain the current status of our economic society showed that an increase in the tax burden rate led to a decrease in the level of income inequality. The previous study mentioned above also demonstrated that as public social expenditure increases, the Gini coefficient for Korea decreases. On the other hand, economic growth rate itself was statistically unable to explain its relationship with income inequality.

Third, in terms of the relationship between income inequality and variables related to education, countries with higher PISA scores had lower Gini coefficients. This means that the higher the academic achievement of students who finished primary and secondary education, the lower the income inequality. Academic achievement during primary and secondary education has a direct impact on the college entrance rate and is the most effective means to secure high-quality jobs. Improvements in this area in advanced countries contribute to the reduction of income inequality nationwide.

Interestingly, in terms of the percentage of financing for compulsory education of total GDP, the higher the percentage, the more the coefficient for the level of income inequality shows statistically significant positive values. This means that there is a higher income inequality in countries with a larger percentage of compulsory education expenditures. Regarding this point, it is important to focus on the cause and result. As confirmed in a previous study,

45) Park Jongkyu (2017), p. 133, (Table 25)
countries with high income inequality seem to be increasing their expenditures on compulsory education. In developed countries, the level of compulsory educational expenditure has been stabilized to a certain extent, and it seems that those nations that are expanding the proportion of such expenditures already have relatively higher poverty rates or poor societal infrastructure.

Fourth, this study shows that the personal income gap can increase if there is a wide gap between regional financial capability.\textsuperscript{46} A significant relationship between two variables can be detected, not only in simple correlation but even when considering other variables. This finding is this study’s contribution to the field. The results of this study are in line with the idea that intensification of personal income inequality, which has been studied previously, will eventually be reflected in housing prices, and this will worsen the conditions for lower-income households to move and therefore continue to widen regional disparity.\textsuperscript{47}

\begin{table}[h]
\centering
\caption{Level of Income Inequality in OECD Countries & Educational Financing Variables (2005-2015)}
\begin{tabular}{|c|c|c|c|}
\hline
Dependent variable: Gini coefficient & (1) & (2) & (3) \\
\hline
Poverty rate & $0.08^{***}$ \hspace{1cm} (0.01) & – & – \hline
Average wage level & $-0.002$ \hspace{1cm} (0.01) & – & $-0.02^{***}$ \hspace{1cm} (0.01) \hline
Unemployment rate & $-0.009$ \hspace{1cm} (0.005) & $-0.014$ \hspace{1cm} (0.012) & $-0.015^{**}$ \hspace{1cm} (0.006) \hline
GDP per capita & – & $-0.007$ \hspace{1cm} (0.012) & – \hline
Tax burden rate & $-0.002^{**}$ \hspace{1cm} (0.0008) & $-0.001$ \hspace{1cm} (0.001) & $-0.002^{**}$ \hspace{1cm} (0.0006) \hline
Real economic growth rate & $0.002$ \hspace{1cm} (0.0007) & $0.008$ \hspace{1cm} (0.001) & – \hline
PISA average & – & $-0.18^{**}$ \hspace{1cm} (0.07) & – \hline
\hline
\end{tabular}
\end{table}

Table V-2: Continued

<table>
<thead>
<tr>
<th>Dependent variable: Gini coefficient</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of educational financing for college or above</td>
<td>0.0002 (0.0004)</td>
<td>-0.0009 (0.0007)</td>
<td>0.0001 (0.004)</td>
</tr>
<tr>
<td>Percentage of financing for compulsory education</td>
<td>0.01*** (0.002)</td>
<td>0.01*** (0.004)</td>
<td>0.015*** (0.002)</td>
</tr>
<tr>
<td>Regional disparity</td>
<td>0.02** (0.006)</td>
<td>0.05*** (0.012)</td>
<td>0.056*** (0.006)</td>
</tr>
<tr>
<td>Constant</td>
<td>0.41*** (0.16)</td>
<td>1.41*** (0.45)</td>
<td>0.45 (0.10)</td>
</tr>
<tr>
<td>Observed value</td>
<td>114</td>
<td>56</td>
<td>161</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.77</td>
<td>0.65</td>
<td>0.60</td>
</tr>
</tbody>
</table>

Note: Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1
Source: See "Empirical analysis data" in the References

Figure V-13: Relationship Between Regional Disparity & Gini Coefficient

H. Sub-conclusion

(Policy to mitigate income inequality through education) As can be seen from our empirical analysis, reducing income inequality is the most effective policy for securing equality in education. For education to once again become a ladder between social classes, it is necessary to use macro policies for mitigating income inequality to reduce income disparity between households, with education policy based on inclusive growth policy that also covers the existing blind spots, including low-income households and underdeveloped areas. It is necessary to simultaneously focus on including low-income households, people with disabilities, and other people currently missed and also identifying excellent students in rural farming and fishing towns and underdeveloped areas. Meanwhile, this analysis did not consider free high school education as a policy priority in terms of effectiveness.

(Primary and secondary education and strengthening the role of local governments) At the same time, research on the relationship between fostering of local talent and decentralization needs to be conducted in multifaceted ways to ease entry into the labor market. From the perspective of inclusive growth, education policy should embrace middle and high school students from underdeveloped areas and lead them to receive higher education, so that they can obtain further academic achievements. Furthermore, local governments need to be able to provide a platform for these students to enter the work force and become the engines to spearhead regional and national growth.

Our empirical analysis shows that the higher the level of expenditure decentralization, the higher the PISA scores and the percentage of resilient students. So far, the discussion on linking educational financing to regional finances has mainly focused on financial efficiency to deal with the decreasing number of students and increasing size of the elderly population. Regarding why educational financing and regional finances must be linked as a fundamental alternative, the focus has been solely on the effectiveness of financial investment, instead of its fundamental connection to academic achievement. Until now, domestic research presupposed the protection of partitioned investment in education within the existing system and framework, and no research created
a link with financial sustainability. As part of the measures to improve fiscal accountability, local governments have already been responsible for educational financing. However, aside from the inefficiency of partition financing, the discussion on local government accountability for expenditures and sharing the financial burden was unable to be expanded. This analysis approached the discussion on the relationship between fiscal decentralization and educational achievements in an analytical way. The level of expenditure decentralization, or local government capacity for educational investment, is extremely important for securing educational equity, and therefore this analysis supports the need for maintaining fiscal decentralization.

(Strengthening vocational training and ensuring the quality of college education) This analysis emphasizes the importance of strengthening vocational training and ensuring that college education assists students with finding jobs. Korea’s standing in the WEF competitiveness index was not particularly high despite Korea’s fervor for education, high college entrance rate, and excellent PISA scores. Based on existing research, we found the major reasons for this phenomenon to be the high cost of majors not matching the jobs available. From the perspective of inclusive policy, easing the finding of a job after graduating from high school or college is an important policy, and strengthening specific job-related training is necessary to this end. At the same time, this study emphasizes the importance of raising social awareness of “technical professionals.”

(Need for balanced investment in primary, secondary, and tertiary education for the sake of inclusive growth) As confirmed in our empirical analysis, countries with relatively high income inequality have a higher share of expenditure on compulsory education. This implies that countries with relatively high tax burdens and low percentage of expenditures on compulsory education tend to focus on investment in universities and other tertiary education institutions rather than on compulsory levels of education. Applying this result to Korea, we understand that the effects of investment in education in the short term are significant, which means there is a need for balanced investment in primary, secondary, and tertiary education institutions.

(Improvement of the financial grant system for local education) Currently, public education for elementary, middle, and high school students in Korea is made available through the financial grant system for local education. This is
a grant provided for the purpose of equity. One of the reasons that Korean students score high on PISA can be attributed to the safety mechanism of public educational expenditures. Related existing studies have expressed that such expenditure has a particularly significant effect on PISA scores for low-performing students. In order to expand the function of education as a ladder between the social classes, it is necessary to strengthen the function of educational services provided through the financial grant system for local education for low-income households and residents of underdeveloped areas. Instead of simply providing quantitative opportunities, the scope of redistribution of public education needs to be expanded so that college education is provided for high-achieving students from underdeveloped areas.
Conclusion & Policy Implications

The paradigms of growth policy and redistribution policy are facing fundamental changes. International organizations such as the IMF, OECD, and WEF, as well as Joseph Stiglitz and numerous other economists have recently begun to emphasize the importance of policy to promote inclusive growth. The key to such policy is the perspective that the inverse relationship of efficiency and equity has long been a paradigm in economics, but in fact there is a complementary relationship between the two. If the unequal distribution of economic entities deepens, the power of economic growth will be weakened. The goal of inclusive growth is to broaden the participation of economic entities in economic activities and improve growth potential as well as distribution structure.

Since 2010, when international organizations began to emphasize inclusive growth policies, the discourse has focused on reducing individual disparities in key areas such as education and employment, and broadening distribution of the fruits of economic growth. This paper expanded the analytical scope of inclusive growth policies that have been conducted so far and analyzed regional disparity to understand the effectiveness of inclusive growth policies from a broader perspective. Expanding the subject of analysis to the regional level is particularly important for Korea, perhaps more than for other countries, because overconcentration in the capital region is severe to an unprecedented extent, which seems to have been caused by the distorted central-regional financial relationship and spatial policy.

The negative effects of this overconcentration are not limited to high housing
costs, traffic congestion and long commutes, but are connected to the intrinsic economic and social difficulties the nation is currently facing. One major issue is the low fertility rate in the capital region. As part of its fertility rate policy in 2006, the government has since invested over KRW 100 trillion to see a rise in this rate, and plans to invest another KRW 100 trillion in the next five years. However, before continuing to invest such a huge sum in this policy, it is important to understand that the characteristics of Korea’s economic geography and low fertility rate are closely related. Spending an enormous amount of money to improve the fertility rate while providing enormous financial benefit to the capital region by upholding the decentralization policy of transferring national tax to local governments without transferring more functions is unique to Korea and cannot even be found in textbooks. It is also a major example of a lack of policy coherence and understanding of Korea’s economic geography. Under these circumstances, it is obvious that existing fertility rate policy, although a major inclusive growth policy on which the future of Korea depends, will ultimately be unable to effectively raise the nation’s birth rate.

Another policy area which the government is pursuing without taking economic geography into consideration is labor policy. Minimum wage will rise sharply beginning in 2018, and if this policy is effective, then it is desirable from the perspective of inclusive growth. However, if the nominal minimum wage is raised significantly without taking into consideration the regional heterogeneity of housing costs and the cost of living, the actual real minimum wage will vary by region, as will the policy effect. Serious unintentional or unexpected side effects include the intensification of regional disparity. This paper examined the idea of a regional minimum wage system to find a way to reflect regional heterogeneity in inclusive growth policies.

After examining a simple theoretical model, we found that if the nominal minimum wage is greatly increased, there is a possibility that the non-capital region’s formal sector (in which the minimum wage is applied) will decrease in size, while the informal sector (in which the minimum wage is not applied) will grow. In addition, the high real minimum wage in the non-capital region might lead residents of the capital region to migrate to out, which will ultimately result in enlarging the non-capital region’s informal sector. Such inter-regional migration that follows an increase in nominal minimum wage cannot be
considered positive. Using a panel analysis by city and province, this study analyzed the correlation between real minimum wage variables, calculated by dividing nominal wage by rent prices or average land prices, and the resulting variables in the labor market by city and province. The regional disparity of real minimum wage was found to be correlated to wage disparity by region while the correlation between real minimum wage and the amount of overall inter-regional migration was found to be weak. The latter results were not gained by analyzing only minimum wage workers, and therefore it is important to note that we cannot conclude that disparity in real minimum wage does not cause inter-regional movement of low-wage workers.

From the perspective of a policymaker considering implementation of a regional minimum wage law, there are three implications to be gained from reviewing the implementation process and the current state of Japan’s minimum wage law. First, implementation of such a wage needs to be supported by credible statistics, because data for calculating the cost of living and the wage level by region is necessary to establish a regional minimum wage system. Second, since regional minimum wage can be executed in a way that favors employers and thereby lose its original purpose, it is important for labor and management to discuss the issue on an equal footing before implementation. Third, it is necessary to examine and create a regional minimum wage system that does not intensify regional disparity. In Japan, the minimum wage gap between regions seems to be widening over time. Since minimum wage reflects the overall economic circumstances within regions, it will be necessary to conduct additional research to find out if the widening minimum wage gap between them is a result of the regional minimum wage system or of the natural progress of economic development.

Korea’s education policy is considered the most exemplary among OECD countries. Therefore, it would be the first Korean policy on the list of the most successful inclusive growth policies. However, the polarization of Korean society and the decline in growth potential is also affecting the education sector. Particularly since population is concentrated in the capital region and metropolitan areas, and the number of students is sharply decreasing, there is a possibility that access to education in small cities and rural areas will greatly decrease in the future. Moreover, there is a wide gap in access to education
within the capital region and metropolitan areas. Since there is a limit to strengthening the inclusion of educational access by mitigating individual income disparity, it is now more necessary to pay attention to policies that strengthen the inclusiveness of educational benefits at the regional level.

As discussed in detail in Chapter II, the problem with the Seoul capital region in Korea is the result of spatial and fiscal policy that has been centered on it for nearly 50 years—a trend that is still ongoing. This “favoritism policy” is both conscious and subconscious, and greatly limits the government’s inclusive growth policy at the national level. The issue of overconcentration in the capital region is the combined result of long-term market functions and the benefits the capital region has received from the public sector, and therefore it cannot be resolved within a short period. However, it is possible for the government to establish a balance right now between the authority and accountability of the central and local governments for revenues and expenditures. This would be a common-sense policy from the public’s perspective. Such policy can be simply expressed—since local government revenue increases beyond the proportion of population, the local government spending burden needs to increase at least proportionately to population share. Unlike in the UK and the Netherlands where securing and expanding local tax is not very important, in Korea, it is considered a fiscal policy due to Japan’s influence, making it necessary to strengthen government accountability in important policy areas such as education, welfare and police and firefighting services.
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Chapter II


Chapter III


Ostry, Jonathan David and Andrew Berg, “Inequality and Unsustainable Growth; Two Sides of the Same Coin?,” IMF Staff Discussion Notes 11/08, IMF, 2011.


Chapter IV


Chapter V

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(Employment)
Minimum Wage Commission (http://www.minimumwage.go.kr/)

(Education)

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Empirical Data


