DEVELOPING A NEW GROWTH MODEL FOR KOREA

By Randall Jones

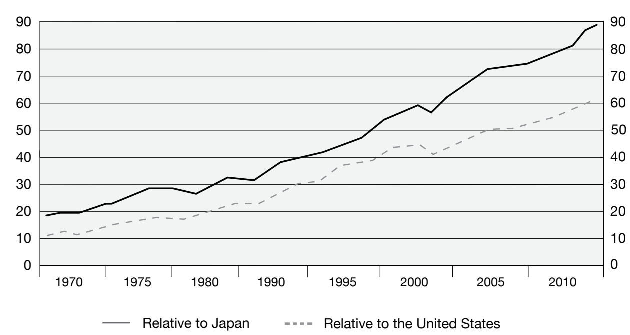
Abstract

Korea's rapid economic development has boosted its per capita income to within two-thirds of the U.S. level. The focus on exports, though, has made Korea vulnerable to external shocks while reducing productivity in the service sector, increasing income inequality and boosting energy intensity. Consequently, Korea's export-led strategy should be balanced by policies to ensure that growth is environmentally and socially sustainable. First, the service sector should be made a second engine of growth by leveling the playing field with the manufacturing sector, strengthening competition in services and expanding openness to foreign competition. Second, market instruments that put a price on carbon, primarily through a cap-and-trade emissions trading scheme, complemented by a carbon tax on small emitters, are needed to achieve the government's vision of "Low Carbon, Green Growth." Third, well-targeted increases in social spending would promote social cohesion, accompanied by reforms in the labor market and education system to address the fundamental causes of inequality. One urgent task is to reduce the share of non-regular workers. Fourth, increasing labor force participation, notably of women, youth and older workers, is essential to mitigate demographic pressures.

The economic development of Korea since 1960 has been among the most rapid ever achieved, transforming it from one of the poorest countries in the world to a major industrial power. Life expectancy has increased from 52 years in 1960 to nearly 80 years, while per capita income rose from 12 percent of the U.S. level in 1970 to 63 percent in 2010 and is now within 10 percent of that of Japan (Figure 1).

Rapid economic development was led by exports, allowing Korea to overcome its lack of natural resources and its small domestic market. Exports increased from less than 5 percent of Korean GDP in 1960 to 32 percent by the time of the 1997 Asian financial crisis. Reforms to develop a more market-oriented economy and increase openness to imports promoted Korea's recovery from the crisis and its further integration in the world economy. Exports were again the key driver of Korea's strong rebound from the 2008 global financial crisis, aided by a sharp depreciation of the won. In sum, net exports (exports minus imports) directly accounted for more than one-quarter of output growth since 1997, while Korea has maintained a current account surplus averaging more than 3 percent of GDP over the past 15 years. Korea is now one of the major producers of ships (first in the world), cars (fifth) and steel (sixth), and has two of the top ten semiconductor firms in the world. By 2010, Korea's share of global exports was 3.1 percent, the seventh largest in the world, and exports as a share of Korean GDP had surpassed one-half.

Figure 1 Korea's Per Capita Income is Converging to the Most Advanced Countries (as a %)



1: Using 2005 purchasing power parity exchange rates.
Source: OECD, *Going for Growth 2012*

While exports will continue to play an important role, Korea must develop new growth engines to ensure that growth is sustainable and reduce vulnerability to external shocks. This article begins by exploring some of the side effects associated with export-led growth. It then considers the challenge of sustaining Korea's convergence to the high-income countries and then offers strategies aimed at ensuring that growth is socially and environmentally sustainable.

The Negative Side Effects of Export-Led Growth

Some negative aspects of the focus on exports have become apparent in recent years:

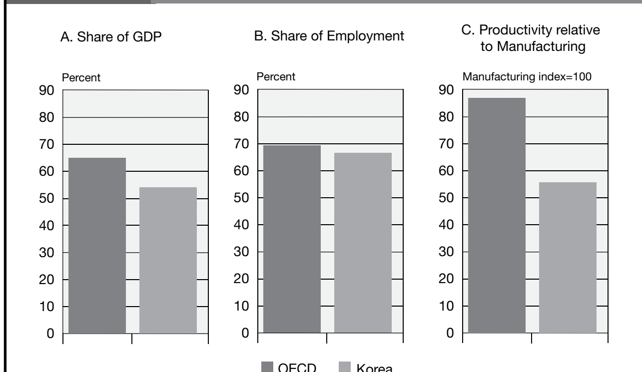
- It has stunted the development of the service sector, which has relatively low productivity.
- It has contributed to the significant rise in income inequality and poverty since 1997.
- It has resulted in a high level of energy intensity and rising greenhouse gas (GHG) emissions.

A Low-Productivity Service Sector

Although the share of the service sector increased from 50 percent of GDP in 1990 to 57 percent in 2008, it is well below the OECD average (Figure 2). Only four of Korea's 30 largest enterprises are in services. The share of employment in services in Korea is closer to the OECD average (Panel B), reflecting the sector's role as a de facto safety net for older workers forced to retire from firms at a relatively young age. However, labor productivity growth in the service sector has consistently lagged behind that in manufacturing, slowing = from an annual rate of 2.6 percent during the 1980s to 1.2 percent between 1997 and 2007, in contrast to nearly 9 percent growth in manufacturing. Consequently, by 2008, service-sector productivity was only about half of that in manufacturing, the largest gap in the OECD area (Panel C).

Korea's economic structure is the legacy of a development strategy that focused on exports and manufacturing, thereby siphoning capital, talent and other resources away from services. For example, R&D investment in services accounts for only 7 percent of total R&D by Korean firms, compared to an average of 25 percent in the G7 economies. Moreover, the government allocates only 3 percent of its R&D budget to services. Manufacturing firms also benefit from a range of policies, including tax benefits and lower electricity charges.

Figure 2 The Service Sector (in 2008, based on 2005 prices for value added)



Source: *2012 OECD Economic Survey of Korea*

Rising Income Inequality and Poverty

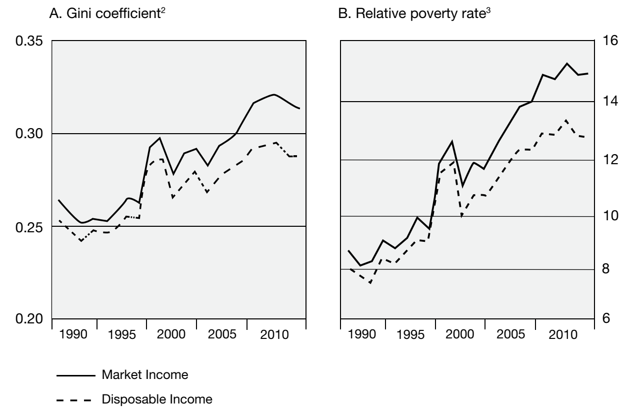
Income inequality has become a major concern in Korea as in many other OECD countries. Until the 1997 Asian financial crisis, Korea's income distribution stood out as one of the most equitable among developing countries. However, income inequality, as measured by the Gini coefficient, increased significantly between 1997 and 2009 (Figure 3), when it reached the OECD average. Moreover, the ratio of the top quintile to the bottom is 5.7, above the OECD average of 5.4. Meanwhile, relative poverty – the share of the population living on less than half of the median income – rose to 15 percent in 2008, the seventh highest in the OECD area.

The rising trend in income inequality and relative poverty is explained in part by the increasing share of services in employment. First, wage dispersion in the service sector is relatively wide, ranging from business services and the financial sector at the high end to hotels and restaurants. Second, the wage gap between services and manufacturing is widening. The average wage in services, which was nearly equal to that in manufacturing in the early 1990, fell to only 54 percent in 2009. Meanwhile, an increasingly capital and technology-intensive manufacturing sector reduced its share of employment from 28 percent to 17 percent over that period. In short, the employment impact of exports is decreasing, reducing its trickle-down effect on the rest of the economy.

The low wages and productivity in the service sector is closely linked to small and medium-sized enterprises (SMEs), which account for 80 percent of output and 90 percent of employment in services. The deteriorating wage performance in services has thus widened the gap between large and small firms. In 1990, workers in firms with 10 to 29 workers earned 24 percent less than workers at companies with 300 or more workers. By 2008, the gap had widened to 43 percent. The incidence of low wages (defined as less than one-half the national median) falls from 39 percent of women employed in firms with less than five workers to 4 percent for companies with more than 1,000. Consequently, the problem of "working poor" is concentrated in small companies.

Other factors besides the problems in the service sector are contributing to widening inequality. First, Korea's dualistic labor market results in high inequality in wage income. Non-regular workers, who account for about one-third of employment, earn only 57 percent as much per hour of work as regular workers. Second, the large share of private spending in education and health increases the impact of socio-economic factors on educational and health outcomes. Third, social spending, which plays an important role in reducing inequality and poverty in most OECD countries, amounted to only 7.6 percent of GDP in Korea in 2007, well below the OECD average of close to 20 percent.[2] Nevertheless, public social spending has been increasing at a double-digit rate in real terms as the population ages and social insurance systems mature.

Figure 3 Inequality Has Been Increasing in Korea[1]



1: For urban households with at least two persons.
2: The Gini coefficient can range from 0 (perfect equality) to 1 (perfect inequality).
3: Relative poverty is defined as the share of the population that lives on less than half of the median income.

Source: Statistics Korea

A High Level of Energy Intensity

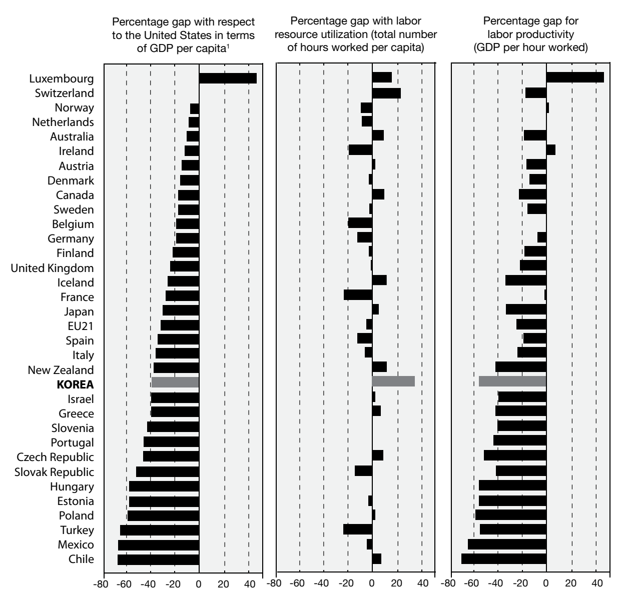
Despite falling since 1997, Korea's energy intensity is about a quarter above the OECD average and the fifth highest in the OECD area, reflecting its concentration in energy-intensive industries. High-energy intensity creates a number of problems. First, Korea is exceptionally dependent on imported energy; net imports accounted for 86 percent of total primary energy supply in 2009. The reliance on imported oil makes Korea vulnerable to external shocks and has contributed to large terms-of-trade losses, averaging 3 percent a year since 1994, thus suppressing national income growth. Second, Korea's greenhouse gas emissions doubled between 1990 and 2008, far outstripping the 24 percent rise in global emissions. Third, the high level of energy consumption in Korea has contributed to environmental problems. The air quality in Korean cities, especially in Seoul, is poor compared to major cities in other OECD countries and absolute levels of air pollutants in Korea are far higher than those of other OECD countries.[3]

Sustaining the Convergence to the High-Income Countries

The per capita income gap with the United States, which was 37 percent in 2010, can be divided into labor inputs (Figure 4, the middle column) and labor productivity (the right-hand column). Labor inputs in Korea, relative to population, are by far the largest in the OECD area, reflecting long working hours that are one-fifth above the OECD average. However, working hours have been declining at a 1.5 percent annual rate since 2000 and are likely to continue falling in line with the government's goal of reducing them to 1,800 hours per year by 2020, close to the OECD average. More importantly, Korea is projected to experience the most rapid population aging among OECD countries. Korea, currently the third-youngest country in the OECD area, is projected to be the second oldest by 2050,[4] reflecting its fertility rate of only 1.2, one of the lowest in the world. The ratio of the working-age population to the elderly will thus fall from six in 2010 to 1.3 in 2050, implying that rising public social spending will pose a heavy burden on a shrinking labor force.

Declining labor inputs will reduce Korea's growth potential and make it harder to narrow the income gap with leading countries. At the same time, there is significant scope for productivity gains, as Korea's labor productivity per hour of work is less than half of the U.S. level (Figure 4, right-hand column). Nevertheless, the Korea Development Institute estimates that the potential growth rate will fall to 1.7 percent during the 2030s. In per capita terms, the fall in potential will be more gradual – from 4.0 percent during the current decade to 2.2 percent in the 2030s – given the decline in population. In sum, increasing labor force participation to mitigate the impact of population aging and raising productivity are the keys so supporting the potential growth rate.

Figure 4 Explaining Differences in Income in 2010



1: Using 2010 PPP exchange rates.
Source: OECD (2012), *Going for Growth 2012*

A New Growth Strategy for Korea

In addition to the negative side effects of focusing on exports, maintaining Korea's convergence to the highest-income countries based on an export-led growth model will become increasingly difficult in the context of expanding globalization and increasing competition from other Asian countries. Korea may face the same challenges as Japan, which has seen its share of world trade drop by half from almost 10 percent in 1993 to around 5 percent in 2010. Meanwhile, China's share rose by a factor of five, from 2 percent to 10 percent over that period. Moreover, the heavy reliance on exports has increased Korea's vulnerability to external shocks. Consequently, Korea's export-led strategy should be balanced by greater emphasis on four priorities:

- Making the service sector a second engine of growth, which would also enhance social cohesion.
- Promoting green growth to make sure that development is environmentally-sustainable.
- Enhancing social cohesion through reforms in the labor market and the education system.
- Increasing labor force participation to mitigate the impact of demographic trends.

Making the Service Sector as a Second Engine of Growth

The service sector's share of GDP is likely to continue rising toward the OECD average (Figure 2). The large and increasing weight of services and its impact as an input in other parts of the economy make it a key determinant of economic growth. Over the past 25 years, nearly 85 percent of GDP growth in high-income countries has come from services.[5] Developing the service sector would also create more high-quality jobs that would better utilize Korea's large supply of tertiary graduates. As noted above, low service-sector productivity is the legacy of an export led growth strategy that attracted the most productive resources into manufacturing. The top priority, therefore, is to level the playing field by removing preferences granted to manufacturing based on a comprehensive quantification of the various forms of explicit and implicit support. In addition, a stronger *won* would promote the development of non-tradable services by boosting domestic demand. In early 2012, the won was still a quarter below its 2007 level in real, trade-weighted terms.

Policies to strengthen competition in services are particularly important, given that "overly strict regulations are obstructing investment and competition," according to the government.[6] The keys to stronger competition include eliminating domestic entry barriers, accelerating regulatory reform, upgrading competition policy and reducing barriers to trade and inflows of foreign direct investment (FDI). The government has reduced entry barriers, as reflected in the improvement in Korea's ranking in the "cost of starting a new business" from 126th in the world in 2008 to 24th in 2011,[7] although there is scope for further reform. In addition, competition policy should be further strengthened. First, even though financial penalties have risen, their deterrent effect is still weaker than in most other OECD countries, indicating a need for further increases. In addition, criminal penalties, which are rarely applied, should be used more frequently. Second, the investigative powers of the competition authority, the Korea Fair Trade Commission, need to be expanded. Third, the number of exemptions from the competition law, including for SMEs, should be further scaled back.

Greater openness to the world economy is another priority to boost productivity in services. The stock of FDI in Korea, at 13 percent of GDP, was the third lowest in the OECD area in 2010 and the share of inward FDI in services was less than half. Consequently, the stock of FDI in services in Korea was only 6 percent of GDP, compared to an OECD average of 37 percent. Strengthening international competition requires reducing barriers to FDI, including foreign ownership ceilings, and liberalizing product market regulations. In addition, it is important to foster a foreign investment-friendly environment, thereby encouraging more cross-border M&As, enhance the transparency of tax and regulatory policies, and reform the labor market.

As noted above, the problems in services are closely linked to those of SMEs. While the major business groups, known as chaebol, were forced to restructure aggressively in the wake of the 1997 crisis, the government essentially bailed out SMEs through increased public subsidies and guarantees, which were not fully scaled back once the crisis had passed. Consequently, the SMEs have not been as aggressive in reforming their business model and their performance has lagged behind that of large firms.[8] In 2009, the government further increased assistance to SMEs by: i) sharply raising guarantees by public financial institutions for lending to SMEs; ii) advising banks to automatically roll over loans to SMEs; iii) creating two initiatives to aid SMEs in distress; and iv) doubling government spending to assist SMEs. While expanded financial support to SMEs prevented some bankruptcies and job losses, it has also exacerbated moral hazard problems by increasing the reliance of SMEs and banks on public assistance. Supporting non-viable SMEs poses a drag on Korea's growth potential.

Achieving the Vision of "Low Carbon, Green Growth"

In 2008, President Lee Myong-bak proclaimed "Low Carbon, Green Growth" as the vision to guide Korea's development over the next 50 years. One of the goals of the Green Growth Strategy is to "attain energy independence," which implies a fundamental transition in Korea's economic structure, given the large share of imports in its energy supply. While such a shift would have great potential for creating new industries, it would also impose heavy transition costs. In addition, Korea set a target to reduce its GHG emissions by 30 percent relative to a business-as-usual baseline by 2020, which implies a 4 percent cut from the 2005 level. Achieving the transition to a low carbon economy and reducing GHG emissions requires a policy framework that provides appropriate incentives to induce the necessary restructuring in a cost-effective way.

The Five-Year Plan for Green Growth

The Five-Year Plan (2009-13) contains about 600 projects and a total budget of 108.7 trillion *won* (10 percent of 2009 GDP), of which public R&D accounts for 13 percent. In 2009, private firms were involved in nearly two-thirds of the nearly 5,000 R&D projects in the Plan, although their financial contributions amounted to only 8 percent of total outlays. Greater involvement by business enterprises is needed to advance green research and make it a driver of private-sector innovation.

The government is pursuing various approaches to supply funds and overcome financial constraints. Bank loans to green industries amounted to 2 percent of their corporate lending during the first half of the Five-Year Plan, with state-owned banks accounting for three-quarters of the loans. Such lending was encouraged by large credit guarantees provided by public institutions. Meanwhile, investment in green industries through the venture capital market nearly doubled between 2009 and 2011, rising to around half of total venture capital investment. Public funds were invested in 83 venture businesses. Such efforts should be pursued cautiously to limit the risks inherent in "picking winners," which could lock Korea into inferior technologies. Korea should channel more of these funds through existing market-based systems and commercial institutions, thereby reducing the role of state-owned banks and public funds.[9]

Introducing Market Instruments to Promote Green Growth

The most important tool to promote green innovation is a market instrument that puts a price on carbon, primarily through a cap-and-trade emissions trading scheme (ETS), complemented by a carbon tax on small emitters. In May 2012, the National Assembly approved a bill to launch an ETS in 2015, which will cover about 500 firms that account for around 60 percent of total emissions. Less than 5 percent of the permits may be auctioned, with the allocation of the remainder yet to be decided. Grandfathering permits would be problematic as it would provide scope for windfall profits for existing firms, potentially resulting in unfair competition for new entrants. The ETS should include a timetable for shifting to an auction system, which would generate revenue that could be used inter alia to offset the impact of the ETS on firms and consumers, reduce more-distorting taxes or achieve fiscal consolidation. While the ETS will control the emissions of large emitters, a carbon tax is needed to cover smaller and more diffuse sources of pollution, such as households and small firms. It is important, though, to minimize overlap and complicated interactions between an ETS and a carbon tax, which would raise costs and uncertainty about the overall outcome.

Another priority is to reform electricity pricing, as Korea's low price increases energy use and GHG emissions. Indeed, electricity consumption per unit of GDP in Korea in 2009 was 1.7 times higher than the OECD average. Moreover, prices vary significantly between sectors, creating significant distortions. Electricity prices should fully reflect their production costs in each sector.

Promoting Social Cohesion through Reforms in the Labor Market and Education System

It is important to address the fundamental causes of inequality and poverty, notably labor market dualism. Given the lower wages paid to non-regular workers, more than a quarter of full-time workers in Korea earn less than two-thirds of the median wage, the highest in the OECD area, thus fueling inequality. In addition, only about 40 percent of non-regular workers are covered by the social insurance system, including unemployment insurance. Firms hire non-regular workers because of the lower labor costs and to enhance employment flexibility. However, labor market dualism creates serious equity problems as a significant portion of the labor force works in precarious jobs at relatively low wages and with less protection from social insurance. It is important to adopt a comprehensive approach to break down dualism, including reduced employment protection for regular workers and improved social insurance coverage and expanded training for non-regular workers.

Several aspects of education–low investment in pre-primary education, heavy reliance on private tutoring, particularly in hagwons, and the high cost of university education–raise equity issues. In particular, the proportion of 15-year-olds participating in after-school lessons in Korea is more than double the OECD average, in part to help students gain admission to prestigious universities. The severe competition to enter the top universities is driven by academic credentialism–the emphasis on where a person studied rather than on their abilities, accomplishments and potential. However, the reliance on private tutoring places heavy financial burdens on families and is cited by families as a key factor explaining Korea's extremely low birth rate. Moreover, the amount of spending is positively correlated with family income, as is the quality of the university attended, thus perpetuating inequality. Private tutoring has a number of other negative impacts. First, it competes and overlaps with public education, thus raising total expenditures on education unnecessarily. Second, it reduces the effectiveness of schools, which have to cope with students of widely differing educational levels. Third, it makes for very long days for children, thus hindering their development. To reduce the role of private tutoring, further measures are needed to improve the quality and diversity of schools and deemphasize the role of the standardized exam in the university admission process.

There is also a role for well-targeted increases in social spending. The government should move cautiously and incrementally in developing social welfare programs that are carefully designed to achieve their intended objectives, while avoiding wasteful spending and negative externalities. One priority should be the elderly, given that nearly one-half of the over-65 age group lives in relative poverty. However, there is a need for caution as public social spending is already increasing at the fastest rate in the OECD area. Under current policies, population aging alone is projected to boost public social spending from 7.6 percent of GDP to around 20 percent, the average of OECD countries, by 2050. Rising social spending should be financed by tax increases that limit the negative impact on economic growth. This suggests limiting the increase in labor taxes to maintain work incentives, while relying primarily on the VAT and environmental taxes as the primary sources of additional revenue. Keeping Korea's sound fiscal position and low level of government debt is a priority, given the country's rapid aging and the uncertainty about the eventual costs of economic rapprochement with North Korea.

Increasing Labor Force Participation to Mitigate the Impact of Population Aging

Rapid population aging implies a substantial fall in Korea's labor force. If participation rates were to remain at their current levels for each age group and gender, the labor force would peak at 27.2 million in 2022 and then fall by one-fifth, to around 21.5 million, by mid-century. By that point, there would be only 1.2 persons in the labor force per elderly person, compared with 4.5 in 2010, imposing a heavy burden on workers to finance social spending. One option is to increase immigration. At present, Korea has around 0.7 million foreign workers, accounting for only about 3 percent of the labor force, well below the shares in most other OECD countries.

The most important strategy to mitigate demographic change would be to increase the female labor force participation rate. For women between the ages of 25 and 54, the rate was 62 percent in 2010, the third lowest in the OECD area. If the female participation rate in Korea were to converge to the current level for males for each age group by 2050, the labor force would only decline to around 25.6 million, almost 19 percent higher than in the case of unchanged participation rates. Raising the female participation rate requires a comprehensive approach. First, the gender wage gap, the highest in the OECD area, should be narrowed by reducing the high share of non-regular employment and making greater use of performance-based pay. Second, the availability of affordable, high-quality childcare should be increased. Third, maternity leave should be lengthened from 90 days and the take-up of maternity and parental leave increased. Fourth, expanded flexibility in working time would make it easier to combine paid employment with family responsibilities, given that total working hours in Korea are the longest in the OECD area.

Korea's participation rate for young people is also one of the lowest in the OECD area. Although this partly reflects the large share in tertiary education, it is also a result of the mismatch between the skills taught in school and those demanded by firms. Upgrading vocational education would boost employment and reduce labor shortages in SMEs. According to a 2011 government survey, 43 percent of small firms said that they currently face a labor shortage and 40 percent expect to face one.

In addition, there is some scope to increase the participation rate for older workers, or at a minimum, prevent a decline as the pension system matures. It is also important to more effectively utilize older workers, who tend to retire from firms by age 55. More than one-third become unemployed. Moreover, one-third of workers over age 50 are self-employed, compared to 13 percent of those under that age, primarily in services with low productivity. Given strict employment protection for regular workers, firms set mandatory retirement ages so that they can dismiss older workers once their seniority-based wages surpass their productivity. Establishing a minimum age at which firms can set mandatory retirement and then gradually raising it would put pressure on firms to adjust wages in line with productivity as workers grow older. The ultimate goal should be to abolish firms' right to set a mandatory retirement age, as has been done in some other OECD countries.

Conclusion

While Korea's economy remains one of the fastest growing among OECD countries, rapid population aging and other challenges will make it difficult to reach the level of the highest-income countries. Changes in economic policy to diversify away from exports are needed to sustain economic growth. Such a strategy should aim not only at the rate of growth, but also at ensuring that it is environmentally and socially sustainable, while maintaining a sound government financial position. Such a policy should include measures to develop the service sector and promote green growth, accompanied by reforms to promote social cohesion and greater labor force participation.

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[1] According to a 2011 OECD study, *Divided We Stand: Why Inequality Keeps Rising*, inequality in the OECD area is at its highest level in the past 50 years.

[2] The causes of income inequality and poverty are discussed in the *2012 OECD Economic Survey of Korea*.

[3] Pollution and other urban issues are analyzed in *Urban Policy Reviews: Korea*, OECD (2012).

[4] Based on the elderly dependency ratio, defined as the number of persons over age 65 as a share of the population aged 20 to 64. Similarly, the total dependency ratio – the number of persons under 20 and over 64 as a share of the working-age population – is projected to double from 52 percent in 2010 to 105 percent in 2050, the third highest in the OECD area.

[5] See "South Korea: Finding Its Place on the World Stage," McKinsey Quarterly, April 2010.

[6] The Ministry of Strategy and Finance, "Detailed Plans to Nurture the Service Sector," Economic Bulletin, May 2009.

[7] This ranking is by the World Bank, *Doing Business 2011*.

[8] The problems of SMEs are discussed in detail in the 2008 OECD Economic Survey of Korea.

[9] The financing of green business is discussed in Kim Hyoung-Tae, *System Architecture for Effective Green Finance in Korea*, Korea's Economy 2011, Korea Economic Institute, Washington, D.C.