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OVERVIEW

Summary

Despite the recent slowdown in world trade, Korea is projected to sustain growth of around 3½ per cent during 2012. Given future spending pressures, fiscal policy should target a balanced budget (excluding the social security surplus). However, if the global economy were to experience a serious downturn, Korea has scope to respond with fiscal stimulus, given its strong fiscal position, and monetary policy easing. Looking further ahead, Korea faces two key challenges:

- Sustaining economic growth in the face of rapid population ageing.
- Improving social cohesion by reducing inequality and relative poverty.

Sustaining Korea's growth potential. To mitigate the fall in labour inputs as the working-age population starts declining from 2017, Korea needs to raise labour participation. The low female participation rate should be boosted by encouraging better work-life balance and expanding the availability of high-quality, affordable childcare. Such measures would also increase the low fertility rate. Another priority is to extend the employment of older workers, who tend to leave firms by age 55, by introducing more flexible wage systems and moving away from mandatory retirement. Rising social spending, related in part to ageing, should be financed primarily by the VAT and environmental taxes, as well as by property-holding taxes, thereby limiting the increase in labour taxes and maintaining work incentives.

Sustaining growth also requires boosting productivity, which is only half of the level in the advanced OECD countries, in part by improving the education system. One priority is to upgrade early childhood education and care (ECEC). Korea needs to address the overemphasis on tertiary education, in part by improving vocational education, to reduce the mismatch problem that limits labour participation of youth. The tertiary education sector needs restructuring to improve quality. The scope for productivity gains is especially large in services, where productivity per worker is only about half of that in manufacturing. Narrowing the gap requires greater competition in services and promoting the restructuring of small and medium-sized enterprises (SMEs), which play a key role in services, by removing obstacles inhibiting their expansion and streamlining public assistance to them.

Growth prospects depend as well on the success of the Green Growth Strategy in transforming Korea's energy-intensive economy and implementing the "Low Carbon, Green Growth" vision. The priority is to promptly introduce a price on carbon, primarily through an emissions trading scheme, supplemented by a carbon tax on small emitters. This would encourage green innovation and help achieve Korea's 2020 objective of reducing its greenhouse gas emissions by 30%, relative to a business-as-usual baseline, in a cost-effective manner.

Improving social cohesion. Well-targeted increases in social spending, in particular for low-income groups, are needed. However, to preserve fiscal soundness, Korea should be cautious, given that population ageing alone would boost social spending to as high as 20% of GDP by 2050 under the current framework. Expanding the earned income tax credit would provide more assistance for low-income households, while encouraging work. Filling the gaps in the safety net requires breaking down labour market dualism, itself a major source of inequality, as non-regular workers face significantly lower wages, precarious jobs, less coverage by social security and less training. A comprehensive approach is required, including reduced employment protection for regular workers and improved social insurance coverage and expanded training for non-regular workers. Higher productivity in SMEs would also help narrow wage gaps.

Education reforms are also needed to promote inclusive growth, notably by: *i)* improving the access of low-income children to high-quality ECEC; *ii)* reducing reliance on private tutoring, notably at *hagwons,* by improving university admission procedures, expanding the quality and diversity of schools and upgrading vocational education; and *iii)* expanding loans to university students with repayment contingent on income after graduation.

Assessment and recommendations

Korea recovered faster and more vigorously from the 2008 global crisis than most OECD countries (Figure 1), and enjoys low unemployment and low government debt. Growth slowed in late 2011, reflecting the deterioration in the world economy, but is projected at around 3½ per cent in 2012, thanks in part to continued momentum in China. While Korea is performing well, it needs to prepare for a number of challenges, including rapid population ageing and the economic impact of possible rapprochement with North Korea. The decline in potential growth associated with rapid ageing can be mitigated by reforming the labour market and the education system, thereby promoting Korea's continued convergence to the income levels in the most advanced countries (discussed in Chapter 1 of the 2012 *OECD Economic Survey of Korea*). Green growth, which is to guide Korea's development over the next 50 years, has a special role to play in this regard (Chapter 2). Carefully-targeted increases in social spending are needed to cope with ageing, as well as rising inequality and relative poverty (Chapter 3). More importantly, Korea should address the roots of inequality through reforms in the education system, the labour market and the service sector.

Korea's economic expansion and macroeconomic policies to sustain it

Growth has averaged almost 5% during the past three years, led by fiscal stimulus in the wake of the crisis and a sharp rise in exports (Panel B). Exports were supported by strong demand from China and the depreciation of the won. Indeed, the won has fallen 47% relative to the yen since 2007, which has a major impact on trade, given that Korean and Japanese products compete in world markets. Buoyant export growth helped restore business and consumer confidence (Panel C).

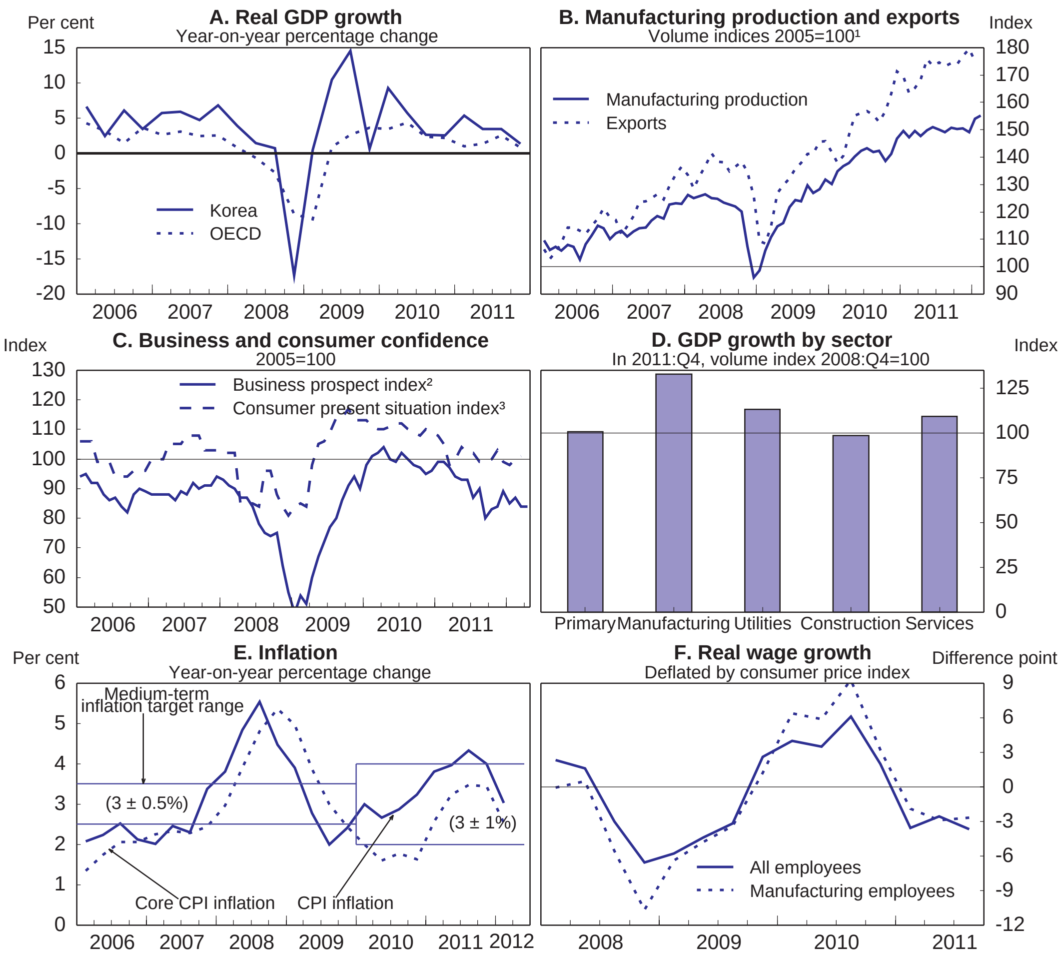
Korea experienced slower growth and higher inflation in 2011

However, the export-led recovery failed to ignite a rebound in domestic demand. In contrast to the 33% increase in manufacturing output since the late 2008 trough, output in the service sector rose by only 9%, while construction stagnated (Panel D). Given that small and medium-sized enterprises (SMEs) account for about 80% of output and 90% of employment in services, the dichotomy between manufacturing and services has widened gaps between large and small firms, thereby contributing to inequality and damping employment growth. This dualism partly stems from the depreciation of the won, which favoured exports while reducing the purchasing power of consumers. Moreover, the weak exchange rate fuelled inflation, which peaked at 4.3% (year-on-year) in the third quarter of 2011, exceeding the central bank's target range of 3.0±1% (Panel E) and pushing real wage growth into negative territory (Panel F).

The pace of growth is projected to pick up, although there are a number of risks

With the renewed global crisis and slowing world trade, Korean exports and domestic demand fell in the final quarter of 2011. Korea is projected to overcome the current soft patch, with growth picking up from 3½ per cent in 2012 to around 4¼ per cent in 2013 (Table 1), close to the economy's potential rate. Assuming that the sovereign debt and banking-sector problems in the euro area are contained, world trade growth is projected to double from an annualised rate of 3½ per cent in the fourth quarter of 2011 to nearly 7% by late 2012. Under this scenario, Korean export growth would also accelerate, underpinned by a relatively weak won and continued double-digit import growth by China. Faster export growth, in turn, should promote investment and support employment gains and a pick-up in wage growth that will boost private consumption. Inflation is projected to slow toward 3%, given the recent moderation in growth.

Figure 1. Macroeconomic developments in Korea



1. Seasonally-adjusted for production and a three-month moving average for non-seasonally-adjusted exports.
2. Seasonally-adjusted index. A score below 100 indicates that a decline in production is expected during the following month.
3. A score below 100 indicates that the current situation is worse than six months ago.

Source: Statistics Korea, Bank of Korea, *OECD Analytic Statistics Database* and Federation of Korean Industries.

However, Korea faces external and domestic risks. On the external side, a materialisation of the risks in the euro area could push the OECD area into a severe recession. Korea would be vulnerable to such a downturn, given that exports now account for more than half of GDP. Moreover, slower-than-expected growth in China, Korea's major trading partner, and in other emerging economies, would have a negative impact on Korea's economy. Another important risk is rising oil prices, given that Korea is the world's fifth-largest oil importer. On the domestic side, household debt reached 132% of household income in 2010, although delinquency rates remain low. Rising interest rates, after Korea overcomes the current soft patch, could thus have a larger-than-projected damping effect on private consumption.

Spending restraint is aimed at achieving the 2013 balanced budget target

Korea responded to the 2008 global economic crisis with an effective stimulus package of about 6% of GDP, focused on short-term public employment. Temporary fiscal stimulus, accompanied by permanent reductions in personal and corporate income tax rates, contributed to a deterioration in the consolidated central government budget, excluding the social security surplus (Korea's fiscal target), from a surplus of 0.7% of GDP in 2007 to a deficit of 4.1% in 2009.

Fiscal policy shifted to spending restraint in 2010 to meet Korea's target of a balanced budget by 2013. Combined with the cyclical rebound in revenue, the budget deficit narrowed sharply to 1.1% of GDP in 2010. Looking ahead, spending growth is to be limited to 3 percentage points below the growth of revenue in 2012-13. Deficit reduction would indeed be appropriate in the context of a continued expansion (Table 1). However, if a disorderly sovereign default in the euro area or other shocks were to trigger a deep global recession, Korea would have scope to use fiscal stimulus, given its strong fiscal position. Over the medium term, though, the priority should be to maintain a low level of government debt in view of population ageing and the potential cost of possible rapprochement with North Korea (Annex 1). Making the spending targets in the medium-term fiscal plan more binding would help maintain Korea's strong fiscal position.

Table 1. Short-term economic outlook

	2008	2009	2010	2011[1]	2012[2]	2013[2]
	Percentage changes, volume (2005 prices)					
GDP	**2.3**	**0.3**	**6.3**	**3.6**	**3.5**	**4.3**
Private consumption	1.3	0.0	4.4	2.3	2.1	3.8
Government consumption	4.3	5.6	2.9	2.1	2.7	3.0
Gross fixed capital formation	-1.9	-1.0	5.8	-1.1	2.1	4.6
Final domestic demand	0.8	0.6	4.6	1.2	2.2	3.9
Stockbuilding[3]	0.6	-3.9	2.5	0.8	0.5	0.0
Total domestic demand	1.3	-3.4	7.2	2.0	2.7	3.8
Exports of goods and services	6.6	-1.2	14.7	9.5	5.1	9.8
Imports of goods and services	4.4	-8.0	17.3	6.5	3.5	9.0
Net exports[3]	1.0	3.7	-0.6	1.8	1.0	0.6
Memorandum items						
Consumer price index (CPI)	4.7	2.8	2.9	4.0	3.4	3.0
Core CPI	4.3	3.6	1.8	3.2	3.1	3.0
Unemployment rate	3.2	3.6	3.7	3.4	3.4	3.4
Household saving rate[4]	2.9	4.6	4.3	3.1	3.8	4.1
Current account balance[5]	0.3	3.9	2.8	.2.4	1.3	1.1
Government budget balance[5,6]	-1.5	-4.1	-1.1	-2.0	-1.0	0.0
General government balance[5]	3.0	-1.1	1.3	0.8	1.3	1.9
Net government debt[5]	-37.7	-39.0	-37.4	-38.3	-39.4	-40.7
Gross government debt[5]	30.4	33.5	34.6	35.5	36.3	36.8

1. Historical data, except the general government balance and net and gross government debt, which are instead estimates published in *OECD Economic Outlook*, No. 90 (November 2011).
2. Based on quarterly projections produced for *OECD Economic Outlook*, No. 90.
3. Contributions to changes in real GDP (percentage of real GDP in previous year).
4. As a percentage of disposable income.
5. As a percentage of GDP.
6. Consolidated central government budget, excluding the social security surplus. Figures for 2011-13 are the targets in the government's five-year plan.

Source: *OECD Economic Outlook 90 Database*.

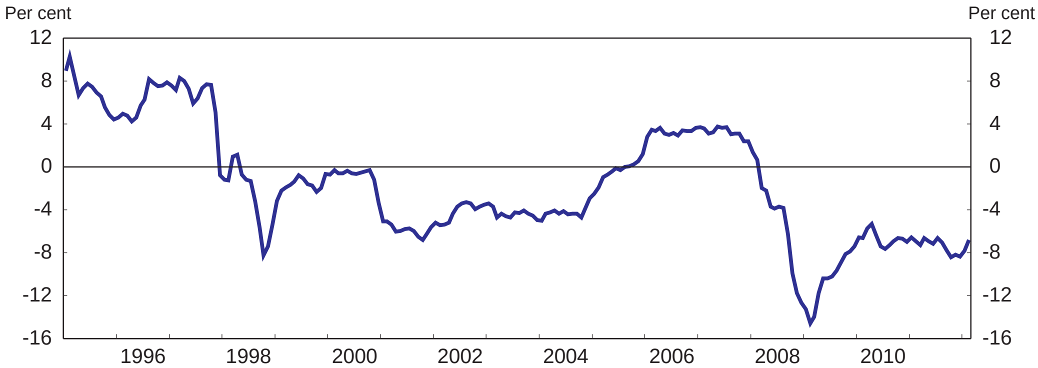
Monetary policy tightening has paused since mid-2011

The Bank of Korea waited until the recovery was firmly in place before beginning to tighten policy in the latter half of 2010. Consumer price inflation exceeded the central bank's 3.0±1% target during six months in 2011 (Figure 1, Panel E), reflecting in part the rise in oil prices. By the latter half of 2011, the core consumer price index was rising by 3.4% (year-on-year). By early 2012, though, inflation slowed markedly, reflecting the growth slowdown.

The Bank has left the policy rate unchanged at 3¼ per cent since July 2011, citing uncertainty about the world economy (Bank of Korea, 2011). Monetary conditions are currently relaxed (Figure 2), reflecting low short-term real interest rates and the low level of the real effective exchange rate, although the degree of monetary accommodation has been reduced in recent months. Given that Korea is entering the fourth year of an expansion, with an unemployment rate of 3% in late 2011 and inflation expectations above the 3.0±1% inflation target range, monetary policy tightening should resume once the economy overcomes the current period of uncertainty. However, if the world economy were to experience a sharp downturn, monetary policy easing in Korea would be appropriate.

Figure 2. Monetary conditions are relaxed

Percentage difference with respect to the average since 1995[1]



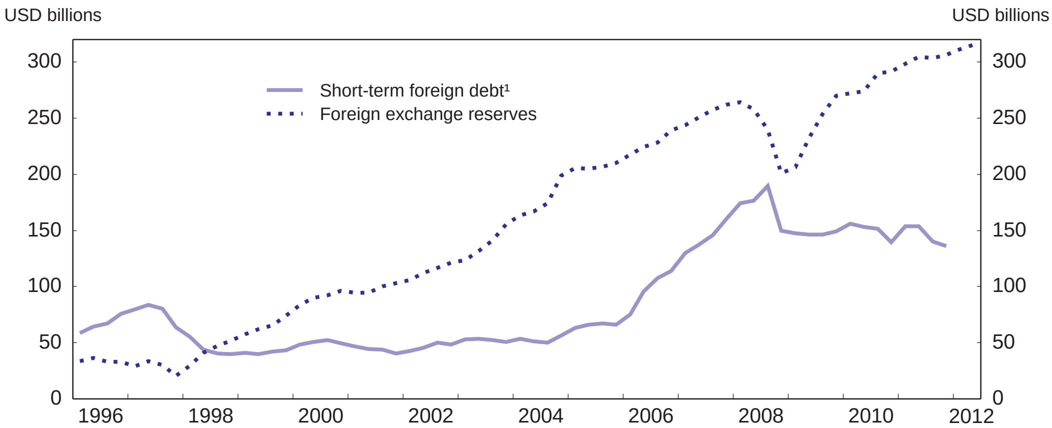
1. An increase indicates a tightening of monetary conditions. The index uses weights of 1 on the real short-term interest rate (91-day CD rate), deflated by core inflation, and 0.3 on the real effective exchange rate.

Source: *OECD Economic Outlook Database* and Bank of Korea.

Exchange rate policy and capital flows

The required degree of policy tightening depends in part on the exchange rate. As an export-oriented and non-reserve currency country with an open capital account, Korea has been particularly sensitive to external shocks, whether financial or real, which caused capital flight and rapid currency depreciation during the 1997 and 2008 crises. The global credit crunch in late 2008 effectively stopped the rollover of bank loans – an important source of funding for Korean banks – resulting in a plunge in the won and stock prices. Meanwhile, Korea's foreign exchange reserves fell from $258 billion to around $200 billion as the government supplied foreign exchange liquidity to the market. A bilateral currency swap agreement between the Bank of Korea and the US Federal Reserve in October 2008, followed by similar agreements with Japan and China, were the key to ending the crisis.

Figure 3. Foreign exchange reserves have risen while short-term foreign debt remains high



1. Maturity of less than one year.

Source: Bank of Korea.

Korea's foreign exchange reserves have increased from $200 billion in late 2008 to $315 billion (28% of GDP) in early 2012, which will help protect it against future crises and improve its sovereign creditworthiness. Indeed, reserves are now more than double Korea's short-term foreign debt (Figure 3). However, holding reserves is costly, as they are typically invested in safe assets with low returns, rather than in more productive uses, thereby creating high opportunity costs. In addition, there are foreign exchange risks associated with sizeable holdings of foreign assets (Rodrik, 2006). Instead, swap agreements are an effective alternative, particularly as Korea expanded its agreements with Japan and China in 2011. Moreover, it is important to continue building a transparent and sound financial system to help maintain investors' confidence and better absorb shocks from abroad (2010 *OECD Economic Survey of Korea*).

The won fell by 26% in real effective terms between early 2007 and the end of 2011 (Figure 4), leaving it 12% below its 1990-2011 average. According to the IMF, it was slightly undervalued by about 10% in mid-2011 (IMF, 2011) and the real effective exchange rate weakened by 4% between June and December 2011, in part due to the sovereign debt crisis in the euro area. The weaker won is supporting export growth. Won appreciation would benefit Korea by limiting inflationary pressures and promoting a more balanced expansion, and have positive spillover effects on other countries.

The won's exchange rate is also affected by a number of recent measures, including the levy Korea introduced in 2011 on non-deposit foreign currency liabilities of domestic banks and foreign bank branches to curb the volatility of capital flows. In addition, new regulations limit banks' foreign exchange derivative positions and restrict purchases by certain categories of financial institutions in Korea of foreign currency-denominated bonds issued by residents in the domestic market.

Box 1. Macroeconomic policy recommendations

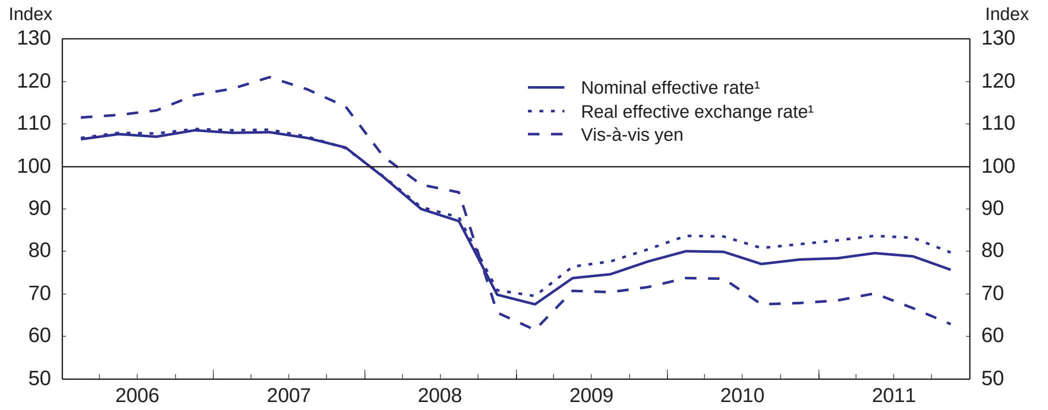
- Achieve the 2013 target of balancing the consolidated central government budget (excluding the social security surplus), if the baseline projection is realised, thereby maintaining a low level of government debt in order to cope with future spending challenges.
- If the risks in the euro area materialise and the world economy experiences a serious downturn, relax monetary policy and implement effective, short-term fiscal stimulus, focusing on employment, as during 2009.
- Resume monetary policy tightening once the economy overcomes the current soft patch and period of uncertainty so as to contain inflation near the mid-point of the 3±1% target and anchor inflation expectations.
- Maintain a flexible exchange rate policy. Guard against an excessive increase in foreign exchange reserves.
- If capital flows are excessively volatile, specific actions, such as macroprudential measures, may be needed alongside appropriate monetary and fiscal policy, while seeking to preserve the benefits of free capital movements.

Policies to promote economic growth

Korea has been one of the fastest-growing OECD countries, with real GDP rising by more than 4% per annum during the past decade. Rapid growth narrowed the per capita income gap with the United States from 62% in 1991 to 36% in 2010, reflecting progress in closing the productivity gap (Figure 5). The convergence in income levels continued despite a slowdown in Korea's potential growth from 7% in 1995 to around 4% by 2010, as the contribution from trend labour productivity fell from about five percentage points to three as Korea moved closer to the technology frontier. In addition, the contribution from labour inputs has declined from two percentage points to one, as working-age population growth halved from 1.4% to 0.7%.

Figure 4. Exchange rate trends

2005 = 100

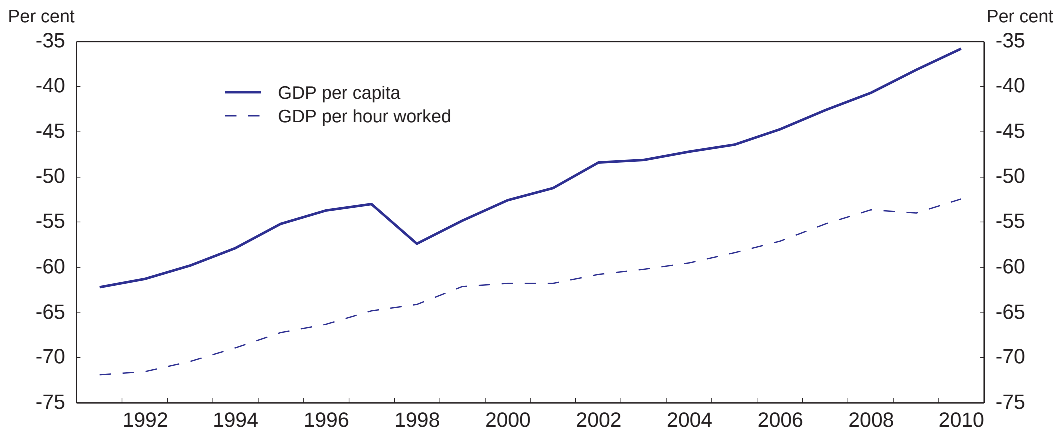


1. Calculated vis-à-vis 48 trading partners. The real rate is calculated using consumer prices.

Source: *OECD Economic Outlook Database*.

Sustaining the convergence process will become increasingly difficult, as the potential growth rate will fall further, in part as productivity growth continues to slow. Moreover, Korea faces the most rapid population ageing in the OECD area. Indeed, Korea, which currently has the third-youngest population, will have the second oldest by 2050 according to the elderly dependency ratio (Figure 6), reflecting its birth rate of only 1.2 children per woman, among the lowest in the world. Moreover, the total dependency ratio, including youth and elderly as a share of the 20-to-64-age group, will be the third highest in the OECD. Korea's working-age population is projected to peak in 2016, and then fall by more than a quarter by mid-century. With a falling labour force, the Korea Development Institute estimates that Korea's potential growth rate will drop below 2% during the 2030s.

Figure 5. Korea continues to converge towards the United States[1]



1. Distance from the United States, based on 2005 PPP exchange rates.

Source: *OECD Going for Growth Database*.

Sustaining Korea's growth potential in the face of demographic headwinds requires a wide range of policies, including:

- "Low Carbon, Green Growth", which the President identified in 2008 as the vision to guide Korea's development over the next 50 years.

- Measures to increase labour force participation, particularly of women, youth and older persons, and to break down the dualism that limits the human capital of non-regular workers.

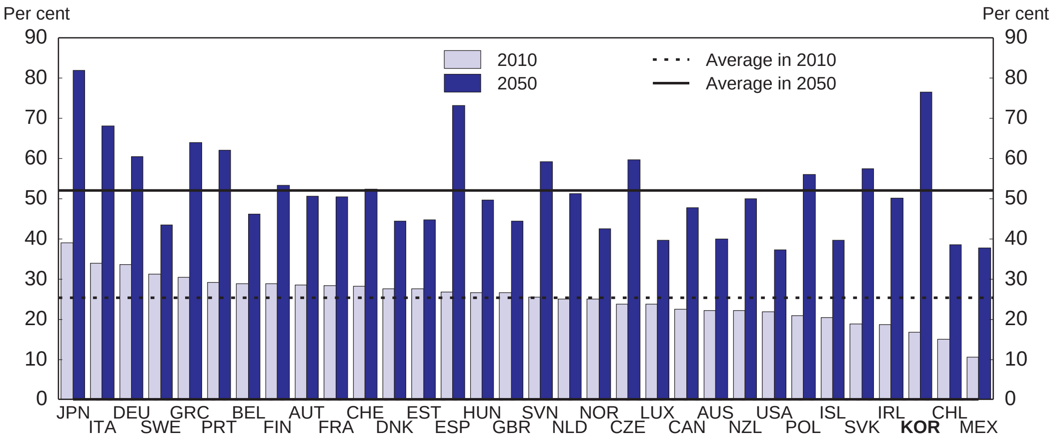
- Financing social spending, which will rise with population ageing, through tax measures that limit the negative impact on growth potential.

- Further improving the education system to boost productivity growth.

- Promoting Korea's convergence to the high-income countries by developing the service sector, where productivity is only about half of that in manufacturing.

Figure 6. Population ageing in Korea is projected to be the fastest in the OECD area

Population aged 65 and over as a share of the population aged 20 to 64



Source: Statistics Korea, *Population Projection for Korea* (2011 version) and *OECD Demography and Population Database*.

Achieving low carbon, green growth

Despite a decline since 1997, Korea's energy intensity is still the sixth highest in the OECD area (Figure 7), reflecting its concentration in energy-intensive industries. One of the goals of Korea's Green Growth Strategy is to "attain energy independence", which implies a fundamental transition in Korea's economic structure, given that net imports accounted for 86% of total primary energy supply in 2009. Such a shift would have great potential for creating new industries, but will also impose heavy transition costs. Implementing the Strategy, including the 2020 greenhouse gas (GHG) emission reduction target (see below), therefore requires a policy framework that provides appropriate incentives to induce the necessary restructuring in a cost-effective way.

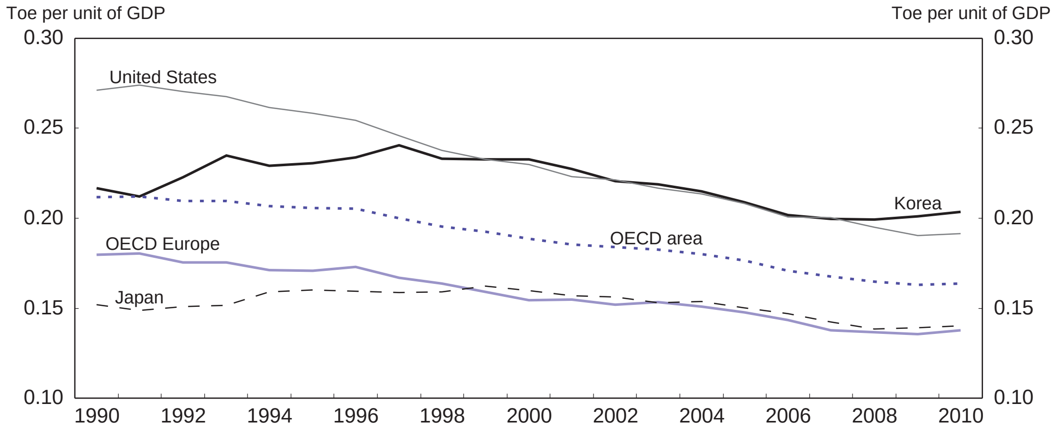
The Five-Year Plan for Green Growth

The Five-Year Plan (2009-13) contains about 600 projects and a total budget of 108.7 trillion won (10% of 2009 GDP). Public R&D accounts for 11% of the total, motivated by the need to overcome market failures related to the high degree of uncertainty and long time horizons in green innovation, which hinder private-sector research. In 2009, private firms were involved in nearly two-thirds of the 4 732 R&D projects in the Five-Year Plan, although their financial contributions amounted to only 8% 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% 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. A well-functioning certification system to determine which firms are truly green is also essential. 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 (OECD, 2011f).

Figure 7. Korea's energy intensity is declining but remains well above the OECD average

Tonnes of energy per unit of GDP in thousand 2000 USD using PPP exchange rates



Source: IEA/OECD, *Energy Balances of OECD Countries 2011*, IEA/OECD, Paris.

Renewable energy has a key role to play in a low-carbon economy. The government replaced the Feed-In-Tariff system with a Renewable Portfolio Standard (RPS) in 2012, with the target rising from an initial 2% of total electricity to 10% by 2022. While an RPS tends to have a stronger impact on innovation (Johnstone *et al.*, 2010), it creates a risk of excessive use of low-quality renewables, based on their environmental impact and the potential for technological gains, making it important to closely monitor technological developments in this market.

Introducing market instruments to promote green growth

The most important tool to promote green innovation is to introduce 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 (OECD, 2011f). Such a price is also necessary to achieve Korea's GHG emission reduction target in a cost-effective manner. Between 1990 and 2008, Korean emissions doubled, far outstripping the 24% rise in global emissions. In 2010, Korea set an objective of reducing emissions by 30% by 2020 relative to a "business as usual" scenario, implying a 4% cut from the 2005 level. Achieving the target through an ETS would cost only about 40% as much as relying on direct regulations (Lee, 2009).

It is essential to introduce a carbon price, as it is the most cost-effective way to meet Korea's 2020 GHG emission target and create new growth engines, while avoiding solutions based on regulations and subsidies. The government introduced legislation in 2011 to create a cap-and-trade ETS in 2015 covering firms with annual emissions of more than 25 thousand tonnes. In 2011, this threshold included 497 firms, accounting for around 60% of total emissions. Less than 5% 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, taxation will cover smaller and more diffuse sources of pollution such as households and small businesses. It is important, though, to minimise overlap and complicated interactions between an ETS and a carbon tax, which would raise costs and uncertainty about the overall outcome.

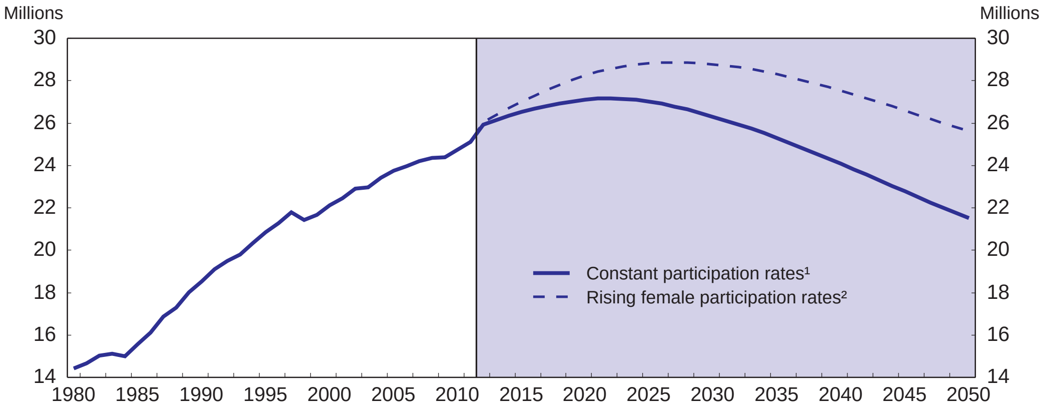
However, the business sector remains critical of the planned ETS, due in part to concerns about international competitiveness. To cope with this so-called "carbon leakage" problem, transitional assistance to some strongly-affected industries may be appropriate. However, overly generous support would maintain current production patterns and slow the transition to low-carbon technologies.

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.

Labour market measures to promote growth

Rapid population ageing implies a substantial fall in the labour force. If participation rates were to remain at their current levels for each age group, the labour force would peak at 27.2 million in 2022 and then fall by 21%, to around 21.5 million, by mid-century (Figure 8). By that point, there would be only 1.2 persons in the labour force per elderly person, compared with 4.5 in 2010, imposing a heavy burden on workers to finance social spending.

Figure 8. Long-term projections of the labour force



1. The participation rates for men and women are assumed to remain at their current levels for each age group.
2. Female participation rates are assumed to reach current male rates in each age group by 2050.

Source: Statistics Korea, *Population Projection for Korea* (2011 version) and *Economically Active Population Survey*, and OECD calculations.

The most important strategy to mitigate demographic change would be to increase the female labour force participation rate. For women between the ages of 25 and 54, the rate was 62% 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 labour force would only decline to around 25.6 million, almost 19% higher than in the case of unchanged participation rates, resulting in a ratio of 1.4 workers per elderly person. 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 (see below). *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 one of the lowest in the OECD area. Although this 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 (see below). 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 utilise older workers, who tend to retire from firms by age 55. More than one-third become unemployed. Another 13% of departing employees become self-employed, primarily in services with low productivity. As a result, one-third of workers over age 50 are self-employed, compared to 13% of those under that age. Given strict employment protection, 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. In addition, the retirement allowance required by firms, which also promotes the early departure of employees, should be replaced by the company pension system.

Pro-growth tax reform to finance increasing spending

Korea had the second-lowest level of public spending, at 31% of GDP on a general government basis in 2010, compared to the OECD average of 46%. Under current policies, however, population ageing alone is projected to boost public social spending from 7½ per cent of GDP at present to as high as 20% by 2050 (Won *et al.*, 2011). While there is some scope to squeeze spending in other areas, Korea's low tax burden – at 25.1% of GDP in 2010 (Table 2) – will need to rise to finance such spending, in addition to a targeted expansion of some social welfare programmes discussed below. Direct taxes on households are particularly low, as only 60% of workers pay personal income tax due to generous deductions and exemptions, aimed in part at creating a level playing field with the self-employed. Social security contributions are also far below the OECD average, reflecting relatively low contribution rates and weak compliance with the social insurance schemes.

Table 2. The tax mix in OECD countries

Tax revenue as a per cent of GDP

	2000		2010			Change[1]
	Korea	**OECD**	**Korea**	**Rank**	**OECD**	**2000-10**
Direct taxes on households	3.3	9.4	3.6	26	8.7	0.3
Direct taxes on firms	3.2	3.5	3.5	4	2.8	0.3
Social security and payroll	3.8	9.3	5.8	25	9.2	2.0
Goods and services	8.7	11.3	8.5	26	10.7	-0.2
Property	2.8	1.6	2.9	7	1.6	0.1
Holding taxes	0.6	0.9	0.8	14	1.1	0.2
Taxes on property transactions	2.0	0.6	1.8	1	0.4	-0.2
Estate, inheritance and gift taxes	0.2	0.1	0.3	5	0.1	0.1
Other	0.8	0.2	0.9	3	0.2	0.1
Total	**22.6**	**35.3**	**25.1**	**28**	**33.2**	**2.5**

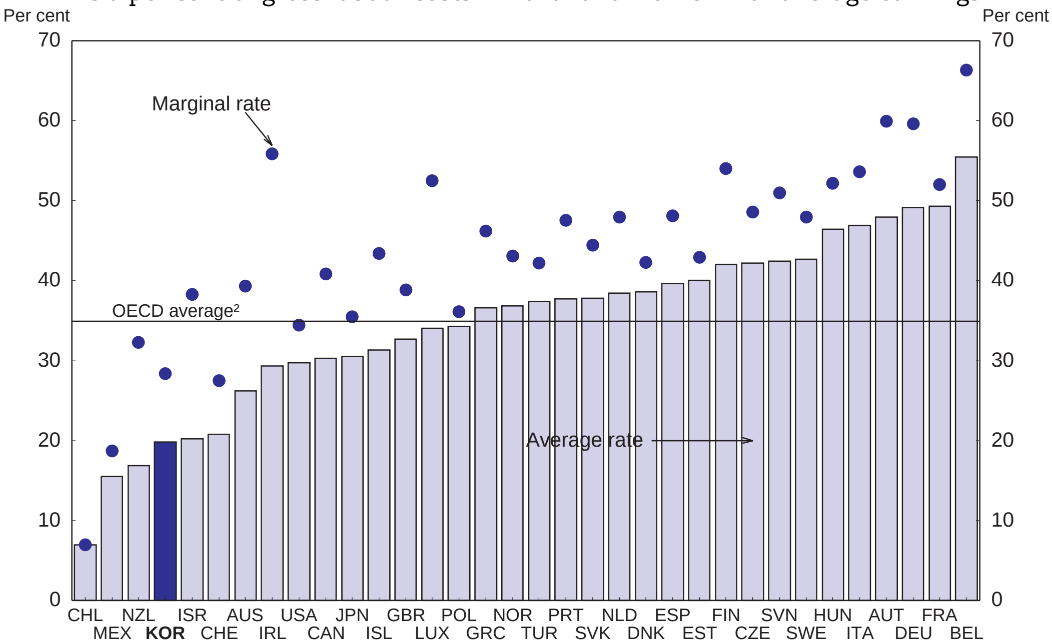
1. For Korea in percentage points.

Source: OECD (2011), *OECD Revenue Statistics 1965-2010*.

The overall "tax wedge" on labour, including social security contributions, was only 20% in 2010 (Figure 9). Low taxes on labour contribute to high labour inputs in Korea, which are 37% higher relative to the population than the United States, offsetting much of the productivity gap (Figure 5). Cross-country studies by the OECD demonstrate that taxes on labour reduce employment, saving and capital investment, thereby lowering potential growth. On the other hand, a low tax burden promotes jobs and growth by enhancing incentives for FDI inflows, education and entrepreneurship. Low corporate income tax rates are also beneficial for growth (2008 *OECD Economic Survey of Korea*). Korea reduced its statutory rate from 30.8% (including local governments) in 2000 to 24.2% in 2010, slightly below the OECD average.

Figure 9. Average and marginal tax wedges on labour[1]

As a per cent of gross labour costs in 2010 for a worker with average earnings



1. The tax wedge measures the difference between total labour compensation paid by the employer and the net take-home pay of employees as a ratio of total labour compensation.
2. Average of the 34 countries' average tax wedges.

Source: *OECD Tax Database* (*www.oecd.org/ctp/taxdatabase*).

It is essential to finance rising spending through revenue increases that minimise the negative effect on growth. Indeed, the economic impact of higher taxes depends on how the revenue is raised as well as on how much is raised. Pro-growth tax policy calls for limiting any increase in the tax wedge on labour income and keeping a low corporate tax rate. At the same time, base-broadening to increase the share of wages subject to income tax from around one-half at present toward the OECD average of more than 80% would reduce distortions and help keep marginal tax rates low.

Keeping direct taxes low implies that revenue increases should come primarily from indirect taxes, notably the value-added tax (VAT), which has a smaller negative effect on labour supply. Korea's VAT rate is currently 10%, far below the OECD average of 18%. Another advantage is that the VAT is simple and relatively difficult to avoid or evade in Korea, and the VAT tax base is the ninth broadest in the OECD area. However, a shift in the tax structure from income to consumption taxes would reduce the tax system's already low redistributive impact, with negative implications for income equality (see below). Nevertheless, using the VAT to raise revenue while relying on the earned income tax credit (EITC) and well-targeted social spending to achieve income distribution goals would be the best approach.

Environmental taxes and revenues from auctioning ETS permits are also good candidates for increasing revenue, as noted above, as part of the Green Growth Strategy. Taxes on property-holding are a third option to raise revenue, as they have less negative impact on economic activity than direct taxes (Arnold *et al.*, 2011). Increasing property-holding taxes would also promote the efficient use of land and address persistent concerns about real estate prices.

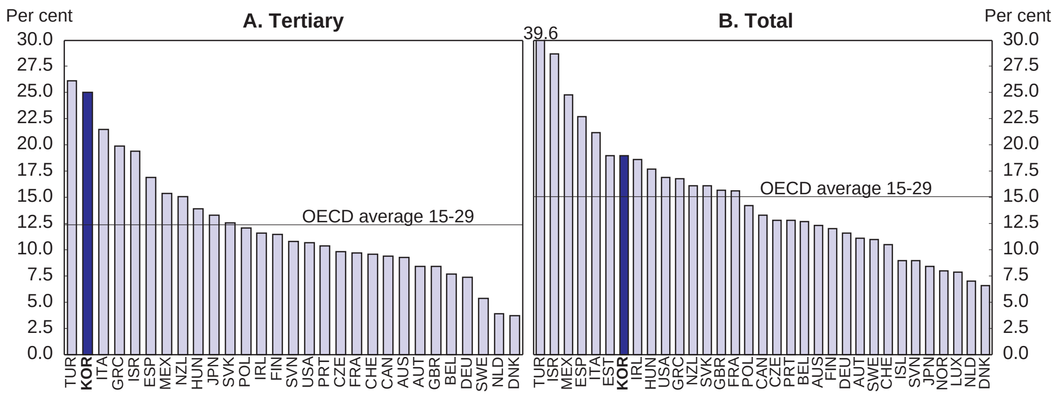
Upgrading compliance with social insurance contributions, particularly for non-regular workers and employees at small firms, is important to finance ageing-related expenses and allow social security systems to play their intended roles. Beginning in 2011, the collection of contributions was combined under the National Health Insurance (NHI). Transparency about income and compliance could be further improved by having the National Tax Service collect social insurance contributions.

Addressing the overemphasis on tertiary education by upgrading vocational education

In 2011, 72.5% of high school graduates advanced to tertiary education, but in recent years only about half of university graduates have found regular jobs. Consequently, 25% of tertiary graduates under the age of 30 in 2009 were inactive, engaged neither in employment, nor in education, double the OECD average (Figure 10). Meanwhile, SMEs face labour shortages. Addressing the problem of overemphasis on tertiary education is difficult because great importance is attached to academic credentials. In a 2010 government survey, 93% of parents said that they expect their children to obtain at least a four-year university degree. Tertiary education has become the norm regardless of students' capabilities or career aspirations. It is necessary to shift the focus from chasing the prestige of high-ranking universities to rewarding the acquisition of skills demanded by firms, in part by increasing the weight of performance in determining wages. Reducing labour market dualism would also reduce incentives for tertiary education in order to avoid non-regular employment. Moreover, the prevalence of dualism explains the preference of many tertiary graduates to become NEETs while waiting for regular employment.

Figure 10. The share of inactive youth with tertiary education is high in Korea

The share of the 15-to-29-age group neither in employment nor in education in 2009[1]



1. Data on the category ISCED 4, which captures programmes that straddle the boundary between upper secondary and post-secondary education, are not available in Korea and eleven other OECD countries. This category could potentially include persons in an apprenticeship or in training outside of school. The numbers in the chart therefore overestimate the number of youth who are inactive in these countries.

Source: OECD (2011c), *OECD Education at a Glance 2011* and Statistics Korea, *Economically Active Population Survey*.

To reduce overemphasis on tertiary education, vocational education should be improved at the secondary and tertiary levels. The share of students in vocational high schools fell from 42% in 1995 to 24% in 2010, while the share of vocational high school graduates going to university rose from 19% to 71%. To upgrade vocational training, the government introduced 28 "Meister" schools, in which workplace training plays a key role, thereby facilitating the transition to the job market. Further increasing the number of such schools as planned should be a priority. At the tertiary level, colleges, which have focused on vocational education, have been losing students to universities, which have entered the vocational territory of colleges to sustain their enrolments. Universities should be discouraged from offering degrees in purely vocational fields, such as cosmetology, while the role of colleges should be enhanced by aligning their curricula with the national technical qualifications (NTQ) and preparing students for NTQ exams. Streamlining the complicated qualifications system, drawing on business-sector views, would help in this regard.

Improving the quality of tertiary education and its contribution to innovation

The development of human resources through tertiary education needs to be exploited fully to meet demographic and competitive pressures. The rapid quantitative expansion has inevitably led to some deterioration in the quality of Korea's tertiary sector, which does not score high in international rankings. The projected one-third drop in the tertiary-age population by 2030 provides an opportunity to shift the focus from quantity to quality and from inputs to outcomes. The government has launched several recent initiatives towards this goal:

- Korea's leading university, Seoul National University, was incorporated to allow it more autonomy. If this proves successful, other public universities should also be incorporated.

- The government is reducing public funds to universities ranking in the bottom 15% beginning in 2012. Although the government's leverage is limited by the fact that all are private universities that rely primarily on tuition fees, the university assessments will be publicly announced, thus influencing students' choice of university and, ultimately, universities' financing.

- The government expects that most tertiary institutions will participate in a recently launched accreditation system by 2014. Accreditation should be made effective based on criteria including output measures, such as the employment of graduates, and evaluations by the business sector. Although accreditation is not mandatory, most universities are expected to participate because accreditation results will be publicly disclosed and linked to government funding programmes from 2014.

In addition, it is important to strengthen competition by enhancing transparency about outcomes. For example, the government website with information about universities' performance could provide more details about specific departments to better inform student decisions. Korea has few foreign tertiary institutions and foreign students account for 2% of tertiary students in Korea. In contrast, 7% of Korean tertiary students are studying overseas, making it the leading source among OECD countries of international students. Reforms to attract foreign institutions and students to Korea would increase the quality of its tertiary education.

Korean universities accounted for only 1% of R&D funding and performed 11% of R&D in 2009, the second lowest share in the OECD, despite the fact that they account for three-quarters of PhDs. Increasing the effectiveness of R&D requires expanding the interaction between researchers in business, government and universities. Given that transfers of knowledge and technology takes place to a large extent through people, it is important to promote the mobility of researchers between sectors. In addition, the share of government R&D funding for universities that is allocated competitively should be increased.

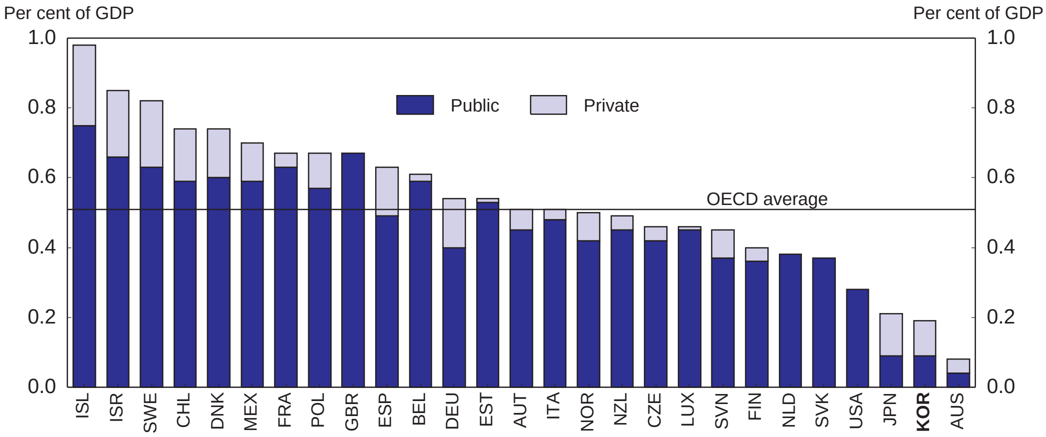
Expanding early childhood education and care (ECEC)

Investment in ECEC offers a high return by boosting the later achievement of children. Korea has expanded public outlays for ECEC by broadening the eligibility for tuition subsidies from the bottom 10% of households in the income distribution to the lower 70%. Nevertheless, spending on pre-primary education was only 0.2% of GDP in 2008, the second lowest in the OECD area (Figure 11). In addition, the public-sector share was only 46%. Consequently, public expenditure on pre-primary education was also the second lowest among OECD countries.

Korea needs to address the intertwined problems of the affordability of childcare, a lack of places in higher-quality public centres and excess capacity in private childcare, which tends to be lower quality. Beginning in 2012, the government provides support for all five-year-olds enrolled in childcare centres and kindergarten, regardless of household income. Further measures are needed. *First*, the top priority is to extend support for ECEC to all three and four-year olds starting in 2013, as planned. *Second*, the educational content of childcare should be upgraded by effectively implementing the common curriculum for five-year-olds in childcare and kindergarten as planned in 2012 and then harmonising programmes for younger children. Childcare and kindergarten, which are currently administered by different ministries, should be gradually integrated to promote quality and reduce costs through streamlining. *Third*, the capacity of public kindergartens, which account for only a quarter of students, should be expanded by including public kindergartens in primary schools. There is scope to finance increased outlays for ECEC through reallocations within the overall education budget, particularly as school rolls shrink. Indeed, outlays per student in kindergarten were only 37% of that in primary and secondary schools, well below the OECD average of 70%.

Figure 11. Spending on pre-primary education is low in Korea

In 2008



Source: OECD (2011c), *OECD Education at a Glance 2011*.

The current imbalances between supply and demand for public and private centres should also be addressed through a closer alignment of the quality standards and regulations so that all children are able to attend ECEC institutions that offer similar high quality across public and private education settings. The excess demand for public childcare should be met primarily by upgrading the quality of private institutions, which care for nearly 90% of the enrolled children. Quality in private institutions should be improved by making accreditation mandatory and raising its requirements. Private childcare centres wishing to improve quality and attract children to fill their empty places have been blocked by fee ceilings. The government should relax the price ceilings and entry barriers to promote competition, while partially offsetting higher tuition fees through increased subsidies to parents (OECD, 2008).

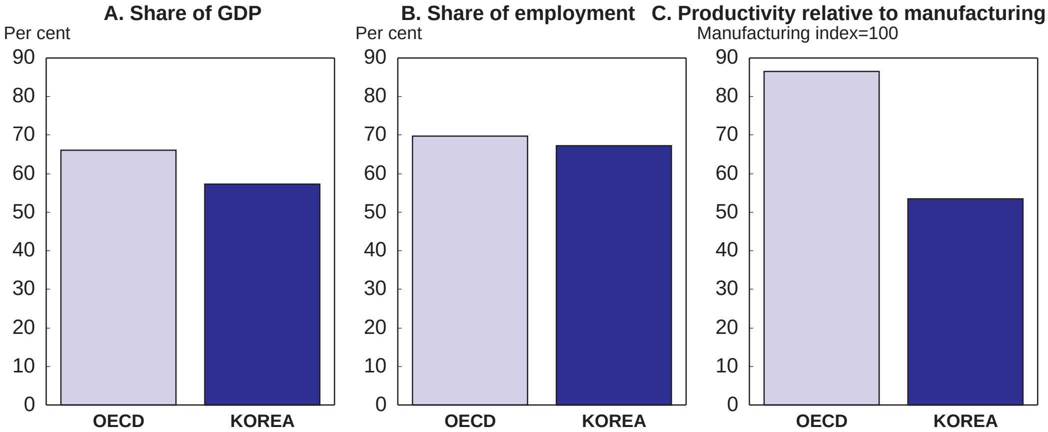
Developing the service sector

Manufacturing has driven Korea's rapid economic development, making it a leading industrial power. Indeed, Korea is now the world's leading shipbuilder and fifth-largest car producer. In contrast, its service sector is the second smallest in the OECD area, accounting for 57% of GDP (Figure 12). Only four of its 30 largest enterprises are in services. The share of employment in services in Korea is closer to the OECD average, reflecting the sector's role as a *de facto* safety net for older workers forced to retire from firms at a relatively young age. Consequently, productivity in services was only 53% of Korea's manufacturing sector in 2008, far below the OECD average of 87%. Converging to the income levels in the most advanced countries requires making services a second driver of growth. Over the past 25 years, nearly 85% of GDP growth in high-income countries came from services (McKinsey, 2010). Developing a strong service sector would develop high-quality jobs that would better utilise Korea's tertiary graduates.

Korea's economic structure is a legacy of a development strategy that focused on manufacturing, thereby siphoning capital, talent and other resources away from services. For example, R&D investment in services accounts for only 7% of total R&D outlays by firms, compared to an average of 25% in the G-7 economies. Moreover, the government allocates only 3% of its R&D budget to services. To boost R&D in services, the government introduced R&D tax credits for 11 knowledge-based service sectors, including health care, in 2012. Manufacturing firms benefit from a range of policies, including tax benefits and lower electricity charges. The first priority is to level the playing field, preferably by reducing the gaps in regulation and benefits between manufacturing and services. To that end, a comprehensive quantification of the various forms of explicit and implicit support to manufacturing would be helpful. In addition, a stronger won would promote the development of some non-tradable services by boosting domestic demand.

Figure 12. The service sector

In 2008, based on 2005 prices for value added



Source: *OECD National Accounts Database* and *OECD STI Database*.

The government's 2009 plan to develop services included health care, education, green financing, software and tourism. Broader policies to strengthen competition in services are more effective and less risky than industry-specific measures. As the government noted, "Overly strict regulations are also obstructing investment and competition" in services (MOSF, 2009). The keys to stronger competition include eliminating domestic entry barriers, accelerating regulatory reform, upgrading competition policy and reducing barriers to trade and inflows of 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 (World Bank, 2011). Regulation in network industries has also fallen, although it remains well above the OECD average (OECD, 2012).

Strengthening links to the world economy would also boost productivity in services. Korea's integration in the world economy is still very low in terms of import penetration, the share of foreign workers and the stock of inward FDI. Korea has taken steps to enhance its openness through free trade agreements (FTAs), including those with the EU and the United States. FTAs may also help boost the stock of inward FDI from its 2010 level of 13% of GDP, the third lowest in the OECD area. Moreover, FDI in services is only 6% of GDP in Korea compared with an OECD average of 37%. To encourage inflows, Korea should further relax FDI restrictions, including foreign ownership ceilings in key services, and liberalise product market regulations. In addition, it is important to remove any obstacles to cross-border M&As and foster a foreign investment-friendly environment by enhancing the transparency of tax and regulatory policies and reforming the labour market (see below).

Problems in services are linked to those of SMEs, which account for about 90% of service-sector employment. The weakness of SMEs prompted the government to ratchet up support from already high levels during the 2008 crisis. Extensive public support for SMEs, particularly in manufacturing, has blunted competitive pressures, slowed reform and reduced the efficiency of resource allocation. The increased government assistance to SMEs, including public loan guarantees, was ratcheted up during the 1997 and 2008 crises, exacerbating moral hazard problems and increasing SMEs' reliance on public assistance. It is essential to continue to streamline such support to promote the restructuring of SMEs and to remove the obstacles inhibiting their expansion. Supporting non-viable firms will act as a drag on Korea's growth potential.

Box 2. Key policy recommendations to promote economic growth

- Implement the Green Growth Strategy through a price on carbon, primarily an ETS with permits auctioned and a carbon tax covering small emitters, thereby promoting green innovation and achieving the 2020 target to reduce GHG emissions in a cost-effective manner.
- Overcome market failures that limit R&D and funding of green businesses through carefully-designed policies that limit the risk of government failure.
- Set electricity prices in line with production costs to reduce the high level of electricity consumption.
- Increase the female participation rate by expanding the availability of affordable, high-quality childcare, promoting the use of maternity and parental leave, encouraging family-friendly workplaces and reducing labour market dualism.
- Help older workers to remain longer at firms, in part by moving away from mandatory retirement.
- Rely primarily on indirect taxes, notably the VAT, environmental taxes and property-holding taxes, to finance rising government spending, while keeping taxes on labour income low to promote employment and growth.
- Improve the quality of vocational education, thereby helping to resolve the issue of overemphasis on tertiary education and mismatch problems that limit the labour participation rate for younger workers.
- Upgrade the quality of tertiary education by ensuring adequate accreditation procedures, enhancing transparency and promoting internationalisation.
- Enhance the contribution of higher education to innovation by promoting links with government and business research institutes and increasing the share of government R&D funding that is allocated competitively.
- Expand investment in ECEC to achieve the objective of free education for children aged three to five and upgrade its quality, in part by mandatory accreditation and by relaxing fee ceilings on private childcare centres.
- Develop the service sector by leveling the playing field with manufacturing and strengthening competition by eliminating domestic entry barriers, accelerating regulatory reform, upgrading competition policy and reducing barriers to trade and inflows of FDI. In addition, assistance to SMEs should be scaled back.
- Comprehensively quantify the various forms of explicit and implicit support to manufacturing as a first step to leveling the playing field.

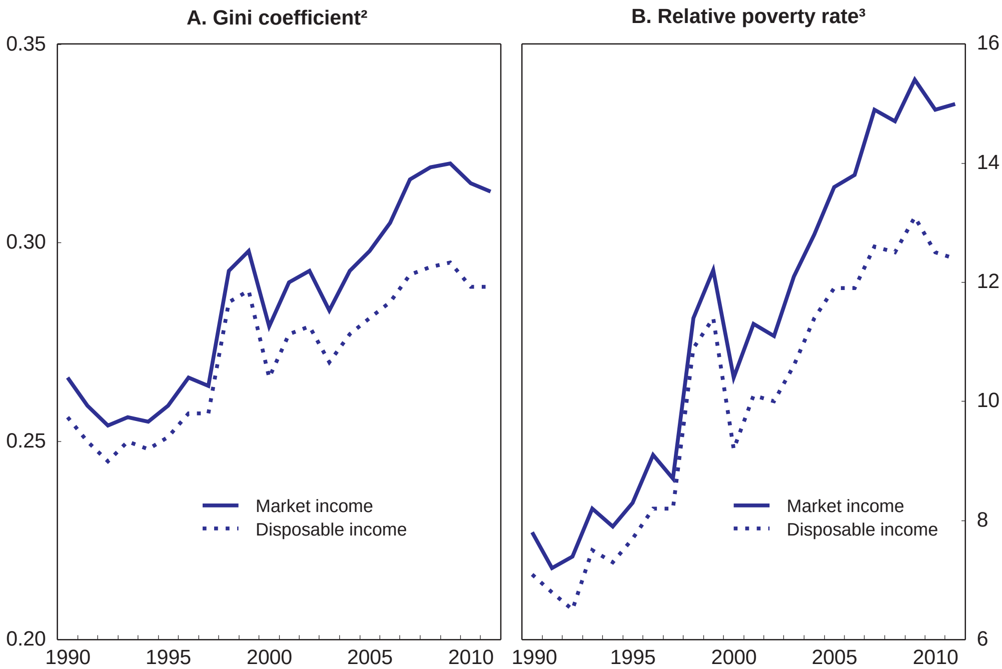
Policies to promote social cohesion by addressing rising income inequality and relative poverty

Promoting social cohesion may contribute to sustaining Korea's long-term growth potential. Income inequality has risen to the top of Korea's political agenda, driven by such issues as high university tuition fees and labour market dualism. 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, has been on an upward trend until 2009 (Figure 13), 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% in 2008, the seventh highest in the OECD area. While economic growth can help reduce income inequality and poverty, Korea's experience shows that achieving a high growth rate is not sufficient in itself to address inequality and poverty.

As Korea has become increasingly integrated in a globalised economy, it has faced many of the same forces that have led to rising inequality in other countries. Yet, Korea stands out for a number of reasons:

- Social spending, which plays an important role in reducing inequality and poverty in most OECD countries, is low in Korea.
- Korea's dualistic labour market results in high inequality in wage income.
- Low productivity in services, which employ 70% of the labour force, reinforces wage inequality.
- The large share of private spending in education and health increases the impact of socio-economic factors on educational and health outcomes.

Figure 13. 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.

Increasing social spending gradually to promote social cohesion

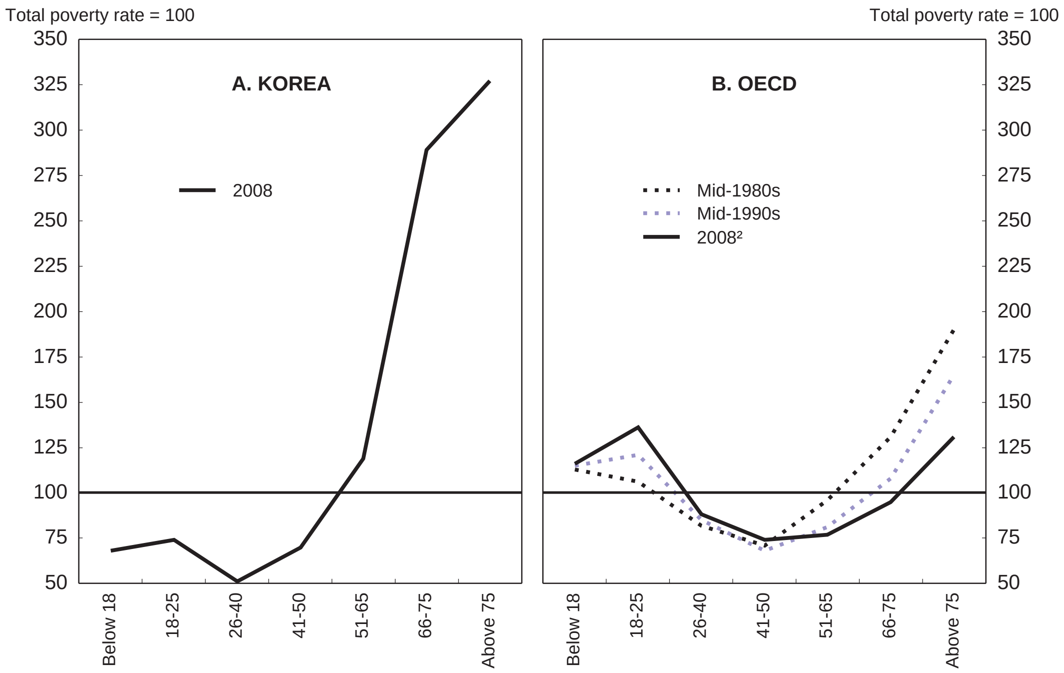
Public social spending was 7.6% of GDP in 2007, well below the OECD average of 19%, reflecting Korea's traditional reliance on family and firms to provide support, its low unemployment rate and its relatively young population. However, public social spending increased at an 11% annual rate in real terms between 1990 and 2007, the fastest in the OECD area. Given the impact of ageing, Korea should be cautious in expanding social welfare programmes.

The limited coverage of social assistance and insurance and unemployment benefits (see below) leaves large gaps in the social safety net. Benefits for families, such as child allowances and childcare support, amounted to only 0.5% of GDP, the lowest in the OECD and well below the OECD average of 2.2% (OECD, 2011a). The main social welfare programme, the Basic Livelihood Security Programme (BLSP), covers only 3% of the population, far below the 15% living in relatively poverty, reflecting strict eligibility requirements that include income, assets and the possibility of assistance from relatives. Benefits amount to only 0.9% of GDP. In addition to the low level, social spending is not well targeted on low-income households: only a quarter of cash benefits from the government go to the poorest 20% of the population. Consequently, Korea's tax/benefit system is the least effective among OECD countries in promoting equality. Indeed, it reduces the relative poverty rate by only 2.5 percentage points, the lowest in the OECD area, compared to an OECD average of 15 points. Relaxing the eligibility conditions for the BLSP is thus a priority. Work incentives should be enhanced by separately withdrawing the various benefits offered by the BLSP, such as housing and education, to reduce negative work incentives for employment. Another key tool is the EITC introduced in 2008, which is likely to be particularly effective in Korea. However, it is relatively limited thus far, providing benefits to 0.6 million households (3.6% of the total) in 2009, with an average payment of around $680 per year. Total payments amounted to only 0.04% of GDP. The EITC was extended in 2012 to childless households and some self-employed workers, while the income ceiling on eligibility has been increased, nearly doubling the number of recipients since 2009.

The pension system

Public spending on old-age benefits was 1.6% of GDP in 2007, a quarter of the OECD average, reflecting the fact that the National Pension Scheme (NPS) was only introduced in 1988. Consequently, only one-fifth of the elderly receive pensions, which are only partial. The limited scale of pension provision and social welfare explain why nearly one-half of the elderly live in relative poverty, the highest proportion among OECD countries. In contrast, the poverty rate of the elderly is close to the national rate in the OECD area (Figure 14). The Basic Old-Age Pension System, introduced in 2008, provides assistance to elderly persons who meet the income and asset criteria. Around 70% of the elderly receive the benefit, which is set at about 5% of the average wage, far below the minimum cost of living at 20%. A larger benefit that is more targeted at low-income elderly would be more effective in reducing poverty.

Figure 14. The rate of relative poverty by age group[1]



1. The figure shows the poverty rate for each age group using an index, with the rate for the entire population set at 100. The poverty threshold is set at 50% of median income of the entire population. The OECD average includes 20 member countries.
2. Data refer to the most recent year in the late-2000s (2008 for most countries).

Source: *OECD Database on Income Distribution and Poverty* (*www.oecd.org/els/social/inequality*).

The maturation of the NPS will eventually reduce poverty among the elderly. Beginning in 2028, retirees with a full 40 years of contributions will begin receiving benefits, although the replacement rate will be only 40%, well below the OECD average of 58% (OECD, 2011e). Contributions will have to be increased to finance even this low replacement rate. The need for higher contributions would be limited by accelerating the planned increase in the pension eligibility age from its current level of 60 to 65 in 2033, and by raising it further.

In addition to a low replacement rate, the ability of the NPS to reduce poverty among the elderly is weakened by a number of other factors. *First*, 30% of the working-age population did not contribute to public pension programmes in 2010, even though participation is mandatory. As a result, some participants will not be able to receive benefits as they have not completed the minimum ten-years of contributions. Under current trends, 40% of the elderly in 2030 would be left without a public pension. *Second*, the lack of transparency about the income of the self-employed and family workers limits their contributions. Consequently, benefits for much of the population will be reduced by short contribution periods and unrealistically low reported incomes. Measures to increase compliance with the NPS and to enhance transparency about income are a priority if the NPS is to bring poverty rates for the elderly into line with the general population.

The NPS should be supplemented by greater private savings for retirement. The mandatory "retirement allowance", which requires firms to pay departing employees a lump-sum of at least one month of wages per year of work, has a number of drawbacks as a pension. In particular, it is not a secure source of income, as it is partially unfunded, it has lost its link to retirement income, and it creates incentives for firms to retire employees early. The government launched a company pension system in 2005 that requires labour and management to agree on a defined-benefit (DB) or a defined-contribution (DC) scheme. As of 2011, pension plans had been introduced at 9% of firms, covering 36% of employees. In 2012, the government will introduce additional measures, including allowing firms to adopt both DB and DC schemes and to limit the interim payment of the retirement allowance. To further accelerate the transition to company pensions, the government should remove tax preferences for retirement allowances. In addition, it should encourage the Individual Retirement Pension to promote pension portability.

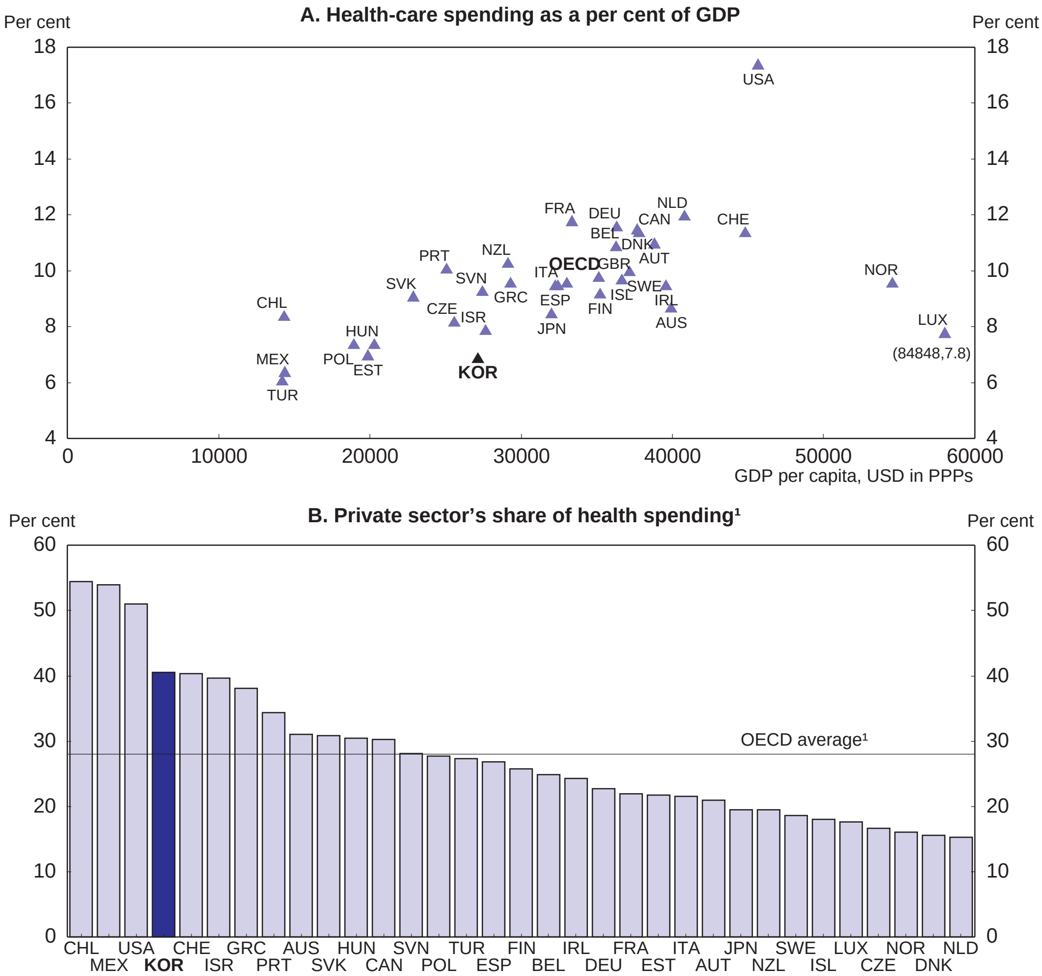
Health and long-term care

Health spending as a share of GDP in 2008 was almost a third below the OECD average in 2008 (Figure 15), reflecting Korea's relatively young population and government policies, such as capping medical fee increases. In addition, the NHI's coverage of medical treatments has been limited, as it focused initially on achieving universal coverage of the population. Meanwhile, the volume of health care has been restrained by co-payments that are the highest in the OECD area. Consequently, the private sector's share of health spending was 41%, the fourth highest in the OECD area (Panel B). High out-of-pocket payments are inequitable and regressive because they do not depend on income, resulting in inequality in the economic burden of illness, boosting poverty and reducing necessary health care (2010 *OECD Economic Survey of Korea*).

Ceilings on co-payments were introduced in 2004 and revised in 2009 to take account of patients' ability to pay. However, for a person earning half of the average disposable per capita income, co-payments could still be as high as one-third of their income. Consequently, the NHI considers that "the current level of protection still falls short of being adequate in terms of risk protection" (NHIC, 2009). It is important to ensure that the ceilings on patient co-payments are low enough to provide adequate access to care for low-income households and those with chronic health problems.

Figure 15. Health-care spending per capita in Korea is low and the private share is high

In 2009 or the latest available year



1. Excludes the United Kingdom, for which data are not available.

Source: *OECD Health Database 2011*.

Table 3. International comparison of health-care services

In 2009 or latest year available

	Number of hospital beds[1,2]	Average hospital stay (in days)	Number of physicians[1]	Number of medical graduates[3]	Number of physician consultations per capita per year	Number of consultations per physician per year
Korea	**8.3**	**16.7**	**1.9**	**8.8**	**13.0**	**6 701**
OECD average	5.1	8.7	3.1	9.9	6.5	2 463
Highest country	13.7	33.2	4.7	23.6	13.2	6 701
Lowest country	1.7	3.9	1.9	4.0	1.8	777

1. Per 1 000 population.
2. Hospital beds for acute care.
3. Per 100 000 population.

Source: *OECD Health Database* 2011.

Lowering co-payment ceilings and expanding the NHI's coverage will put further upward pressure on public health spending, which rose from 1½ per cent of GDP in 1990 to 3½ per cent in 2008. Rapid population ageing will intensify spending pressure, given that outlays for a person over the age of 65 in Korea are almost four times higher than for a person under 65. These spending pressures are reinforced by some features of Korea's health-care system (Table 3). *First*, the number of acute-care hospital beds is high relative to the population. *Second*, the average length of patients' stay is nearly double the OECD average. *Third*, the average number of visits to a physician per person has risen from 3.7 per year in 1978 to 13, double the OECD average. *Fourth*, the use of pharmaceutical drugs in Korea is relatively high.

Korea needs to increase the efficiency of its health-care system to offset the spending pressures:

- Expenditures on pharmaceutical drugs could be reduced by changing the pricing system and allowing the price of generics to fall and be made the standard for reimbursement by the NHI.

- The fee-for-service payment system, which contributes to long hospital stays and frequent consultations with physicians, should be reformed. The Diagnostic-Related Group (DRG) system, which was introduced for hospitals on a voluntary basis in 2002, should be further expanded and made mandatory, as it reduces the length of hospital stays.

- Healthy ageing is essential to limit costs as the population ages. The priority is to raise the cigarette tax – now the lowest among OECD countries – to reduce the high smoking rate of men.

Shortening the average stay in hospitals also depends on reducing their role in providing long-term care to the elderly, which creates a mismatch between the needs of the elderly and the medical services provided, thus raising the cost of care. Demographic trends will further expand demand for long-term care, as the share of the population over age 80 is projected to rise from 2% to 14% by 2050. A recent study estimated that total public spending on long-term care in Korea, including outlays by the NHI and Long-Term Care Insurance (LTCI), which was only 0.4% of GDP in 2011, may rise to around 2% by 2050 (Kwon *et al.*, 2011).

Following the introduction of LTCI in 2008, the share of elderly receiving long-term care in Korea rose sharply from 1.4% to 5.7% in 2011, although it remains well below the OECD average of 13%. There is only one place for every 26 elderly persons. The LTCI should continue to focus on lower-cost home-based professional care rather than institution-based care, while enhancing quality.

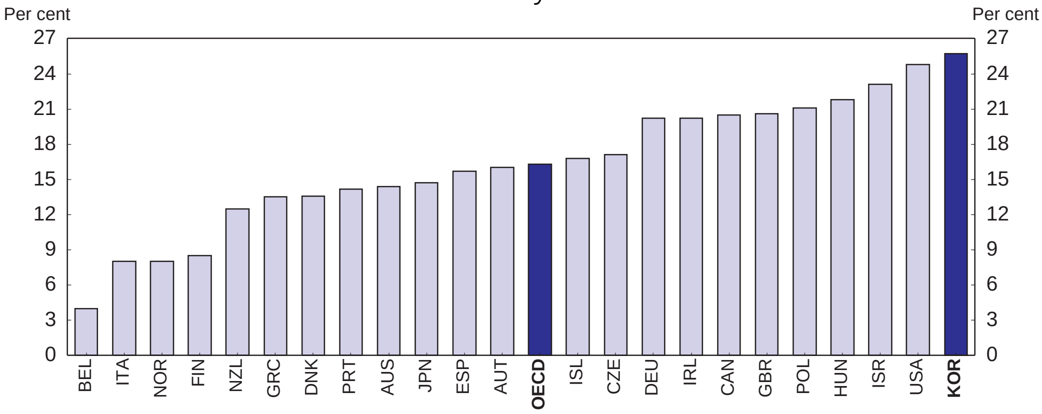
Breaking down dualism to reduce wage inequality

Firms hire non-regular workers – those on fixed-term contracts, part-time workers and temporary agency workers – to reduce labour costs and to increase employment flexibility, given the difficulty and cost of laying off regular workers. Indeed, non-regular workers, who account for one-third of employees, earned only 57% as much per hour as regular workers in 2010 (although the gap is narrowed to 13% after adjusting for differences in individual characteristics, such as gender, education, tenure, occupation and age). Consequently, 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 fuelling inequality (Figure 16). The gap in labour costs is further widened by the weaker coverage of non-regular workers by the social insurance system. In 2010, around 40% of non-regular workers were covered by the NPS, NHI and the Employment Insurance System (EIS). The limited coverage by the EIS undermines the effectiveness of the unemployment benefit system, as only about one-third of the unemployed receive benefits. In sum, labour market dualism creates serious equity problems as a significant portion of the labour force works in precarious jobs at relatively low wages and with less protection from social insurance.

The cost of laying off regular workers stems from the high degree of employment protection and the power of trade unions. The legal conditions attached to dismissals for "managerial reasons" – notably that firms must exhaust "all means" to avoid dismissals, discuss proposed dismissals for at least 50 days with workers and notify the government – are highly constraining. Some firms therefore rely instead on more expensive methods to reduce the number of regular employees, such as early retirement packages, and have expanded employment of workers on short-term contracts. OECD studies show that countries with stricter protection for regular workers have a higher incidence of temporary employment (Grubb *et al.*, 2007).

Figure 16. The incidence of low-paid work

In 2009 or latest year available[1]



1. The percentage of full-time wage earners that earn less than two-thirds of the median wage of full-time wage earners.

Source: OECD (2011d), *OECD Employment Outlook 2011*.

Reducing dualism requires weakening the incentives that encourage firms to hire non-regular workers. One priority is to relax employment protection for regular workers so that firms can achieve their desired flexibility without depending as much on non-regular workers. A second priority is to increase the coverage of non-regular workers by the social safety net, thus reducing the gap in labour costs. Finally, training opportunities for non-regular workers should be expanded to enhance their employment prospects.

Labour market dualism also hinders productivity growth. The largest component of non-regular employment is temporary workers, who account for 25% of total employment, the fourth highest in the OECD area, boosting worker turnover and hence reducing firm-based training. The lack of firm-based training is compounded by low public spending on training, which is one of the lowest in the OECD area.

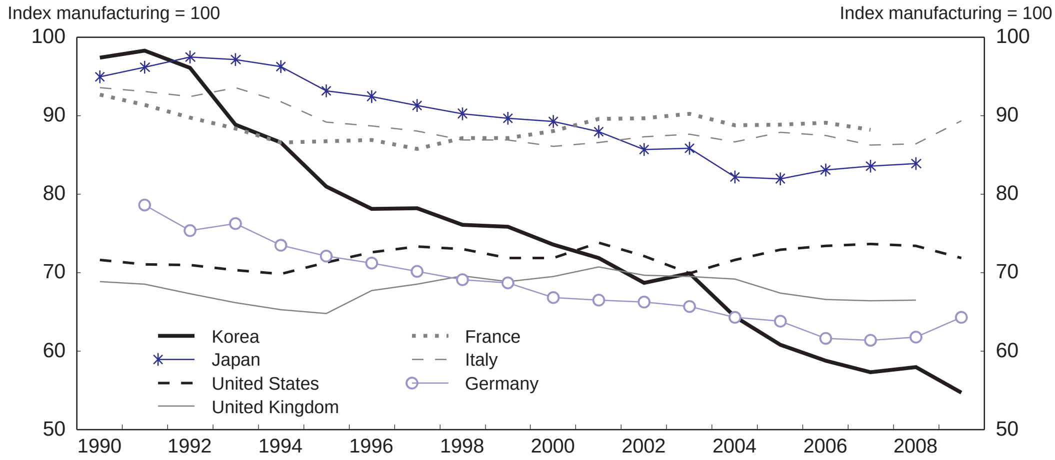
Raising income in the service sector

Low productivity in the service sector translates into lower wages. Indeed, the ratio of wages in services to those in manufacturing has fallen from nearly 100% in 1991 to only 54% in 2009, a larger gap than in the major OECD countries (Figure 17). Narrowing the productivity and hence the wage gap, through the policies discussed above, would help reduce income inequality. In addition, it is important to slow the inflow of older workers from firms into self-employment in the service sector, which tends to reduce their productivity. Phasing out the right of firms to set mandatory retirement ages would force them to keep workers longer at higher-productivity jobs.

Improving equity through reforms in the education system

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. Pre-primary education reduces social inequality by providing a better start for children from disadvantaged families. In Korea, however, the low level of spending and the large private share (Figure 11) suggests that pre-primary education for children from low-income families is relatively weak. Indeed, children from lower-income households are concentrated in childcare, while those from higher-income households are more likely to enrol in kindergartens or in *hagwons,* which provide more educational opportunities. The OECD PISA assessment found that participation in pre-primary education in Korea had the second-weakest impact among OECD countries on the educational achievement of 15-year-olds.

Figure 17. Wages in the service sector as a share of manufacturing



Source: *OECD STAN Database for Structural Analysis*.

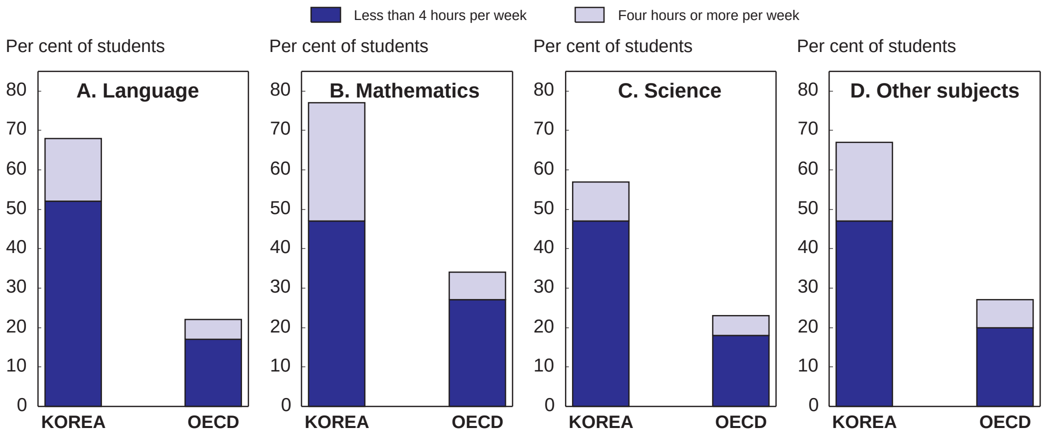
The proportion of 15-year-olds participating in after-school lessons is more than double the OECD average (Figure 18), in part to help students gain admission to prestigious universities. The severe competition to enter the top universities is driven by academic credentialism – the emphasis on where a person studied rather than on their abilities, accomplishments and potential. However, the reliance on private tutoring places heavy financial burdens on families, reaching 10.7% of average household income per student in 2010. The amount of spending is positively correlated with family income, as is the quality of the university attended, thus perpetuating inequality. In addition, the heavy financial burden is cited by families as a key factor explaining Korea's extremely low birth rate. 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 forces schools 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, the government has been trying to improve the quality of schools, expand the diversity in secondary schools and de-emphasise the role of the standardised exam in the university admission process. Such reforms should be continued, while improving vocational education, to provide attractive alternatives to university. Even with such reforms, *hagwons* are likely to continue playing a major role, making it important to improve opportunities for low-cost after-school lessons for low-income students. In particular, further expanding after-school programmes in schools, which enrol 63% of students, would help.

The public sector's share of spending on tertiary education was only 22% in 2008, one-third of the OECD average of 69%. Consequently, tuition fees paid by households are the third highest in the OECD area. At the same time, government scholarships and grants to students (6.0% of public spending on education) and student loans (5.4%) are well below the OECD averages of 11.4% and 8.8%, respectively (OECD, 2011a). Consequently, a student's socioeconomic background is significantly correlated with the quality of the tertiary institution they attend.

Figure 18. The percentage of 15-year-olds attending after-school lessons in Korea is exceptionally high

By hours per week in 2009



Source: OECD (2010b), *PISA 2009 Results: What Students Know and Can Do, Volume I.*

Unhappiness with high tuition coalesced around the slogan "half-price tuition", which gained widespread public support. Such a policy, though, would have a number of drawbacks. *First*, universally subsidising tuition fees would encourage even more students to go to university, thereby exacerbating the problems of overemphasis on tertiary education and skill mismatches. *Second*, half-price tuition raises questions of value for money, as it would subsidise low-quality institutions that should instead be restructured or closed. *Third*, subsidising the tuition fees for all students is less efficient and equitable than targeting support on low-income students. *Fourth*, it would be expensive, costing about 0.6% of GDP annually. Experience in other countries suggests caution, as it is very difficult to move away from universal subsidisation of tuition once it is introduced. In 2012, Korea launched a plan to reduce tuition payments through additional grants to students from low-income households and aid to universities that provide more grants. In addition, the government should expand the availability of student loans, with loan repayment contingent on after-graduation income. Such loans were introduced in 2010 but were received by only 9% of tertiary students, given the eligibility criteria, which should be relaxed.

Conclusion

Korea's strong growth performance over the past decade was accompanied by widening income inequality and high relative poverty, indicating that economic growth is not enough to achieve social cohesion. At the same time, rapid population ageing will slow Korea's growth potential. A wide range of policies discussed above are needed to make Korea more equitable and cohesive, while sustaining growth (Box 3). Moreover, this chapter suggests that:

- The trade-off between economic growth and social spending is not clear cut, as some types of spending may also promote growth. For example, an improved social safety net would facilitate restructuring of the service sector by limiting the associated economic hardship.

- Containing the rise in social spending will support growth. The government should therefore move cautiously and incrementally in developing social welfare programmes that are carefully designed to achieve their intended objectives, while avoiding wasteful spending and negative externalities. In addition, social spending should be targeted at those most in need rather than provided universally. While universal benefits are popular, a means-tested approach ensures the most impact on inequality and relative poverty per won of social spending.

- Shifting from direct government provision of social services in favour of providing transfers to consumers would induce entry by private firms, thereby reducing public investment and spurring competition that better meets the needs of consumers.

- Increased social spending should not be allowed to damage the government's stellar financial position. Social spending should not outpace the willingness of citizens to finance it through higher taxes and/or social security contributions. Moreover, the economic impact of raising government revenue depends on how much and how the revenue is raised.

The chapters in the 2012 *OECD Economic Survey of Korea* analyse in more detail policies to promote growth (Chapter 1), including through the Green Growth Strategy (Chapter 2), while promoting social cohesion (Chapter 3).

Box 3. Key policy recommendations to promote social cohesion

- Relax the conditions for receiving benefits under the Basic Livelihood Security Programme and expand the earned income tax credit to reduce poverty, while promoting work incentives.

- Lower the high rate of poverty among the elderly by expanding the Basic Old-Age Pension System and focusing it on low-income persons, improving the National Pension Scheme and promoting private savings for retirement by accelerating the introduction of company pensions.

- Ensure equitable access to health care by reducing out-of-pocket spending by broadening the coverage of the National Health Insurance and reducing co-payment ceilings, while offsetting the cost by improving the efficiency of health care.

- Gradually expand long-term care services by emphasising home-based care to contain cost increases, while enhancing their quality.

- Break down labour market dualism by relaxing employment protection for regular workers, expanding the coverage of non-regular workers by the social safety net and increasing training opportunities for non-regular workers to enhance their employment prospects.

- Raise productivity and wages in the service sector by strengthening competition, while slowing the inflow of older employees into self-employment in services.

- Improve equity through education reforms, notably by increasing the access of disadvantaged children to high-quality ECEC, reducing the role of private tutoring, including *hagwons*, while increasing access to low-cost after-school lessons, and expanding student loans, with repayment contingent on post-graduation income.

Annex 1. Economic co-operation with North Korea

Following a 3.1% increase in 2008, North Korea's GDP fell by 0.9% and 0.5%, respectively, in 2009 and 2010. The 2010 decline was partly due to unfavourable weather conditions, which contributed to a 2.1% fall in agricultural production (one-fifth of total output). In addition, the 2009 currency reform, which was aimed at curbing the emerging market economy, appeared to have further subdued economic activity (Haggard and Noland, 2010). By 2010, the South Korean economy was 39.1 times larger than the North's and its per capita income was 20 times higher (Table A1.1). The widening gap will compound the eventual cost of economic integration, which may impose a large burden on the South (Choi *et al*., 2011).

Table A1.1. Comparison of North and South Korea in 2010

	(A) North Korea	(B) South Korea	Ratio (B/A)
Population (millions)	24.2	48.9	2.0
GNI (trillion won)	30.0	1173.1	39.1
GNI per capita (million won)	1.2	24.0	20.0
Total trade (billion US$)	6.1	891.6	146.2
Exports	2.6	466.4	179.4
Imports	3.5	425.2	121.5
Of which: inter-Korean exports[1]	1.0	0.9	0.9
Industrial statistics (2009)			
Power generation (billion kWh)	23.5	433.6	18.6
Steel production (million tonnes)	1.3	48.6	37.4
Cement production (million tonnes)	6.1	50.1	8.2
Agricultural production (2009)			
Rice (million tonnes)	1.9	4.9	2.6
Fertiliser (million tonnes)	0.5	2.6	5.2

1. North Korean exports to the South in Column A, and South Korean exports to the North in Column B. The latter includes $23 million of non-commercial exports, primarily humanitarian aid in the form of commodities such as rice and fertiliser. Such aid peaked in 2006 at $421 million.

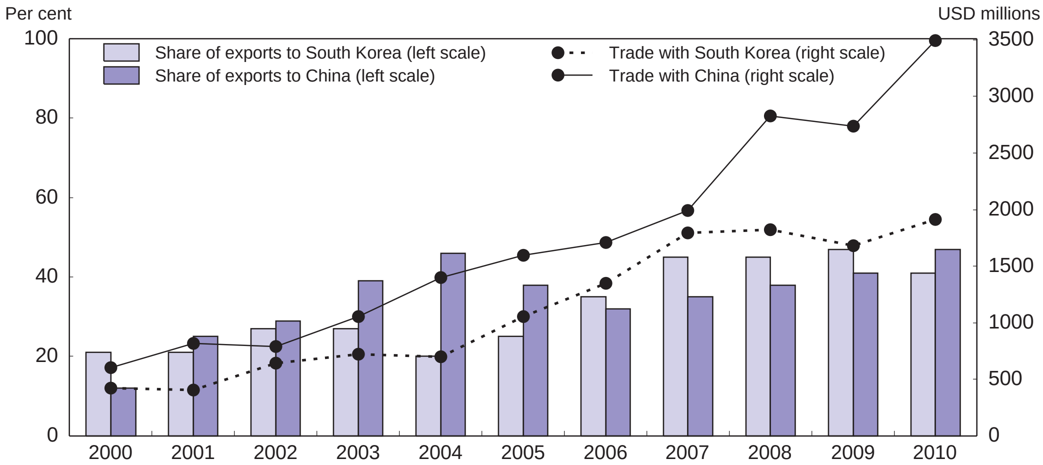
Source: Statistics Korea and Korea Trade-Investment Promotion Agency.

North Korea's total trade increased by 20% in 2010 to $6.1 billion, only 0.7% of South Korea's international trade. China and South Korea accounted for nearly 90% of the North's trade. After expanding by 2.5 times between 2004 and 2007, inter-Korea trade has stagnated since 2008 (Figure A1.1), primarily for political reasons (see below). Meanwhile, North Korea has become increasingly dependent on China, which supplies two-thirds of its imports. China's share of the North's exports (47%) surpassed that of South Korea (41%) in 2010. Consequently, China accounted for 57% of North Korea's total trade in 2010, almost double the share of South Korea. In addition, China and North Korea declared in 2011 that they would develop two new special economic zones; Raseon, on the eastern coast of North Korea, just 20 kilometres from the border with China, and the island of Hwanggumpyong, near Sinuiju, a border city that handles three-quarters of the trade between the two countries.

Inter-Korean exchanges and co-operation have dwindled due to a series of incidents, beginning with the fatal shooting of a South Korean tourist at the Mount Geumgang resort in 2008, which halted the dialogue between the two Koreas. The South suspended the tourism programme to the resort until measures are implemented to prevent future incidents. However, the North froze South Korean private assets at Geumgang and confiscated five South Korean government-run facilities, while threatening to resume the tours with a new business partner. Relations worsened further following the March 2010 sinking of a South Korean warship and the North's shelling of a South Korean island in November. The

South's countermeasures included a suspension of inter-Korean trade (excluding Gaesong-related trade) and new investments in the North, limits on South Koreans' contacts with North Koreans, and a suspension of assistance to the North, excluding purely humanitarian aid. The death of the North Korean leader at the end of 2011 increases the uncertainty concerning inter-Korean ties.

Figure A1.1. North Korea's trade with South Korea and China



Source: Statistics Korea and Ministry of Unification.

Despite the escalating tensions, inter-Korean trade has been sustained by rising production at the Gaesong Industrial Complex, which was established in 2004 as a site for South Korean SMEs. The share of Gaesong-related exports and imports increased from 44% of total inter-Korean trade in 2008 to around 70% in 2010. As of September 2011, the complex contained 123 factories employing about 48 thousand North Korean workers. Production rose by 26% in 2010 to $323 million. The growing importance of Gaesong reflects its success in combining the capital and technology of the South with land and labour in the North. For some SMEs, Gaesong offers a solution to high wages and labour shortages in the South. Infrastructure, including rail and road links, electricity and communications, is provided by the South Korean government and the firms involved.

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Chapter summaries

Chapter 1. Sustaining Korea's convergence to the highest-income countries

While Korea remains one of the fastest-growing OECD economies, its potential growth rate per capita is projected to decelerate from around 4% during the current decade to around 2¼ per cent during the 2030s. Sustaining output growth requires policies to mitigate the impact of rapid population ageing by increasing labour inputs from under-utilised segments of the population. In particular, female labour participation should be encouraged by better work-life balance and increasing the availability of high-quality, affordable childcare, in part by raising tuition fee subsidies and improving the quality of private childcare centres. More flexible employment and wage systems would increase the age at which older workers leave firms. For young people, improved vocational education at the secondary and tertiary levels would help overcome the labour mismatch problem and the overemphasis on tertiary education. Enhancing educational quality at all levels would promote productivity gains, including in services. Strengthened competition is also a key to narrow the large productivity gap between services and manufacturing.

Chapter 2. Achieving the "low carbon, green growth" vision in Korea

Korea, which has had the highest growth rate of greenhouse gas emissions in the OECD area since 1990, adopted an ambitious Green Growth Strategy in 2009. It aims at reducing emissions by 30% by 2020 relative to a "business as usual" scenario, implying a 4% cut from the 2005 level. The Strategy also includes a Five-Year Plan with public spending of 2% of GDP per year to promote green growth. Korea is planning to establish a carbon price through a cap-and-trade emissions trading scheme. Such an approach, combined with a carbon tax in sectors not covered by the scheme, is necessary to reduce emissions in a cost-effective manner and foster innovation in green technology. In addition, each sector should face the same electricity price based on production costs to promote efficient energy use. Given market failures, the government has a role to play in green R&D, particularly for basic research, in fostering green finance and in developing renewable energy resources.

Chapter 3. Promoting social cohesion in Korea

Korea faces the challenge of reversing rising inequality while sustaining robust economic growth. Well-targeted increases in Korea's low level of social spending are needed to fill holes in the safety net, especially for the elderly. The development of social security depends on closing gaps in coverage, which are due in part to labour market dualism. Dualism creates serious equity concerns, as non-regular workers face significantly lower wages, precarious jobs, less coverage by social security and less training. A comprehensive approach is required to break down dualism, including reduced employment protection for regular workers, improved social insurance coverage for non-regular workers and expanded training of non-regular workers. Education reforms are also needed to promote inclusive growth, notably by: *i)* improving the access of low-income children to high-quality early childhood education and care; *ii)* reducing reliance on private tutoring, notably at hagwons; and *iii)* expanding income-contingent loans to tertiary students.

This Survey is published on the responsibility of the Economic and Development Review Committee of the OECD, which is charged with the examination of the economic situation of member countries.

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