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# KOREA

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# OECD Economic Surveys: Korea 2014

BETTER POLICIES FOR BETTER LIVES

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*The Secretariat's draft report was prepared for the Committee by Randall S. Jones, Myungkyoo Kim and Satoshi Urasawa under the supervision of Vincent Koen. Research assistance was provided by Lutécia Daniel.*

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## BASIC STATISTICS OF KOREA, 2012

(Numbers in parentheses refer to the OECD average)[a]

**LAND, PEOPLE AND ELECTORAL CYCLE**

| | | | | | |
|---|---|---|---|---|---|
| Population (million) | 50.0 | | Population density per km$^2$ | 500.5 | (34.3) |
| Under 15 (%) | 15.1 | (18.4) | Life expectancy (years, 2011) | 81.1 | (80.0) |
| Over 65 (%) | 11.8 | (15.3) | Men | 77.7 | (77.3) |
| Foreign (%, 2011) | 2.0 | | Women | 84.5 | (82.8) |
| Latest 5-year average growth (%) | 0.6 | (0.5) | Latest general election | March | 2012 |

**ECONOMY**

| | | | | | |
|---|---|---|---|---|---|
| Gross domestic product (GDP) | | | Value added shares (%) | | |
| In current prices (billion USD) | 1 223.9 | | Primary sector | 2.6 | (2.5) |
| In current prices (billion KRW) | 1 377 456.7 | | Industry including construction | 39.7 | (27.5) |
| Latest 5-year average real growth (%) | 3.2 | (0.6) | Services | 57.7 | (70.0) |
| Per capita, PPP (thousand USD) | 32.5 | (37.3) | | | |
| Household income (thousand USD) | 21 100 | (20 400) | | | |

**GENERAL GOVERNMENT**

Per cent of GDP

| | | | | | |
|---|---|---|---|---|---|
| Expenditure | 32.7 | (42.7) | Gross financial debt | 34.8 | (107.6) |
| Revenue | 33.7 | (36.8) | Net financial debt | -35.9 | (67.9) |

**EXTERNAL ACCOUNTS**

| | | | | | |
|---|---|---|---|---|---|
| Exchange rate (KRW per USD) | 1 125.5 | | Main exports (% of total merchandise exports) | | |
| PPP exchange rate (USA = 1) | 847.9 | | Machinery and transport equipment | 52.5 | |
| In per cent of GDP | | | Manufactured goods | 13.8 | |
| Exports of goods and services | 56.3 | (53.8) | Chemicals and related products, n.e.s. | 11.2 | |
| Imports of goods and services | 53.5 | (50.4) | Main imports (% of total merchandise imports) | | |
| Current account balance | 4.0 | (-0.5) | Mineral fuels, lubricants and related materials | 35.8 | |
| Net international investment position | -8.6 | | Machinery and transport equipment | 24.6 | |
| | | | Manufactured goods | 10.9 | |

**LABOUR MARKET, SKILLS AND INNOVATION**

| | | | | | |
|---|---|---|---|---|---|
| Employment rate (%) for 15-64 year-olds | 64.2 | (65.0) | Unemployment rate, Labour Force Survey (age 15 and over) (%) | 3.2 | (7.9) |
| Men | 74.9 | (73.1) | Youth (age 15-24) (%) | 9.0 | (16.2) |
| Women | 53.5 | (57.0) | Long-term unemployed (1 year and over) (%) | 0.01 | (2.7) |
| Participation rate (%) for 15-64 year-olds | 66.4 | (70.9) | Tertiary educational attainment 25-64 year-olds (%, 2011) | 40.4 | (31.5) |
| Average hours worked per year | 2 163 | (1 769) | Gross domestic expenditure on R&D (% of GDP) | 4.4 | (2.4) |

**ENVIRONMENT**

| | | | | | |
|---|---|---|---|---|---|
| Total primary energy supply per capita (toe) | 5.3 | (4.2) | $CO_2$ emissions from fuel combustion per capita (tonnes, 2011) | 11.8 | (10.0) |
| Renewables (%) | 0.7 | (8.5) | Water abstractions per capita (1 000 m$^3$, 2005) | 0.6 | |
| Fine particulate matter concentration (urban, $PM_{10}$, µg/m$^3$, 2010) | 30.3 | (20.1) | Municipal waste per capita (tonnes, 2010) | 0.4 | (0.5) |

**SOCIETY**

| | | | | | |
|---|---|---|---|---|---|
| Income inequality (Gini coefficient, 2010) | 0.310 | (0.304) | Education outcomes (PISA score, 2012) | | |
| Relative poverty rate (%, 2010)[b] | 14.9 | (10.9) | Reading | 536 | (497) |
| Public and private spending (% of GDP) | | | Mathematics | 554 | (494) |
| Health care (2011) | 7.4 | (9.5) | Science | 538 | (501) |
| Pensions (2009) | 3.0 | (8.7) | Share of women in parliament (%, January 2014) | 15.7 | (26.5) |
| Education (primary, secondary, post sec non tertiary, 2010) | 4.2 | (4.0) | Net official development assistance (% of GNI) | 0.1 | (0.4) |

Better life index: *www.oecdbetterlifeindex.org*

*a)* Where the OECD aggregate is not provided in the source database, a simple OECD average of latest available data is calculated where data exist for at least 29 member countries.

*b)* The threshold is set at 50% of the mediane disposable income.

*Source:* Calculations based on data extracted from the databases of the following organisations: OECD, International Energy Agency, World Bank, International Monetary Fund and Inter-Parliamentary Union.

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# Executive summary

- *Main findings*
- *Key recommendations*

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

## Main findings

Korea has been among the fastest growing OECD countries during the past decade. However, subdued growth during 2011-12 revealed structural problems, such as high household debt, a lagging service sector and weak small and medium-sized enterprises (SMEs). This has raised concerns about Korea's traditional catch-up strategy led by exports produced by large *chaebol* companies. In addition, Korea has experienced a rise in relative poverty and income inequality since 1997, although both have fallen recently. The new growth strategy aims at fostering a "creative economy", in which venture businesses play a key role, accompanied by greater emphasis on social cohesion, including increased social spending and a roadmap to boost employment. Such initiatives will support the current upturn, while promoting Korea's long-term convergence to the most advanced countries and enhancing social cohesion and well-being.

**Fostering a creative economy.** While R&D spending was the highest in the OECD, at 4.4% of GDP in 2012, weaknesses in the innovation system limit the return. International collaboration in patenting and research is low and the role of universities is small. Framework conditions to promote a creative economy are also weak, reflecting relatively stringent product market regulations and low inward foreign direct investment. The creation of new enterprises is hampered by problems in the venture capital market and SME financing. The productivity gap between large firms and SMEs, which benefit from a wide range of public support, is widening, reflecting problems in services. Indeed, service sector productivity is only about half of that in manufacturing. Greenhouse gas emissions and energy intensity have been rising despite the 2009-13 green growth plan.

**Promoting social cohesion and well-being.** Korea has a dualistic labour market, with non-regular workers accounting for a third of employment, contributing to high wage dispersion and low female labour participation. Public social spending as a share of GDP is less than half of the OECD average and has had a relatively small impact on income inequality and relative poverty, particularly among the elderly whose rate is 49%. Only about a quarter of the elderly receive benefits from the National Pension Scheme, reflecting its low coverage, while the company pension system is still at an early stage. Household debt, at 164% of disposable income, has a social dimension as financial institutions have become reluctant to lend to households with low income and poor credit ratings and the number of delinquent household borrowers remains sizable.

**Sustaining the economic expansion.** Output growth has returned to close to 4%. However, Korea is vulnerable to the fragile global situation and exchange rate shifts, while high household debt poses a headwind to growth. The goal of balancing the central government budget (excluding social security) has been delayed until after 2017. The fiscal situation, nevertheless, remains strong with a general government budget surplus in 2012 and gross debt of only 34.8% of GDP. Inflation, which has fallen to 1%, is projected to rise to the target zone of 2.5%-3.5%.

## Key recommendations

### *Fostering a creative economy*

- Gradually scale back and streamline government support to SMEs, while concentrating it on firms at an early stage of development and avoiding long-term public support. Entry barriers to *chaebol*-affiliated firms should be phased out. Make the recently-established Korea New Exchange an important funding source for start-ups by ensuring an appropriate level of investor protection.
- Improve the innovation framework by expanding the role of universities, upgrading government research institutes and strengthening international linkages. Increase the return on investment in innovation by easing product market regulations, thereby facilitating the re-allocation of resources.
- Improve vocational education and training to meet the needs of SMEs and facilitate the use of the Internet to enhance their growth.
- Take further steps to improve the business environment. In particular, develop the service sector by leveling the playing field with manufacturing and strengthening competition by eliminating entry barriers, accelerating regulatory reform and reducing barriers to trade and FDI.
- Implement the Emissions Trading System as planned in 2015, align carbon taxation in sectors not covered by the System with the System and further raise electricity prices to at least cover production costs.

### *Promoting social cohesion and well-being*

- Break down labour market dualism by reducing employment protection for regular workers and by increasing social insurance coverage and training for non-regular workers.
- Raise the employment rate, particularly for women, by creating high-quality part-time jobs and improving the quality of childcare.
- Target the Basic Old-Age Pension benefit on the lowest-income elderly to ensure that they escape absolute poverty. Increase the coverage of the National Pension Scheme and maintain the replacement rate at around 50%. Raise the contribution rate to meet rising pension outlays. Expand company pensions and strengthen personal pension plans.
- Address the household delinquent debt problem while limiting moral hazard and containing the growth of household debt.

### *Sustaining the economic expansion*

- Achieve the 2017 target of reducing the consolidated central government budget deficit (excluding the social security surplus) to close to zero, so long as the current expansion is sustained. If downside risks materialise, further relax monetary policy and implement short-term fiscal stimulus.
- Carefully consider the costs and benefits of any further accumulation of foreign exchange reserves.

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# Assessment and recommendations

- *Korea's economic expansion and macroeconomic policies to sustain it*
- *A new economic paradigm for Korea: Fostering a creative economy*
- *Promoting social cohesion and well-being*

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Korea's economy has rebounded with growth at around 4% since mid-2013 (Figure 1). There is concern, though, that the problems that constrained growth during 2011-12 – weak domestic demand due to high household debt, stagnant service sector productivity and struggling small and medium-sized enterprises (SMEs) – will remain. Such concerns have raised doubts about the catch-up strategy that has fuelled Korea's development during the past 50 years. Reliance on exports appears to be losing its effectiveness as their trickle-down effect on domestic demand and employment has weakened (Bank of Korea, 2012a), prompting the government to look for other drivers of growth. Sustaining Korea's growth potential is essential to cope with population ageing, which is projected to be the most rapid in the OECD, and the cost of possible rapprochement with North Korea.

Figure 1. **Korea's economy has rebounded after a period of subdued output growth**

Annualised growth rate of real GDP, three-quarter moving average


1. For the OECD, the first quarter of 2014 is an estimation.

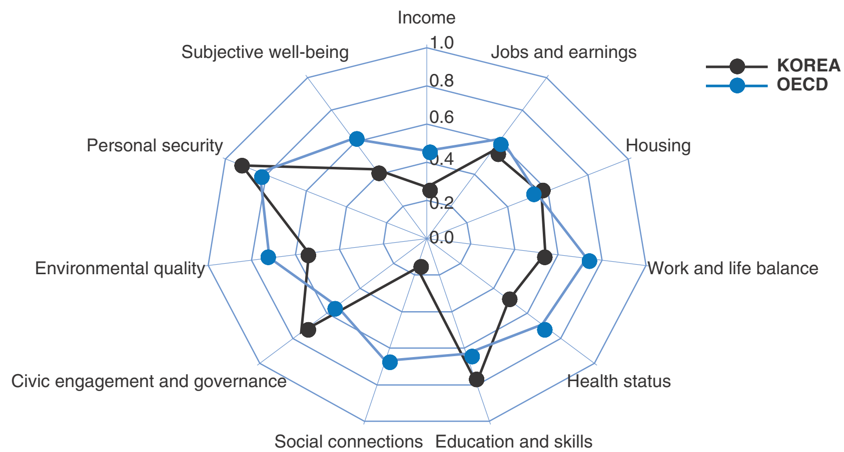
*Source:* *OECD Economic Outlook*, No. 95.

StatLink http://dx.doi.org/10.1787/888933040129

In addition, inequality in Korea has gradually increased due to globalisation, technical progress, ageing and low public social spending. Moreover, Korea's traditional growth model is contributing to greater inequality by widening wage dispersion in favour of large companies, which account for around two-thirds of exports, and manufacturing. Korea's relative poverty rate is now the eighth highest in the OECD. In addition, Korea ranks visibly lower than the OECD average in six of the 11 categories of the OECD's well-being index (Figure 2).

Facing these challenges, the government has made fostering a "creative economy", which is discussed in Chapter 1 of the *Survey*, a top priority. The goal is to shift Korea's economic paradigm to one based on innovation in which new start-ups and venture businesses play a key role (MOSF, 2013). In line with this goal, the government unveiled a comprehensive three-year innovation plan at the end of February 2014 (Annex A1), which addresses many of the issues discussed in this *Survey*. Decisive implementation is essential

Figure 2. **Well-being indicators suggest a number of weaknesses in Korea**[1]




1. Each well-being dimension is measured by one to three indicators from the OECD Better Life indicator set. Normalised indicators are averaged with equal weights. Indicators are normalised to range between 1 (best) and 0 according to the following formula: (indicator value – minimum value)/(maximum value – minimum value).

*Source:* OECD (2013d).

StatLink http://dx.doi.org/10.1787/888933040148

to sustain Korea's growth potential. In addition, the new president, who styles herself as the "SME president", wants to make smaller companies a driver of growth. To promote social cohesion, which is analysed in Chapter 2 of the *Survey*, the government plans to increase public social spending over the period 2013-17, while boosting employment to 70% of the working-age population. The employment objective reflects a growing emphasis on social welfare. Successfully implementing these initiatives would support the current expansion and Korea's convergence to the most advanced countries in the longer term, while enhancing social cohesion and well-being.

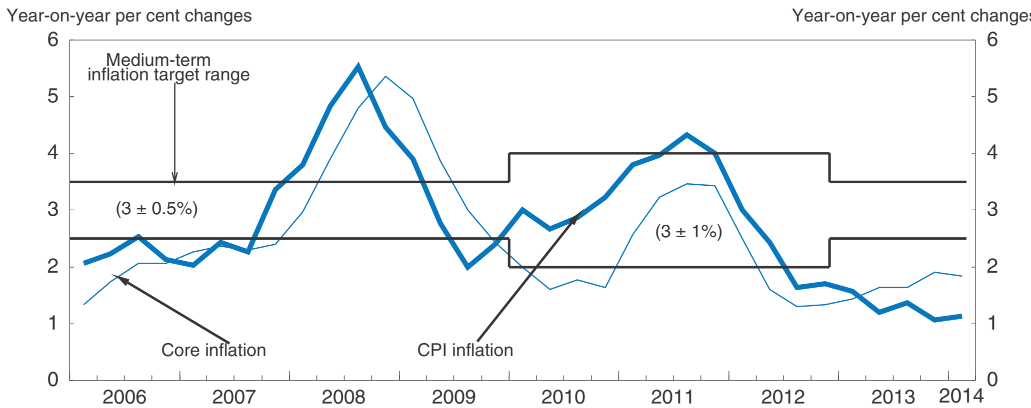
## Korea's economic expansion and macroeconomic policies to sustain it

After two years of sluggish growth at an annual pace of around 2.5%, Korea rebounded during 2013, thanks in part to a pick-up in housing investment after seven straight years of decline and faster export growth in the first half of the year, which helped to sustain employment. Business and consumer confidence strengthened gradually, even though the exchange rate has appreciated 8% in real effective terms since mid-2013. The government launched a supplementary budget in 2013 and has delayed the 2014 target for balancing the consolidated central government budget (excluding social security) until after 2017, while promising to avoid any tax increases. Inflation has slowed to around 1%, well below the Bank of Korea's target range of 2.5% to 3.5% (Figure 3), reflecting sluggish growth and the fall in commodity prices. The Bank of Korea's policy rate has remained at 2.5% following a 25 basis point cut in May 2013.

Korea faces headwinds from high household debt, which reached 164% of household disposable income at the end of 2012, well above the OECD average of 133%, and a weak property market. The high level of debt has kept private consumption growth below GDP growth each year since 2006. The government is addressing the household delinquent debt problem, notably through the "National Happiness Fund" launched in 2013 (see below). As for the property market, Korea avoided a housing-price bubble, leaving it, along with Japan, as the only OECD countries where real house prices in 2013 were below their 1995 and 2007

Figure 3. **Inflation is well below the central bank's target range**

Headline and core consumer price indices




*Source:* *OECD Analytical Database* and Bank of Korea.

StatLink http://dx.doi.org/10.1787/888933040167

levels. With the removal of restrictive housing policies since 2008 and the launch of three housing packages in 2013, residential investment in 2013 rebounded, but was still 9% below its average over the past decade. Moreover, the erosion in real housing prices that began in 2012 is continuing.

Despite these headwinds, output growth of around 4% is projected in 2014-15 (Table 1). A moderate rebound in world trade will help Korean exporters overcome the appreciation of the won, which has gained 38% relative to the Japanese yen since 2012. The won-yen exchange rate is important as around two-thirds of Korean exports are thought to compete directly with Japanese products in world markets. Stronger exports are key to boosting business investment, which declined in 2013. Continued employment and wages gains, combined with some reversal in the rise in the household saving rate, are expected to boost private consumption, although it will continue to be restrained by high household debt. The pick-up in output growth is expected to boost inflation to nearly 3% in 2015, while narrowing the current account surplus to around 4½ per cent of GDP.

Domestic risks are largely on the upside insofar as government initiatives to address household debt and the housing sector could boost growth more than expected. However, Korea is particularly sensitive to the fragile global economic situation and exchange rate shifts, as exports account for more than half of GDP. The impact of yen depreciation could be larger than expected if Japanese firms shift their emphasis from boosting profit margins to regaining market share. While the direct impact from the tapering of US monetary policy on Korea is likely to be limited, the recent instability in a number of emerging economies poses another risk. If such downside risks materialise, Korea has scope to use monetary and fiscal stimulus to support growth, given its budget surplus in 2012 (on a general government basis) and low gross public debt of 34.8% of GDP (Table 1). The debt of state-owned enterprises was slightly higher at 39% of GDP at the end of 2012, but their assets are even greater at 57% of GDP. The debt-to-equity ratio of state-owned enterprises is to be reduced from 239% in 2013 to 200% in 2017 by streamlining their activities and selling assets as part of the Three-year Plan for Economic Innovation (Annex A1).

Table 1. **Macroeconomic indicators and projections**[1]

Annual percentage change unless specified otherwise, volumes at 2010 prices, based on SNA2008

| | Per cent of 2010 GDP in current prices | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|
| **GDP** | 100.0 | 3.7 | 2.3 | 3.0 | 4.0 | 4.2 |
| Private consumption | 50.3 | 2.9 | 1.9 | 2.0 | 2.6 | 3.1 |
| Government consumption | 14.5 | 2.2 | 3.4 | 2.7 | 2.4 | 3.1 |
| Gross fixed capital formation | 30.5 | 0.8 | -0.5 | 4.2 | 5.4 | 6.4 |
| *Of which*: | | | | | | |
| Housing | 3.6 | -8.0 | -2.9 | 19.4 | 5.5 | 6.3 |
| Business | 22.3 | 3.4 | 0.7 | -1.0 | 7.9 | 6.8 |
| Government | 5.2 | -6.0 | -3.9 | 3.5 | 3.2 | 3.1 |
| Final domestic demand | 95.3 | 2.1 | 1.4 | 2.8 | 3.4 | 4.1 |
| Stockbuilding[2] | 1.5 | 0.9 | -0.6 | -1.3 | 0.0 | 0.0 |
| Total domestic demand | 96.8 | 3.0 | 0.7 | 1.4 | 3.4 | 4.2 |
| Exports of goods and services | 49.4 | 15.1 | 5.1 | 4.3 | 5.9 | 8.5 |
| Imports of goods and services | 46.2 | 14.3 | 2.4 | 1.6 | 5.0 | 8.9 |
| Net exports[2] | 3.2 | 0.8 | 1.5 | 1.5 | 0.0 | 0.3 |
| **Other indicators** | | | | | | |
| Employment | | 1.7 | 1.8 | 1.6 | 1.8 | 1.6 |
| Unemployment rate[3] | | 3.4 | 3.2 | 3.1 | 3.1 | 3.0 |
| GDP deflator | | 1.6 | 1.0 | 0.7 | 0.7 | 1.1 |
| Consumer price index (CPI) | | 4.0 | 2.2 | 1.3 | 2.0 | 2.8 |
| Core CPI | | 3.2 | 1.7 | 1.6 | 2.3 | 2.8 |
| Household saving rate[4] | | 3.9 | 3.9 | 5.1 | 5.2 | 5.3 |
| Current account balance[5, 6] | | 2.1 | 4.0 | 5.4 | 5.4 | 4.5 |
| Government budget balance[5, 7] | | -1.0 | -1.3 | -1.5 | -1.7 | -1.1 |
| General government financial balance[5] | | 1.0 | 1.0 | -0.4 | 0.1 | 0.5 |
| General government gross debt[5] | | 33.3 | 34.8 | 36.5 | 37.9 | 39.0 |
| General government net debt[5] | | -35.3 | -35.9 | -34.2 | -32.8 | -31.7 |
| Three-month money market rate | | 3.4 | 3.3 | 2.7 | 2.8 | 3.9 |
| Ten-year government bond yield | | 4.2 | 3.4 | 3.3 | 3.7 | 4.9 |

1. Historical data through 2013 for GDP and other indicators and projections from *OECD Economic Outlook*, No. 95 (May 2014) for 2014-15.
2. Contributions to changes in real GDP (percentage of real GDP in previous year).
3. As a percentage of the labour force.
4. As a percentage of disposable income.
5. As a percentage of GDP.
6. Under the sixth edition of the Balance of Payments and International Investment Manual (BPm6) introduced in March 2014, the current account surplus was $79.9 billion in 2013 ($70.7 previously), amounting to 6.1% of GDP.
7. Consolidated central government budget, excluding the social security surplus. Figures for 2013-15 are the targets in the government's five-year plan.

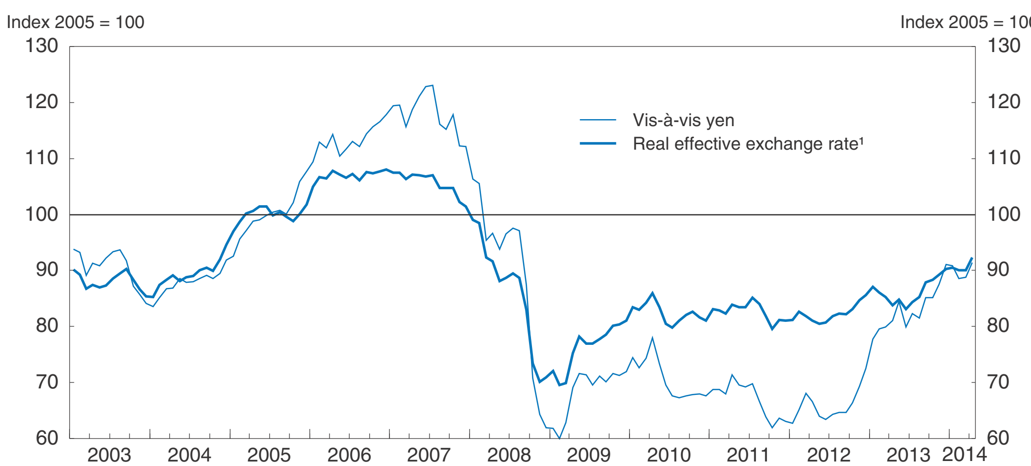
*Source: OECD Economic Outlook*, No. 95.

Moreover, the government's net financial assets have risen to 35.9% of GDP in 2012, up from only 13% in 1988, when the National Pension Scheme (NPS) was established. This is largely due to the accumulation of assets by the NPS in an attempt to ease the burden of rising pension outlays as the share of elderly increases from 16% of the 15-to-64 population in 2012 (the fourth lowest in the OECD) to 71% in 2050 (the third highest). The social security surplus remains substantial at 2.8% of GDP in 2012 and continued surpluses are projected to push the National Pension Fund to 50% of GDP in 2035. The Fund will help finance public social spending, which is projected to rise from less than 10% of GDP in 2012 to 29% by 2060 under the current framework, according to the government. Short-term flexibility in fiscal policy should therefore be coupled with an effective framework to maintain fiscal soundness in view of upward spending pressures. The National Fiscal Management Plan sets targets for government spending and revenue, the budget balance and public debt for five years, as well as spending allocations by sector. The rolling plan, which is revised each year, is submitted to the National Assembly for discussion, although it does not require approval (2007 *OECD Economic Survey of Korea*). Ensuring Korea's long-run fiscal sustainability requires a stronger fiscal policy framework that includes fiscal rules.

Headline inflation has undershot the lower bound of the target range since mid-2012, although inflation expectations have remained stable around the 3% midpoint. If downside risks were to materialise, monetary easing might be appropriate. Under the projected recovery, however, inflation is expected to move back into the target range without additional monetary easing. As the recovery matures, monetary policy will need to tighten.

The pace of monetary tightening depends in part on the exchange rate (Figure 4). According to the IMF (IMF, 2014), the won is "moderately undervalued" in real effective terms, though such estimates are uncertain. The current account surplus rose from 2.5% of GDP in 2010 to 5.4% of GDP in 2013, one of the largest in the OECD, largely reflecting sluggish domestic demand growth and the fall in commodity prices. A stronger currency benefits consumers by reducing the price of imported goods while reducing the international competitiveness of exporters. Further won appreciation would thus benefit Korea by rebalancing the economy toward domestic demand, one of the three main strategies of the Three-year Plan for Economic Innovation (Annex A1), and have positive spillover effects on other countries, while reducing Korea's large current account surplus.

Figure 4. **The won has fluctuated widely**

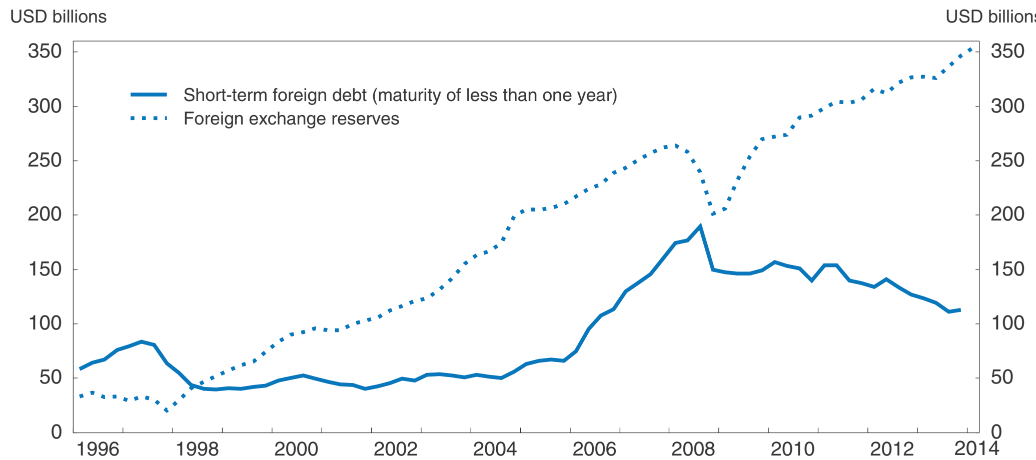



1. Trade-weighted, *vis-à-vis* 48 trading partners, calculated using consumer prices.
*Source:* *OECD Analytical Database* and Bank of Korea.

StatLink http://dx.doi.org/10.1787/888933040186

Korea's foreign exchange policy focuses on smoothing excessive volatility. Foreign exchange reserves rose from $262 billion in 2007 to $354 billion (26% of GDP) at the end of the first quarter of 2014 (Figure 5), which will help protect Korea against future crises. Korea has been particularly sensitive to external shocks, which caused capital flight and rapid currency depreciation during the 1997 and 2008 crises. In addition, reserves reduce the cost of foreign borrowing. Korea's reserves are now more than three times greater than short-term foreign debt, which has fallen from a peak of $189 billion at the end of 2008 to $113 billion at the end of 2013, due in part to the introduction of macro-prudential measures to curb the volatility of capital flows. These include the 2011 levy on non-deposit

Figure 5. **Foreign exchange reserves are three times higher than short-term foreign debt**




*Source:* Bank of Korea.

StatLink http://dx.doi.org/10.1787/888933040205

foreign currency liabilities of domestic banks and foreign bank branches. In addition, a regulation on banks' foreign exchange derivative positions was introduced in 2010. The OECD's Investment Committee is now assessing the conformity of this regulation with the OECD Code of Liberalisation of Capital Movements.

In addition to the benefits of holding reserves noted above, there are also costs and risks. Foreign exchange reserves are a costly way to try to gain protection against foreign exchange volatility, as they are typically invested in safe assets with low returns. The fiscal costs, reflecting the difference between the interest received on reserves and that paid on instruments issued to finance or sterilise the reserves, are significant. In addition, sizeable holdings of foreign assets can entail foreign exchange risk. Instead, swap agreements, which played a key role in resolving Korea's foreign exchange shortage in 2008, can supplement foreign exchange reserves, although they depend on the co-operation of other countries. Korea maintains swap agreements with Japan and China and has recently reached agreements with Australia and Indonesia. In addition, it is important to continue building a transparent and sound financial system to maintain investor confidence and better absorb shocks from abroad.

**Macroeconomic policy recommendations**

- Achieve the 2017 target of reducing the consolidated central government budget deficit (excluding the social security surplus) to close to zero, so long as the current expansion is sustained. If downside risks materialise, further relax monetary policy and implement short-term fiscal stimulus.
- Carefully consider the costs and benefits of any further accumulation of foreign exchange reserves.

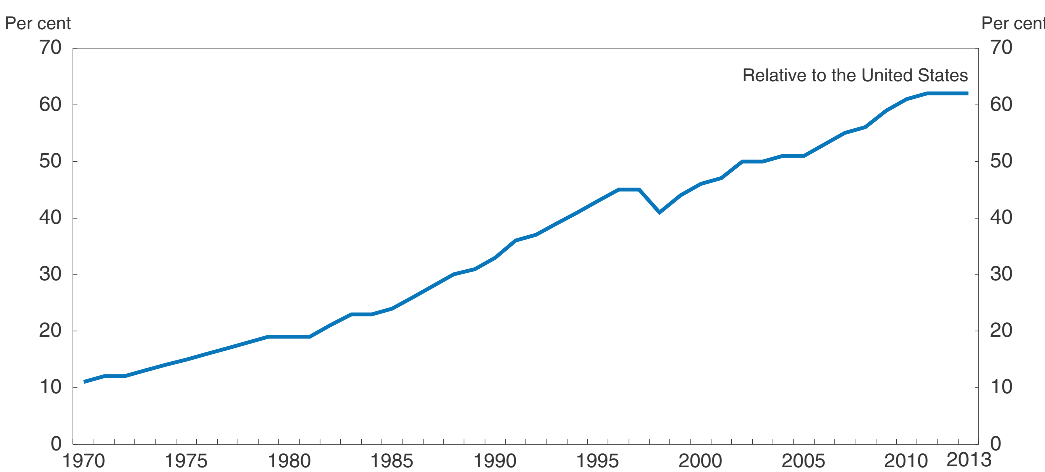
## A new economic paradigm for Korea: Fostering a creative economy

Double-digit export growth in volume terms during the past 20 years has made Korea the seventh-largest exporter and 15th-largest economy in the world. By 2011, Korea's per capita income reached 62% of that in the United States (Figure 6). This was achieved primarily by increasing inputs; over the period 1970-2000, labour and capital contributed 4.3 percentage points to the 7.6% average annual increase in national income (Table 2). However, their contribution fell to 1.7 points to an annual growth rate of 4.6% over 2000-10 and is likely to fall further as the working-age population begins shrinking in 2017 and working time declines further from its still high level. The Korea Development Institute estimates that Korea's potential growth rate will fall from around 4% on a per capita basis to 2¼ per cent in the 2030s. To slow the fall in potential growth and further narrow the income gap with the most advanced countries, productivity needs to be boosted through greater creativity and innovation, calling for:

- Improving the innovation system to maximise the return on Korea's large investment in R&D.
- Attracting new players, notably venture businesses and SMEs, into innovation.
- Focusing innovation and new players on new fields, such as services and green growth.

Figure 6. **Korea has achieved rapid economic development**

Korea's per capita income as a share of that in the United States[1]




1. GDP per capita, converted at 2005 purchasing power parity exchange rates. The data for Korea are based on SNA1993, as SNA2008 data are not available prior to 2000, while those for the United States are based on SNA2008. Using SNA2008 for Korean GDP in 2013 would raise Korea per capita income from 62% of the US level to 68%.

*Source:* *OECD National Accounts Database.*

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Table 2. **Sources of Korean growth**

Contribution in percentage points

| | 1970-2000 | 1970-80 | 1980-90 | 1990-2000 | 2000-10 |
|---|---|---|---|---|---|
| National income growth (%) | 7.6 | 7.8 | 9.3 | 5.8 | 4.6 |
| Total inputs | 4.3 | 5.0 | 5.1 | 3.0 | 1.7 |
| Labour | 2.7 | 3.1 | 3.4 | 1.8 | 1.0 |
| Capital | 1.6 | 1.9 | 1.7 | 1.1 | 0.8 |
| Productivity gains | 3.3 | 2.8 | 4.2 | 2.8 | 2.9 |

*Source:* Kim et al. (2012).

### *Improving the innovation system*

R&D spending in Korea was the highest in the OECD, at 4.4% of GDP in 2012, with the business sector accounting for three-quarters of the total. Business R&D, which typically has a significant impact on multifactor productivity growth (Westmore, 2013), was concentrated in large firms, while enterprises with less than 250 workers accounted for only 24% of the total, compared to the OECD average of 33% (OECD, 2013g), contributing to low productivity in SMEs.

Another weakness is the small role played by universities, which performed only 10% of R&D in Korea in 2011, about half the OECD average, despite employing three-quarters of the country's PhDs. Only 5% of company patents cite university-developed technology, compared to around 9% in Canada and the United States. Business leaders cite a lack of trust between enterprises and universities (OECD, 2014a). The modest role of universities also limits basic research, which is becoming more important as Korea approaches the technology frontier in many fields. Enhancing universities' role in innovation requires greater university-business co-operation in various areas, including accreditation and curricula (Jones, 2013).

Another challenge is to raise the quality of public R&D, which is vast and complex; in 2011, there were 41 619 government-funded R&D projects, with total spending exceeding 1% of GDP. Of the total, more than one-third went to the 27 government research institutes (GRIs). However, their contribution has not met the expectations of the private sector, which has upgraded its R&D capabilities. To improve returns from GRIs, it is important to clearly define their role, improve their steering and incentives and enhance co-operation between GRIs, universities and corporate research labs. Finally, Korea ranks low on measures of international collaboration in innovation (Figure 7), as few foreign researchers and students come to Korea.

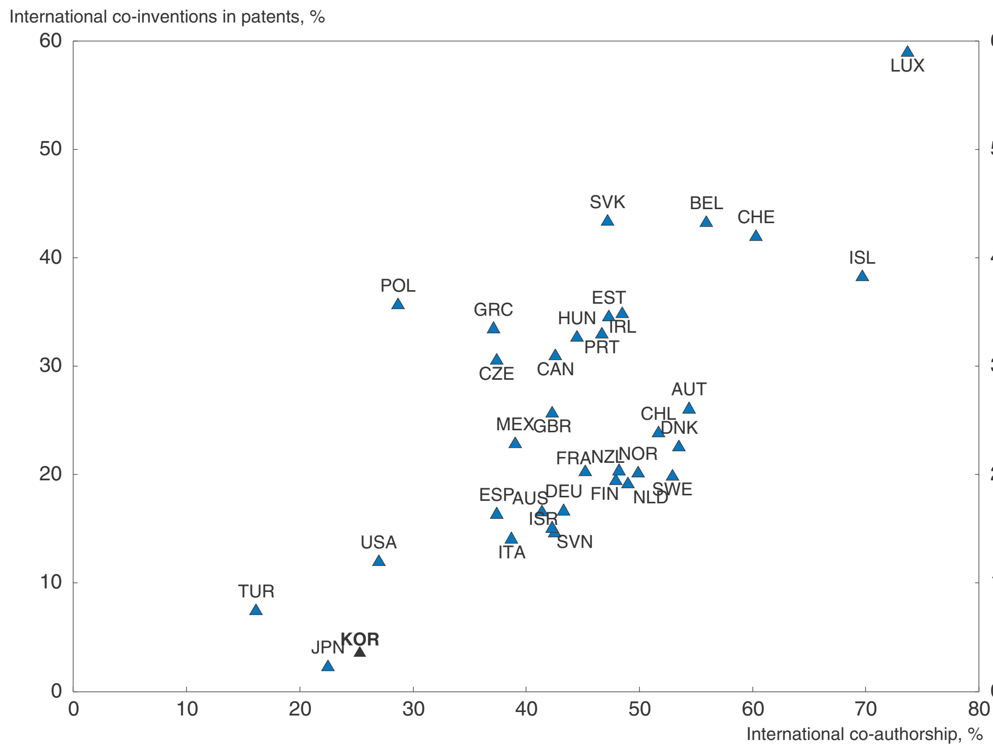
### *Framework conditions to promote a creative economy*

The return on investment in knowledge depends on the allocation of resources to make the most of such knowledge (Andrews and Criscuolo, 2013). Korea ranks low in allocative efficiency, based on the extent to which firms with high productivity attract workers (OECD, 2013f). Allocative efficiency depends, in turn, on a range of factors that determine the strength of competition: *i)* product market regulations, in which Korea was the second most restrictive in the overall index among OECD countries in 2013 (Koske et al., 2014); *ii)* inflows of foreign direct investment (FDI); *iii)* competition policy; *iv)* labour mobility; and *v)* SME policies, which can delay restructuring and distort resource allocation (see below).

Regulatory reform is a key part of the Three-year Plan for Economic Innovation (Annex A1). The total burden of regulation is to be capped and eventually reduced, in part by strengthening the sunset clause for existing regulations. In addition, a cabinet committee headed by the president is to be launched to promote deregulation. Boosting the stock of FDI, which was the third lowest in the OECD area, at 14% of GDP in 2013, is another priority. Korea's index of barriers to trade and investment was the highest in the OECD area in 2013. In addition to reducing explicit barriers, it is necessary to improve the business environment, in part by reducing government intervention in the economy, and pursuing regulatory reform.

Figure 7. **Korea's international linkages in science and innovation are weak**

In 2007-11




*Source:* OECD (2013g).

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### *Attracting new players in innovation*

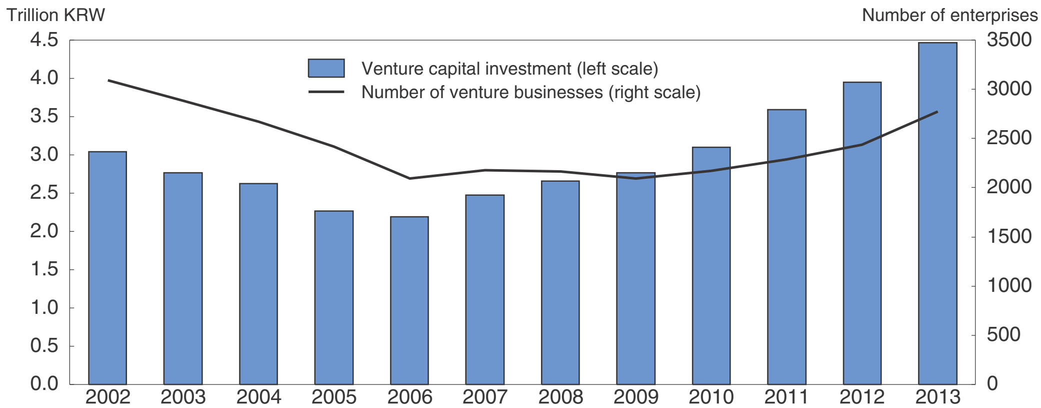
#### *Promoting venture businesses and start-ups*

Venture businesses and start-ups play a key role in commercialising new technology and creating jobs (Andrews and de Serres, 2012). Firms less than five years old, regardless of their size, accounted for less than a fifth of total non-financial business employment but generated half of all new jobs over 2001-11 (OECD, 2013g). After declining following the collapse of the ICT bubble in the early 2000s, the cumulative amount of venture capital investment in Korea more than doubled over 2006-13 (Figure 8). While the number of firms that have received venture investment remains less than in the early 2000s, it has also been on an upward trend since 2009. Korea's venture capital market, on a flow basis, was the third largest in the OECD at 0.1% of GDP in 2011 (OECD, 2013b).

Nevertheless, the venture capital market is still at an early stage of development, accounting for less than 1% of SME financing (Table 3), and faces a number of weaknesses. *First,* the number of business angels, who play a crucial role at an early stage of start-ups, has plummeted from nearly 29 thousand before the collapse of the ICT bubble to 4 870 in 2013. *Second,* with the decline in the number of business angels, government money accounted for 33% of the venture capital market in 2012, with an additional 12% share for public pension funds. *Third,* venture investment is not focused on start-ups. Indeed, 55% of firms receiving venture capital investment are over three years old and 27% more than seven years old. *Fourth,* Korea's merger & acquisition (M&A) market is underdeveloped. Instead, initial public offerings (IPOs) are the primary method for venture capitalists to

Figure 8. **Korea's venture capital market has rebounded in recent years**

Cumulative amount of venture capital investment and number of firms that received such investment




*Source:* SMBA and Korean Venture Capital Association (2013).

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realise returns from their investment, despite demanding listing requirements. On average, it takes more than 14 years for start-ups to be listed on KOSDAQ, far exceeding the lifespan of most venture capital funds.

To address these weaknesses, the government has launched initiatives to: *i)* promote angel investment and introduce crowd-funding (small investments by a large number of investors typically through social networking via the Internet); *ii)* develop the market for M&As involving venture businesses and business angels; and *iii)* encourage reinvestment by both successful and failed entrepreneurs. Korea's success in this area depends in part on the ability of the Korea New Exchange (KONEX) established in 2013 to facilitate IPOs involving ventures and start-ups. KOSDAQ was created in 1996 with this objective, but strict investor protection reduced the number of new companies listing on KOSDAQ from 171 in 2001 to only 21 in 2012. It is necessary to carefully balance investor protection in KONEX with the objective of facilitating IPOs. As venture capital follows, rather than precedes, the availability of attractive opportunities, the most severe constraint may be a lack of good investment proposals. Finally, it is important to foster entrepreneurship, an objective that is analysed in the skills strategy that the OECD is preparing for Korea (OECD, 2014b).

Table 3. **Sources of SME financing**

As a per cent of the total[1]

| | Banks | Non-banks | Bonds and equities | Venture investment | Government guarantees | Other government | Total |
|---|---|---|---|---|---|---|---|
| 2004 | 61.1 | 22.7 | 0.6 | 1.2 | 13.6 | 0.8 | 100.0 |
| 2006 | 64.0 | 22.7 | 0.8 | 0.8 | 11.0 | 0.7 | 100.0 |
| 2008 | 68.0 | 21.0 | 0.8 | 0.7 | 8.9 | 0.6 | 100.0 |
| 2009 | 64.7 | 21.0 | 1.0 | 0.7 | 11.7 | 1.0 | 100.0 |
| 2010 | 64.5 | 20.7 | 0.7 | 0.8 | 12.3 | 1.1 | 100.0 |
| 2011 | 67.8 | 17.2 | 0.5 | 0.9 | 12.3 | 1.4 | 100.0 |

1. Government guarantees are assumed to cover bank lending. Some of the lending by government institutions is reported as loans by banks and non-banks.

*Source:* Sohn and Kim (2013).

As part of the Three-year Plan For Economic Innovation (Annex A1), the government will establish 17 "Creative Economy Innovation Centres" in major cities by 2015. The Centres are to become the focal point of regional development by supporting start-ups through a range of services including education, technology development and financing. Such Centres could play a role similar to Israel's "Incubators" programme that was launched in the early 1990s to provide intensive attention to individual projects from a very early stage, thus enabling the realisation of risky projects that would otherwise be unable to attract private capital. In addition to private and public financing, the Israeli programme provides business and marketing advice and infrastructure. Projects accepted into the programme are re-evaluated after one year to ensure that only the most promising continue to receive assistance (OECD, 2009).

### *Revitalising the SME sector*

The productivity gap between large companies and SMEs (in the manufacturing sector, they are defined as companies with less than 300 workers) is large and growing; output per worker in SMEs fell from 33% of large companies in 2000 to 28% by 2011. In any given year, about one-third of SMEs, which account for 87% of total employment, have an interest-coverage ratio of less than 100%, meaning that their earnings (before interest and taxes) are insufficient to cover their interest payments. Many such firms nevertheless survive for extended periods due in part to government support and "evergreening" of loans by financial institutions. Of firms with an interest-coverage ratio below 100% over 2000-02, 63% were still operating in 2010 with a ratio still below 100% (Bank of Korea, 2012b). The performance of smaller SMEs is particularly weak, as more than one-third had an interest-coverage ratio of less than 100% or negative operating cash flows during the preceding three years (Figure 9).

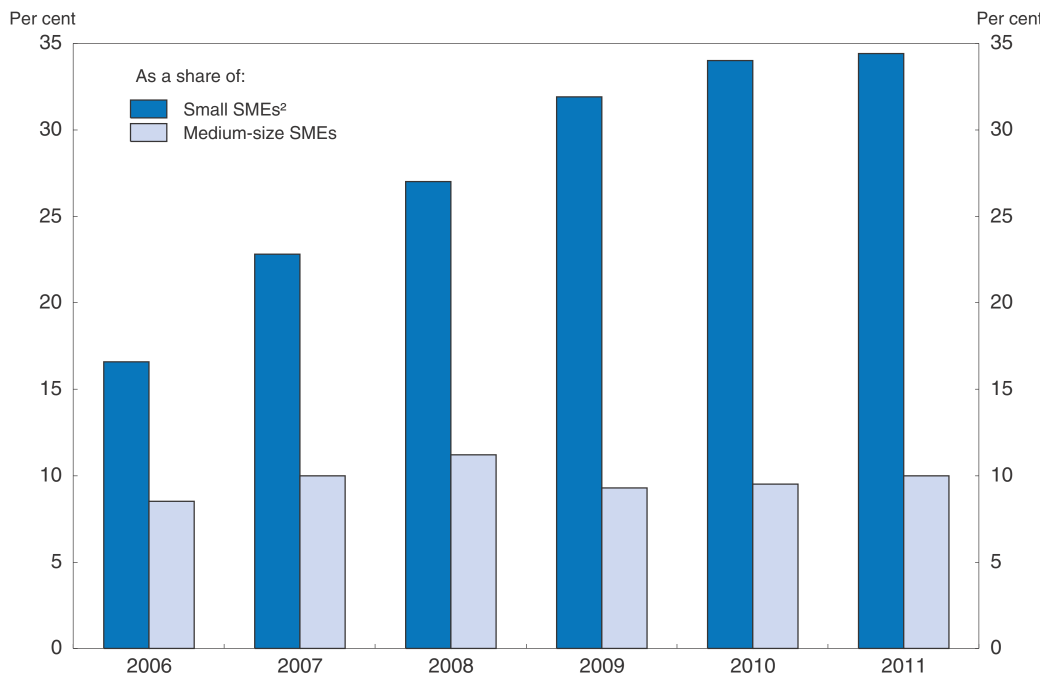
**Improving SME policies and promoting market-based financing.** Public support to smaller firms, including the direct provision of loans and credit guarantees, is generous in Korea. Credit guarantees covered 12% of bank loans to SMEs in 2011, well above the 5% OECD average (OECD, 2013c). Public support, combined with the deleveraging of large firms following the 1997 crisis, has sharply boosted bank lending to SMEs from 13% of GDP to 36% in 2012 (Figure 10). SMEs receive three-quarters of business-sector loans, one of the highest shares in the OECD.

While government policies are needed to help overcome market failures that limit SME financing (OECD, 2013b), generous government support for SMEs has negative side effects:

- It hinders financial market development by reducing financial institutions' incentives to develop credit evaluation and risk management skills and instead encourages them to rely on credit guarantees. In Korea, guarantees generally cover 85% of loans, but up to 100% in some cases. SMEs also prefer government loans, which are easier to obtain and carry interest rates below market levels.
- It can delay the restructuring of SMEs.
- The high leverage of SMEs raises financial-sector risks. Although banks are highly capitalised and their substandard-and-below loans are steady at below 2% (Figure 11), bank profits are low.

Figure 9. **The performance of small SMEs in Korea has been deteriorating**

The share of SMEs with an interest-coverage ratio below 100% or negative operating cash flows[1]




1. During the preceding three years.
2. Firms with annual sales of less than 10 billion KRW ($9.6 million).

*Source:* BOK (2012b).

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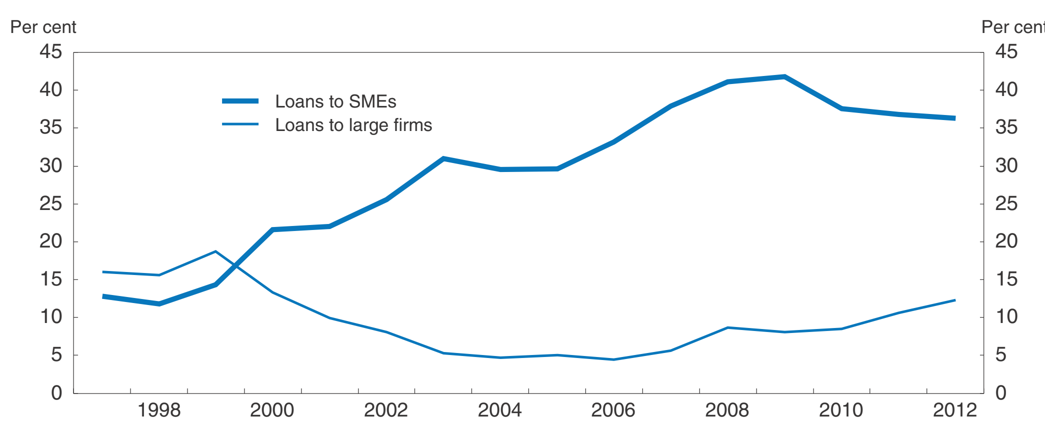
Figure 10. **Commercial bank loans to SMEs have risen sharply**

Per cent of GDP




*Source:* OECD (2013c).

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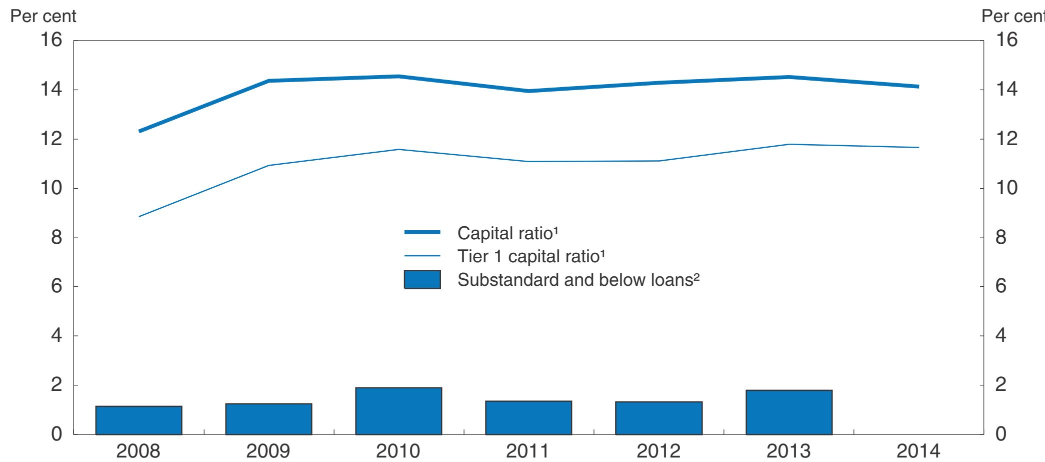
Figure 11. **Korea's banking sector is well-capitalised**




1. As a share of total risk-weighted assets. The figures for 2014 are for March.
2. Includes loans classified as substandard, doubtful and presumed loss.

*Source:* Financial Supervisory Service.

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- The generosity and long duration of public support encourages SMEs to remain small, thereby foregoing the efficiency gains and economies of scale associated with growth. Of the several million SMEs in 2002, only 696 expanded into mid-sized companies (defined as 300 to 999 workers) by 2012 (Statistics Korea, 2013).
- It has little impact on firm performance. A study comparing SMEs receiving support to those that did not over 2003-09 found that public support failed to boost profits and sales (KDI et al., 2011).

In Korea, some of the objectives of SME policies, such as enhancing social cohesion and promoting new growth engines, would be better addressed through other instruments. SME support should instead focus on market failures that limit private-sector financing. In addition, support should be streamlined by drastically reducing the number of programmes. In 2013, 14 central government ministries ran 201 programmes, while the 16 provincial governments and 130 SME-related organisations administered another 1 101 programmes. This has resulted in duplication and waste, in part by allowing firms to receive multiple benefits from the government.

Public support should be concentrated on start-ups and venture businesses, which struggle most to obtain financing. However, about one-half of the guarantees from the two major public institutions were to SMEs older than ten years. Introducing a strict graduation rule would prevent firms from becoming dependent on long-term support. SME programmes should be made more market-oriented by raising interest rates on government loans closer to market levels and lowering the coverage ratio of the guarantees, which is relatively high in Korea. Finally, market-based lending should be expanded by developing the necessary infrastructure and encouraging small non-bank financial institutions to lend more to small firms.

Reform of the SME sector has been hindered by concern that it would reduce its role in providing a social safety net to compensate for low public social spending and the early age at which employees leave firms. Indeed, the mandatory retirement age set by firms is 57 on average and many employees are pushed out even earlier. Many departing employees open small businesses, particularly in service industries requiring low skills and little capital. However, such necessity-driven entrepreneurship results in low productivity. Developing the social safety net and raising the retirement age set by firms should go hand-in-hand with reform of the SME sector.

**Making greater use of the Internet.** In addition to lowering barriers to entrepreneurship, the Internet makes it easier to grow and manage a business. SMEs can compete more effectively with large firms by leveraging the Internet to lower fixed costs and outsourcing many aspects of their business. For example, cloud computing allows firms to obtain computing resources without costly and time-consuming upgrades of their infrastructure. In addition, the Internet can reduce transaction costs, which tend to be more burdensome for SMEs, and enhance price transparency, thereby strengthening competition. As a frontrunner in ICT, Korea is well placed to use the Internet to help small firms compete and grow. However, taking full advantage of this resource requires an appropriate regulatory framework and ICT skills for both entrepreneurs and for the general population to benefit from new services offered on the Internet (OECD, 2014c).

**Labour mismatches: Ensuring appropriate human capital for SMEs.** Korea is well known for its high educational attainment; it ranked first in math and second in reading among OECD countries in the 2012 Programme for International Student Assessment (OECD, 2013h) and nearly three-quarters of high school graduates enter tertiary education. However, graduates tend to avoid jobs in small firms. According to a 2011 government survey, 43% of small firms faced a labour shortage and another 40% expected to face one. Firms blamed shortages on the lack of qualified job applicants, their high expectations and the low wages and benefits offered by SMEs. To reduce the SME labour shortage, it is necessary to overcome the mismatch in the labour market. In 2011, 24% of youth with tertiary education were "neither in employment nor in education or training". It is essential to reduce the overemphasis on higher education by improving vocational education, and by expanding training that meets the needs of SMEs (see the chapter on sustaining Korea's convergence to the highest-income countries in the 2012 *OECD Economic Survey of Korea*, or Jones and Urasawa, 2012c). The introduction of Meister schools since 2008 has contributed to the upgrading of vocational education at the secondary level and facilitated school-to-work transitions. Such reforms have helped reduce the share of high school graduates advancing to tertiary education from 84% in 2008 to 71% in 2010.

**Competition from *chaebol*-affiliated firms.** SME weakness is sometimes blamed on the major role played by business groups (NCCP, 2013). After some consolidation following the 1997 crisis, the number of *chaebol*-affiliated companies is once again increasing, as the groups look for new growth opportunities, fuelling criticism that they are encroaching on markets traditionally dominated by SMEs. Such concerns have led the Korea Fair Trade Commission (KFTC), the competition authority, to implement new measures, including a ban on new circular shareholding between *chaebol* affiliates and tighter regulations on trading within the groups. Given the difficulty of enforcing such rules, the government should also focus on improving corporate governance of *chaebols* to ensure that non-controlling shareholders are not expropriated by the founding families. In addition, the subcontracting law was strengthened to prevent unfair practices by large firms against their suppliers. Around one-half of SMEs supply *chaebol*-affiliated firms. In principle, market forces should promote "win-win" co-operation between SMEs and *chaebols*, as large firms' success in global competition depends in part on mutually-beneficial relationships with suppliers.

To promote balanced growth between large firms and SMEs, the National Commission for Corporate Partnership, a private committee, launched negotiations in 2011 among enterprises on business areas to be restricted to SMEs. It was agreed to reserve 100 business lines, such as restaurants, bakeries and car repair, for SMEs for three to six years. However, preventing the entry of large firms from important markets, many in services, and restricting their expansion in markets where they are already operating reduces aggregate productivity and consumer welfare. Rather than reducing their domestic opportunities, the government should make the domestic market attractive for all firms, including *chaebols*, whose share of domestic employment fell from 18% in 1995 to 12% in 2010 as they internationalised their operations. Given that some SMEs will be unable to compete, it is essential to further develop the social safety net and raise the retirement age from firms to reduce the supply of low-productivity SMEs, as noted above.

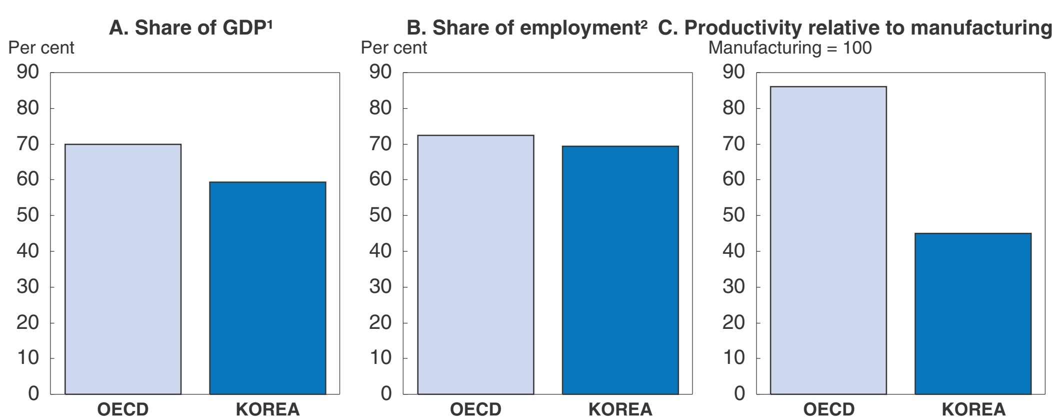
### *Focusing innovation and new players on new fields*

#### *Making the service sector a second driver of growth*

Manufacturing-led development has siphoned capital, talent and other resources away from services. By 2012, service sector productivity was only 45% of that in manufacturing, far below the OECD average of 86% (Figure 12). While manufacturing has raised output by improving productivity, services have grown by adding employees (McKinsey, 2013). Low productivity in the service sector also reflects its small (9% in 2011) and declining share in business R&D, putting it well below the OECD average of 38%. The weakness of Korea's service sector limits its contribution to exports, as shown by the OECD's new data on trade in value-added (TiVA) (Figure 13).

Figure 12. **Service sector productivity is low in Korea**

In 2012




1. Gross value-added at basic prices received by producers.
2. Including self-employed.

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

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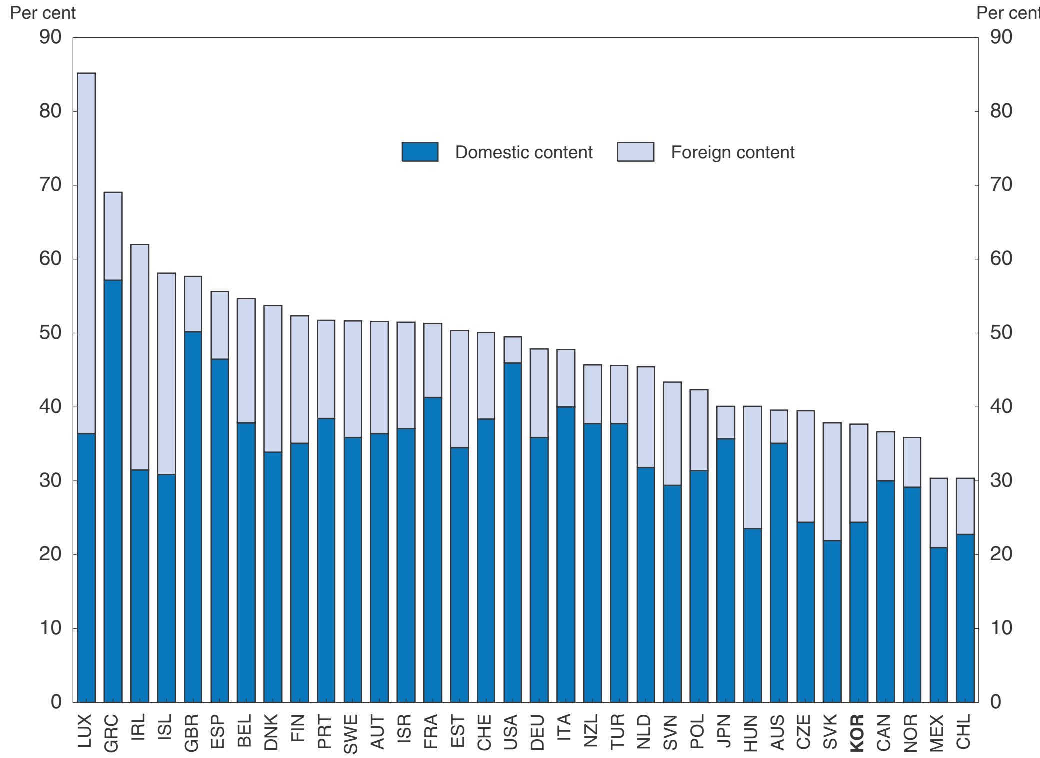
Figure 13. **Services' value-added in total exports in 2009**




*Source:* OECD (2013e).

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Converging to the income levels in the most advanced countries requires making services a second driver of growth. The first priority is to level the playing field by eliminating policies favouring manufacturing, such as lower tax rates and electricity prices. To that end, a comprehensive quantification of the various forms of support to manufacturing would be helpful. In addition, a stronger exchange rate would tend to promote the development of non-tradable services.

The "2013 Service Industry Policy Directions and Measures" aims to: *i)* end tax discrimination; *ii)* improve the public-sector financial support system; *iii)* enhance the social image of services; *iv)* foster human capital in services; and *v)* provide support for service sector start-ups. However, the key framework condition to raise service productivity is stronger competition. As the government noted five years ago in launching a plan to nurture the service sector, "overly strict regulations are also obstructing investment and competition" in services (MOSF, 2009). Competition would be strengthened by eliminating entry barriers, accelerating regulatory reform and liberalising barriers to trade and FDI. Finally, the problems in services are linked to the weaknesses of SMEs (see the chapter on boosting productivity in services in the 2008 *OECD Economic Survey of Korea*, or Jones, 2008a). The government is also launching efforts to develop specific services, including health care, software and tourism, based on specific reforms in each area.

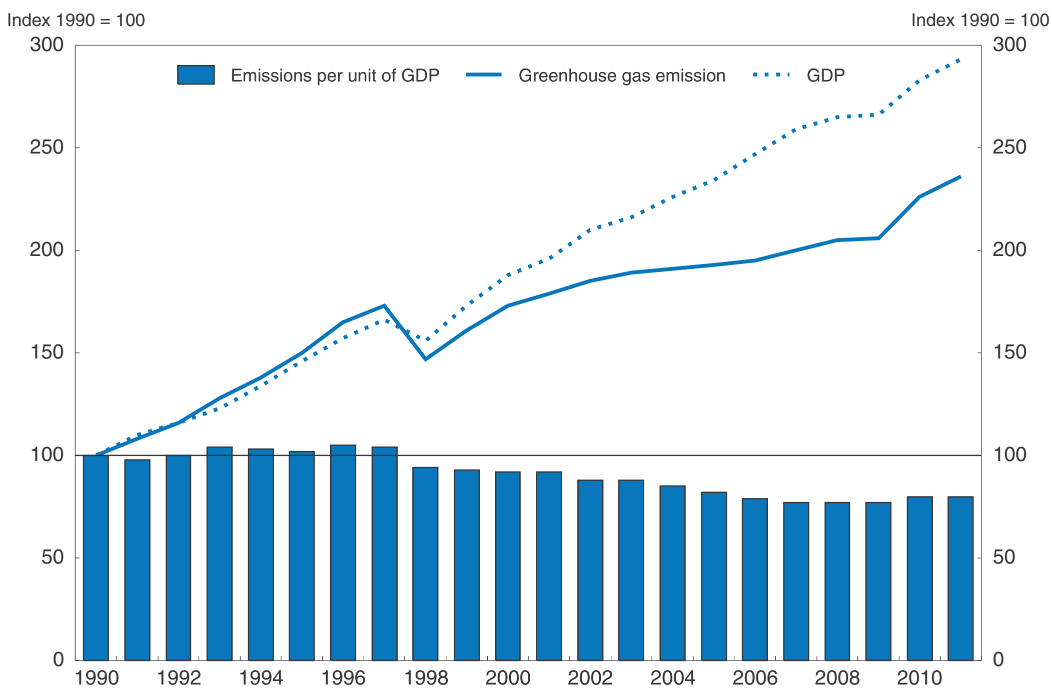
### *Green growth and environmental objectives*

Green growth can play a central role in the development of a creative economy, as green technology and employment is set to be a global growth area in the decades ahead.

In 2008, Korea's President proclaimed "Low Carbon, Green Growth" as the nation's vision to guide development during the next 50 years and launched the Five-Year Plan for Green Growth (2009-13), which was to cost 10% of 2009 GDP. Korea set an objective of reducing greenhouse gas (GHG) emissions by 30% by 2020 relative to a "business as usual" scenario, which implies a 4% cut from the 2005 level. Despite the large-scale spending on green growth, GHG emissions have risen 18% over 2007-11, reversing the downward trend in the ratio of emissions to GDP that began in 1997 (Figure 14).

Figure 14. **Greenhouse gas emissions are rising in Korea**

1990 = 100




*Source:* *OECD Environment Database* and *OECD Analytical Database*.

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The top priority to promote green growth and reduce GHG emissions is to follow through on the plan to establish an Emissions Trading System (ETS) in 2015. Achieving the 2020 target through an ETS would cost only 40% as much as relying on direct regulations (Lee, 2009). The share of permits that is auctioned, set at 3% over 2018-20, will be increased to more than 10% in the 2020s, as grandfathering permits provides windfall profits for existing firms, potentially resulting in unfair competition for new entrants. Firms accounting for two-thirds of national emissions will be covered by the ETS by 2015. It would be preferable to expand the ETS as this would ensure a uniform price on emissions, or alternatively align carbon taxation with the ETS. It is also essential to raise electricity prices, which are relatively low compared to other OECD countries, to at least match production costs, thereby curbing 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. A package of reforms to promote competition in the electricity sector would be beneficial, while promoting green growth (OECD, 2012a).

The 2014-18 green growth plan currently being prepared should be based on a careful analysis of the 2009-13 plan. The 27 core green technologies that the government selected in 2009 to guide investment decisions are being reconsidered, in light of mixed results, illustrating the difficulties of such targeting to guide private investment (see the chapter on green growth in the 2012 *OECD Economic Survey of Korea*, or Jones and Yoo, 2012). In addition to the potential economic gains from green growth, it would improve the quality of life by reversing the environmental degradation that accompanied rapid industrialisation. Indeed, air quality in Korea's capital region is among the worst in the OECD and the human health cost of air pollution caused by fine particulate matters were estimated at 1% of GDP in 2012 (Im et al., 2012).

### Key policy recommendations to foster a creative economy

**Attracting new players in innovation**

- Gradually scale back and streamline government support to SMEs, while concentrating it on firms at an early stage of development and introduce a graduation system to prevent long-term public support. Entry barriers to *chaebol*-affiliated firms should be phased out.
- Make the recently established Korea New Exchange an important funding source for start-ups by ensuring an appropriate level of investor protection.
- Improve vocational education and training to meet the needs of SMEs and facilitate the use of the Internet to enhance their growth.

**Improving the innovation framework**

- Improve the innovation framework by expanding the role of universities, upgrading government research institutes and strengthening international linkages. Increase the return on investment in innovation by easing product market regulations, thereby facilitating the re-allocation of resources.

**Focusing innovation and new players on new fields**

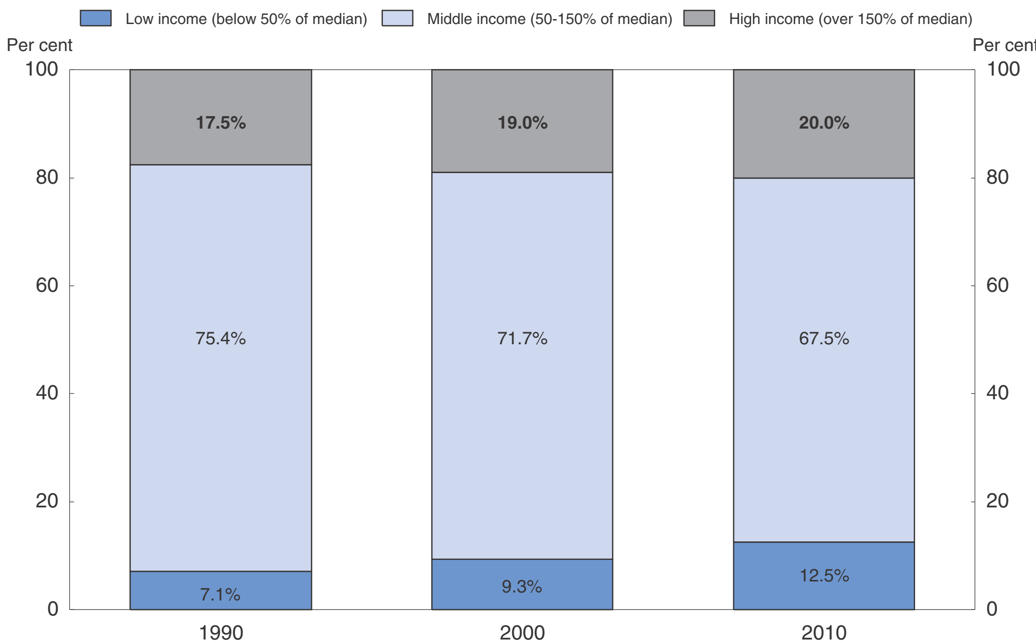
- Take further steps to improve the business environment. In particular, develop the service sector by leveling the playing field with manufacturing and strengthening competition by eliminating entry barriers, accelerating regulatory reform and reducing barriers to trade and FDI.
- Implement the Emissions Trading System as planned in 2015, align carbon taxation in sectors not covered by the System with the System and further raise electricity prices to at least cover production costs.

## Promoting social cohesion and well-being

Korea has experienced a marked rise in income inequality and relative poverty since the 1997 crisis. By 2009, the ratio of the top to the bottom income quintile had risen to 5.7, the tenth highest in the OECD, while relative poverty was 15%. Rising inequality has squeezed the middle class from 75.4% in 1990 to 67.5% in 2010 (Figure 15). The policy directions discussed above to foster a dynamic economy should help reduce income inequality and poverty by making the SME sector a driver of growth and by raising productivity and wages in services to narrow the gap with manufacturing. In addition to reducing income inequality and poverty, social cohesion requires addressing exclusion and

Figure 15. **Increased income inequality has squeezed the middle class**

The middle class is defined as those with an income between 50% and 150% of the national median




*Source:* Korea Institute of Health and Social Affairs.

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marginalisation by boosting employment, reforming education and resolving the high level of household debt and credit delinquency. This section focuses on:

- Breaking down labour market dualism, which would also help boost growth by reducing labour market turnover and encouraging firm-based training.
- Achieving the government's target of a 70% employment rate, in part by boosting female employment.
- Strengthening the social welfare system.
- Reforming education to promote social cohesion.
- Reducing the high rate of poverty among the elderly.
- Resolving the high level of household debt and credit delinquency, thus removing a significant headwind to output growth.

## *Policies to reduce inequality and promote social mobility*

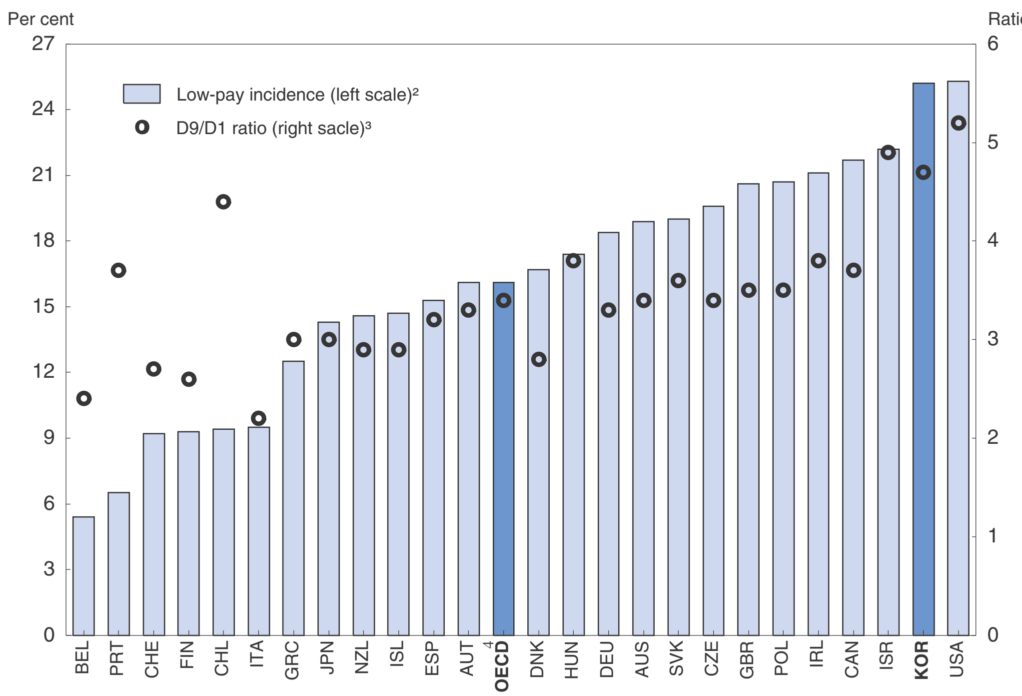
### *Labour market policies*

The key priority is to break down dualism in the labour market, which is severely segmented between regular and non-regular workers. In addition, raising the employment rate from 64% of the working-age population to 70% by 2017 is a top government priority.

**Reforms to break down labour market dualism.** Non-regular workers accounted for one-third of employment in 2012. Firms hire non-regular workers to increase employment flexibility because regular workers receive relatively high employment protection as a result of government policies, business practices, social customs and labour unions (Koh et al., 2010). The share of temporary workers in Korea (24%), who account for a majority of non-regular workers, was double the OECD average in 2012. Even though regular and non-regular workers have comparable skills (OECD, 2013j), there is a large wage gap between them (Jones and Urasawa, 2012a). Consequently, almost a quarter of full-time workers in 2012 earned less than two-thirds of the median wage, the second-highest share in the OECD, and overall earnings dispersion was the third highest (Figure 16). Labour market dualism has a number of other negative implications for non-regular workers: *i)* less coverage by the social safety net; *ii)* precarious employment and the highest rate of worker turnover in the OECD; and *iii)* less access to training. The limited mobility between regular and non-regular employment (OECD, 2013i) reinforces the negative effect dualism on social cohesion.

Figure 16. **Korea has a wide wage dispersion and a high share of low-wage workers**

In 2012 or latest year available[1]




1. Includes only those countries for which both indicators are available.
2. The share of full-time workers earning less than two-thirds of median earnings, including bonuses.
3. The ratio of the upper bound value of the 9th decile to the upper bound value of the 1st decile for full-time workers.
4. Unweighted average of the countries shown above.

*Source:* *OECD Earnings Distribution Database.*

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To reduce dualism, the government has tried to contain the use of non-regular workers, in particular by limiting their employment to two years. However, according to government statistics for 2010-13 on fixed-term workers who had worked 18 months or more and whose employment contract had expired, around one-half (66% at large firms) leave their firm when their contract ends. Consequently, the number of non-regular workers has remained high and job turnover has increased, compared to the past when many fixed-term workers had their contracts rolled over. Rather than restricting the use of non-regular workers, breaking down dualism requires a comprehensive strategy that reduces firms' incentives to hire non-regular workers, notably by relaxing employment protection for regular workers, and by upgrading training programmes and increasing social insurance coverage for non-regular workers (see the chapter on promoting social cohesion in the 2012 *OECD Economic Survey of Korea*, or Jones and Urasawa, 2012b).

**Implementing the roadmap to boost the employment rate to 70%.** Korea's employment rate has levelled off at close to the OECD average. To achieve the 70% target, the roadmap calls for developing a creative economy that facilitates start-ups, thereby boosting employment. In addition, the plan aims to create more part-time jobs, encourage flexible work schedules and reduce working hours, which are still more than one-fifth above the OECD average of 1 769 hours per year. A decline in working hours would improve work-life balance (Figure 2) and help lift the fertility rate, the lowest in the OECD (Yamaguchi and Youm, 2012). Raising employment will depend, in part, on reducing labour market mismatches that limit youth employment, as discussed above, and extending the careers of older workers in firms (Table 4).

Table 4. **The employment rate targets set by the roadmap**

As a per cent of the working-age population

| | 2012 | 2017 |
|---|---|---|
| **Total** | **64.2** | **70.0** |
| Women | 53.5 | 61.9 |
| Men | 74.9 | 78.1 |
| Youth (15 to 29) | 40.4 | 47.7 |
| Adults (30 to 54) | 75.6 | 81.0 |
| Older persons (55 to 64) | 63.1 | 67.9 |

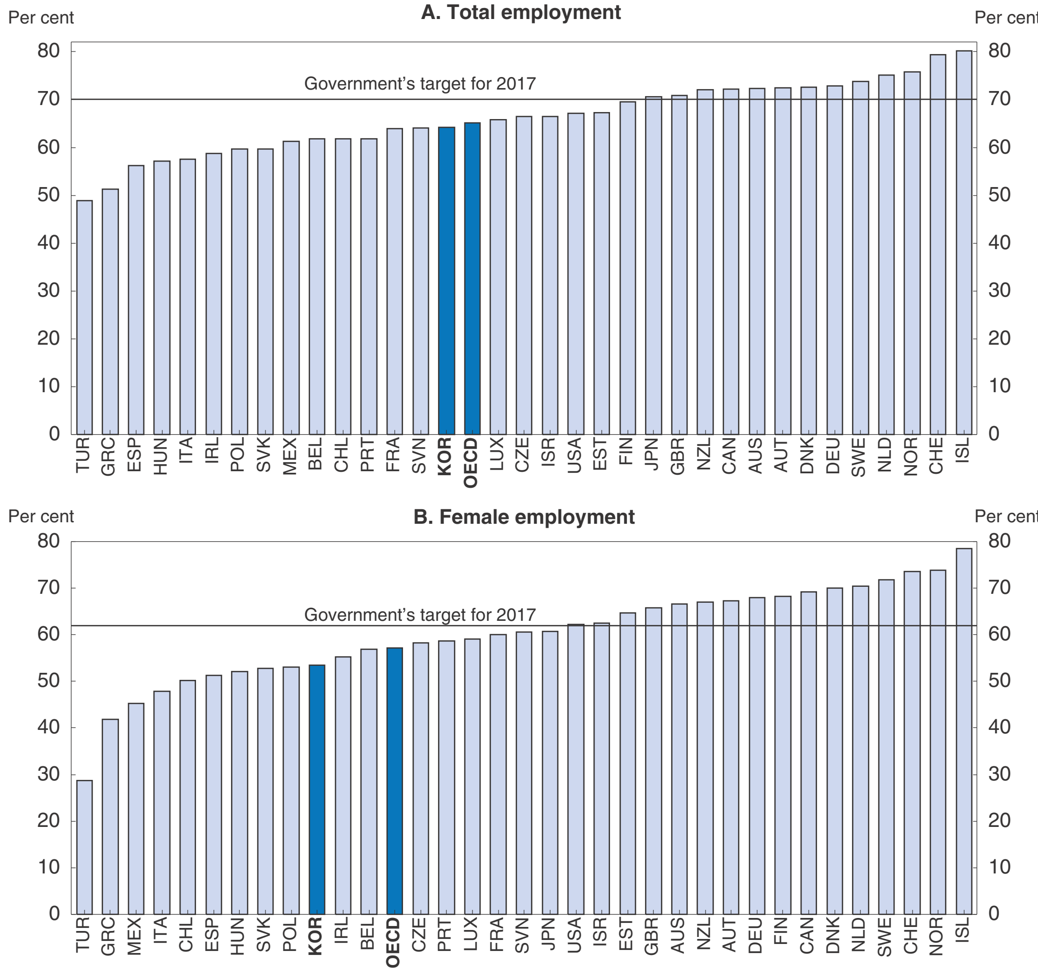
*Source:* Government of Korea.

Most importantly, achieving the 70% target will require breaking down barriers to women in employment and entrepreneurship, which is essential to mitigate the impact of rapid population ageing as well as to increase fairness. Female employment was 53.5% of the female working-age population in 2012, the tenth lowest in the OECD (Figure 17). Given the high level of education – 64% of women in the 25-34 age category had a tertiary education in 2011, the second highest in the OECD – low female participation implies that Korea is not fully utilising its human capital. The relatively low number of part-time jobs is one factor behind low female participation; in 2011, 19% of Korean women worked part-time as against the OECD average of 26%. In Korea, part-time work is classified as non-regular employment, which means lower hourly wages, making it less attractive, particularly for highly-educated women. The roadmap sets an objective of expanding the number of part-time jobs from 1.5 million in 2012 to 2.4 million in 2017. It is essential to create "high-quality" part-time employment that is treated as regular employment.

The low female employment rate reflects the withdrawal of a majority of women at the time of marriage or childbirth, although most return later. The withdrawal reflects the challenge of combining employment with family responsibilities. On average across OECD countries, women devote two hours more per day than men to unpaid household work, but in Korea the gap is three hours. Greater gender equity in unpaid work would help achieve the government's female employment target of 61.9% in 2017 (Table 4). The gender gap in earnings also discourages female employment. In 2011, female employees were paid only 64% as much as males, the largest gap in the OECD, reflecting the high share of women

Figure 17. **Korea's employment rate lags behind the most advanced countries**

As a per cent of the working-age population in 2012




*Source:* *OECD Employment Outlook 2013.*

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in non-regular jobs and the low share in management. It is necessary to create better job opportunities for women, in part by reducing dualism and expanding the role of performance, rather than seniority, in setting wages. In short, reforms are needed to offer women the hours, jobs, wages and careers that would encourage them to work.

Finally, it is important to improve early childhood education and care (ECEC). Korea faces the intertwined problems of lower-quality childcare, a lack of places in higher-quality public centres and the cost of ECEC. A range of policies would help improve quality: *i)* raise the proportion of children attending kindergarten in private institutions by expanding tuition subsidies and increasing the capacity of public kindergartens; *ii)* improve the quality of private childcare by upgrading accreditation and making it mandatory and enhancing the quality of staff by increasing their educational requirements; *iii)* relax fee ceilings on private childcare to improve quality, while adjusting subsidy levels to avoid increasing the burden on low-income parents; *iv)* effectively implement the common curriculum for childcare and kindergarten; and *v)* gradually integrate childcare and kindergarten to improve quality, while reducing costs.

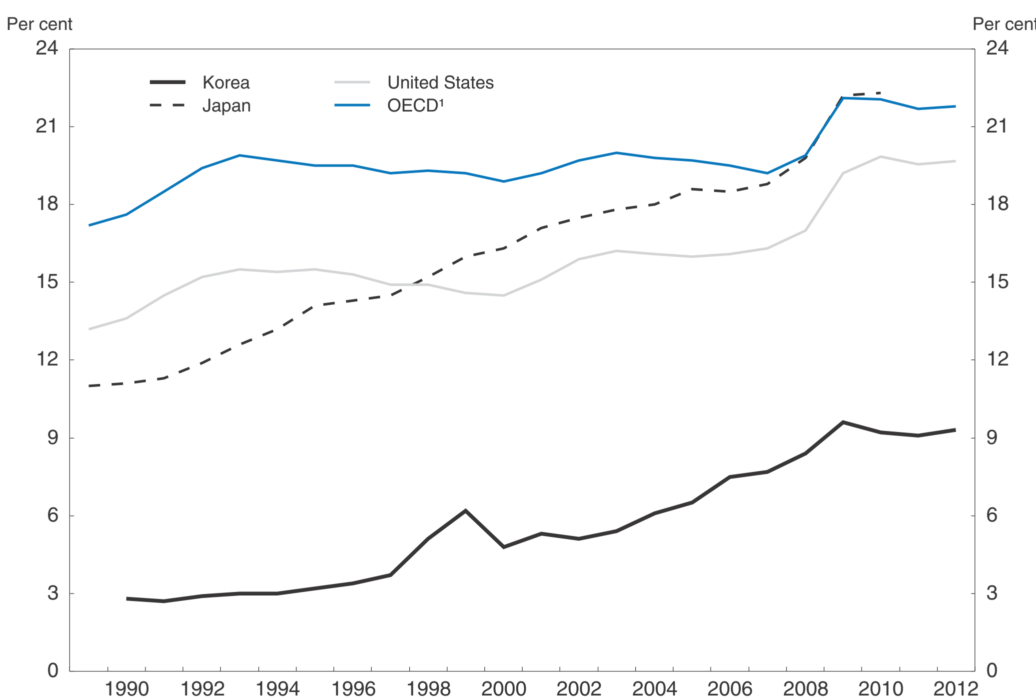
### *Strengthening the impact of social welfare programmes*

The redistributive impact of Korea's tax and transfer system is among the weakest in the OECD, reflecting low public social spending, at 9.3% of GDP in 2012 (Figure 18) and poor targeting, although it has improved over the past decade. Addressing poverty requires improving the three pillars of the safety net – the Basic Livelihood Security Programme (BLSP), unemployment insurance and the earned income tax credit (EITC). The BLSP provides a cash benefit and in-kind support, for example for health care and education, to eligible persons in absolute poverty, defined in Korea as an income below the minimum cost of living (MCL) set by the government. The MCL is 40% of the national median income. However, BLSP support is limited by strict eligibility criteria on asset ownership and the "family support obligation rule", which excludes those with the possibility of family assistance. Currently, benefits are provided to 1.4 million (3% of the population), well below the 7-8% in absolute poverty (OECD, 2013i). The number of BLSP recipients is projected to rise to 1.8 million following an easing of the eligibility criteria and a planned increase in the threshold for receiving in-kind allowances from 40% to a range of 40% to 50% of the national median income. Further relaxing the eligibility criteria would include more of the population in absolute poverty.

The EITC, which was introduced in 2008, covers 4% of households, with total payments of 0.2% of government spending. Although it was recently extended to single persons and some self-employed workers, the EITC's impact in encouraging work and reducing poverty is

Figure 18. **Public social spending in Korea is relatively low**

Per cent of GDP




1. Unweighted average. Data are available for 34 OECD countries from 2000. Data prior to 2000 have been interpolated backwards to calculate an average for 23 OECD countries.

*Source: OECD Social Expenditure Database.*

StatLink http://dx.doi.org/10.1787/888933040452

limited by its low benefit level and tight targeting compared to similar systems in other OECD countries (OECD, 2013i). Extending the EITC to more low-earning households, including the self-employed, and raising its generosity would strengthen its impact.

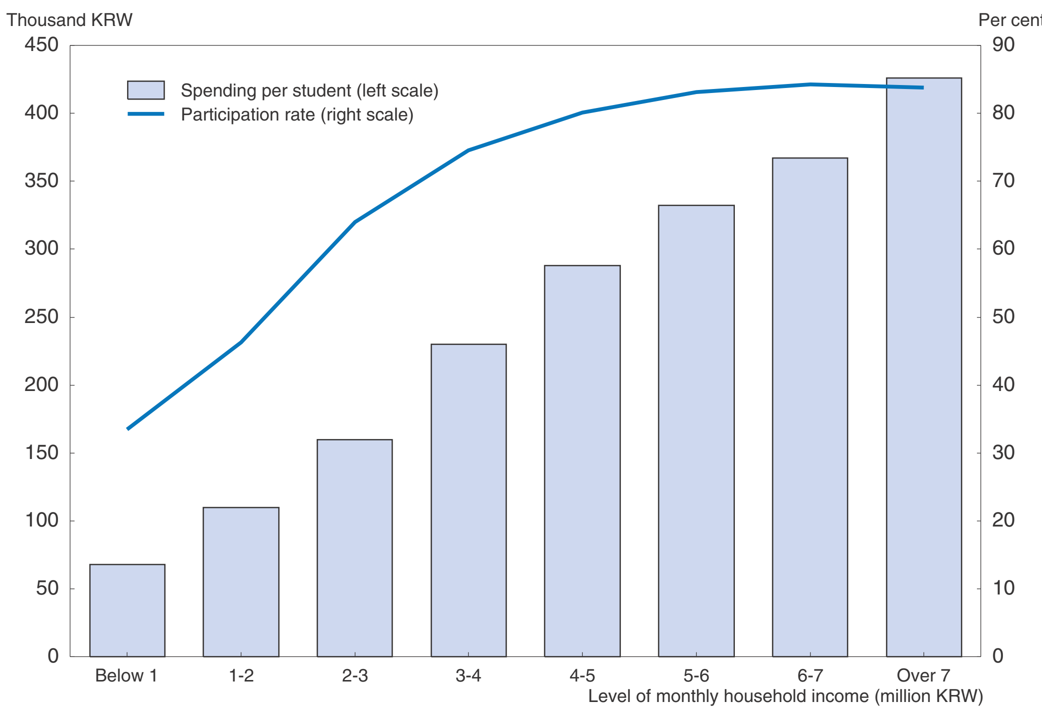
However, Korea needs to be cautious in raising social spending, given that demographic factors will put strong upward pressure on outlays, as noted above. The revenue to finance rising social spending should be met by pro-growth tax reforms. In particular, the personal income tax base, which covers only one-half of wage income, should be broadened while the role of indirect taxes – notably the VAT and environmental taxes – should be increased (see the tax chapter in the 2008 *OECD Economic Survey of Korea* or Jones, 2008b).

### *Reforming education to promote social cohesion*

Private spending on education in Korea is around 38% of the total, largely reflecting expenditures on private colleges and universities. This is almost double the OECD average of 20%, even before taking account of large outlays for after-school tutoring, notably in *hagwons*. Consequently, students' socio-economic background is strongly correlated with the quality of the tertiary institution they attend. Indeed, the share of students participating in after-school tutoring is the second highest among OECD countries (OECD, 2013h). Participation and spending on private tutoring are highly correlated with family income (Figure 19). Equal opportunity is undermined by the heavy reliance on private tutoring to enter high-ranking universities, which has an inordinate impact on job prospects and future

Figure 19. **Household income is closely linked with outlays and participation in private tutoring**

In 2011




*Source:* OECD (2014b).

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income. The role of private tutoring, which creates cycles of poverty and wealth that endure over generations, should be scaled back by:

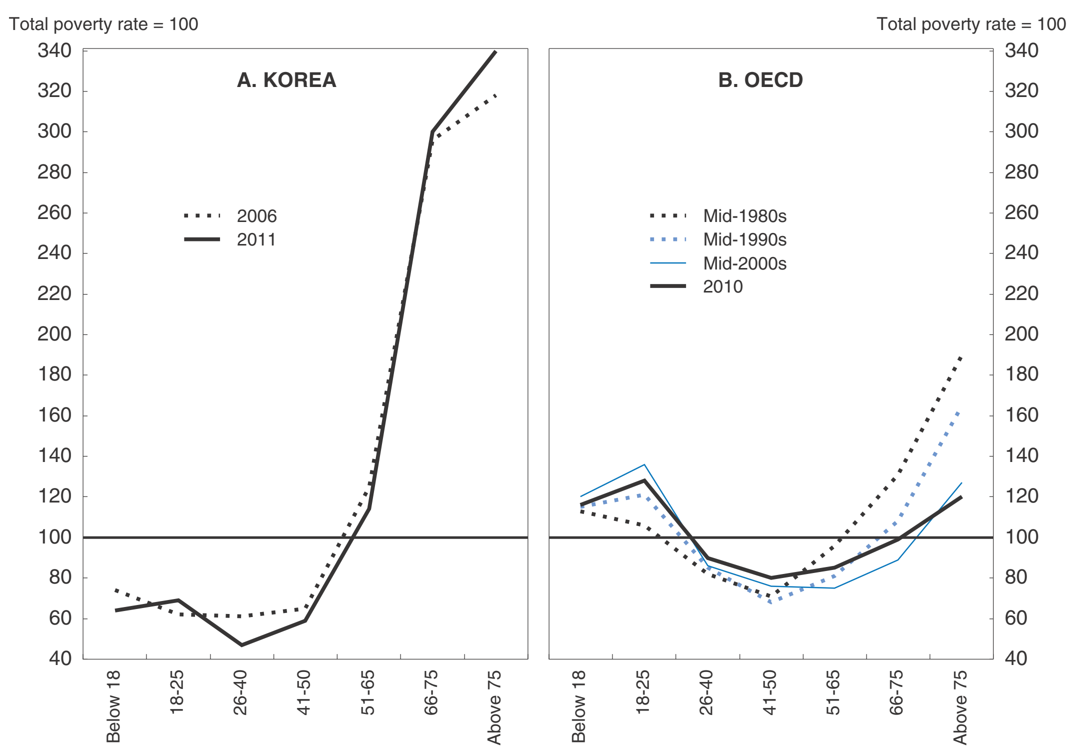
- Reducing the importance of the multiple-choice university entrance exam, while increasing the role of the "school records system", which gives greater weight to other criteria.
- Improving the quality and diversity of schools, thereby enabling students to acquire sufficient education without participating in private tutoring.
- Expanding access to public after-school tutoring by further expanding Internet and broadcast teaching systems and increasing after-school programmes in schools.
- Strengthening vocational education to reduce the over-emphasis on higher education (see above).

### *Reducing the high rate of poverty among the elderly*

#### *The rate of poverty among the elderly is the highest in the OECD*

In 2011, 49% of the population aged 65 and over lived in relative poverty, nearly four times higher than the OECD average of 13%. The elderly poverty rate was three times greater than the 15% rate for the entire population, in contrast to the OECD area, where it is almost equal (Figure 20). Although there are no official data on the share of elderly in Korea in absolute poverty, it may be around 26% (1.5 million persons) (MHW, 2013). Many

Figure 20. **Relative poverty rates 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.

*Source:* *OECD Database on Income Distribution and Poverty.*

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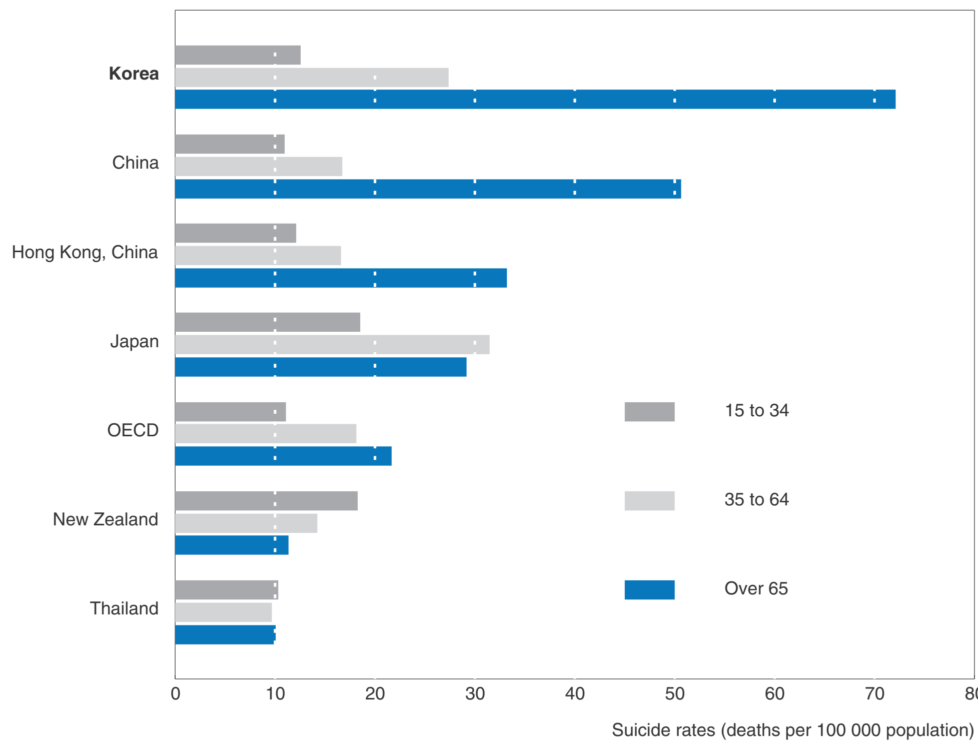
elderly had assumed that their children would provide for them, thus making it unnecessary to prepare financially. However, the number of elderly living alone has risen by 2.5 times since 2000 and now accounts for a quarter of all elderly. Rising poverty contributed to an increase in suicide among those over age 65 from 34 (per 100 thousand persons) in 2000 to 72 in 2010, far above the OECD average of 22 (Figure 21), with financial difficulty the major cause, according to a government survey (Statistics Korea, 2010).

Figure 21. **The suicide rate of the elderly in Korea is the highest in the OECD area**

In 2010 or latest year




*Source:* OECD (2011).

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The high elderly poverty rate is thus an urgent social problem that reflects both the decline in family support and the weakness of other private and public sources of old-age income support:

- The National Pension Scheme (NPS), created in 1988, provided old-age pension benefits to only 28% of the elderly in 2011. Moreover, pension benefits were only 10% of the average wage.
- The Basic Old-Age Pension System (BOAP) provides a small benefit equal to about 3% of the average wage to around 70% of the elderly. The BOAP thus spreads resources very thinly over a large segment of the older population.
- The company pension system introduced in 2005 covered 46% of employees who had worked for at least a year (12% of the working-age population) in 2012 and paid pension benefits to only about 3% of those enrolled.

- The BLSP provides social welfare benefits to about 6.3% of the elderly. Coverage is limited by the criterion that excludes elderly with the possibility of assistance from family members. However, elderly parents can no longer expect as much support from their children as in the past.

Rapid population ageing and the rising number of single elderly persons will exacerbate poverty. The immediate priority is well-targeted social spending to ensure an adequate minimum level of income for the elderly. As noted above, the BLSP reforms are projected to increase the number of beneficiaries (of all ages) by 400 thousand, which will have a limited impact on the number of elderly in poverty. Moreover, the 2014 legislation to double the BOAP benefit to 200 thousand won ($193), while maintaining its broad coverage, is also likely to have a limited effect on elderly poverty. Given that the small share of elderly receiving the BLSP is projected to rise only modestly, the government should focus the BOAP on the lowest-income elderly to ensure that they escape from absolute poverty (an income below 40% of the national median income). With the increase in the BLSP threshold from 40% to between 40% and 50%, it could be used to top up the income of poor elderly. In addition, the criterion that excludes those with the possibility of family support should be further relaxed.

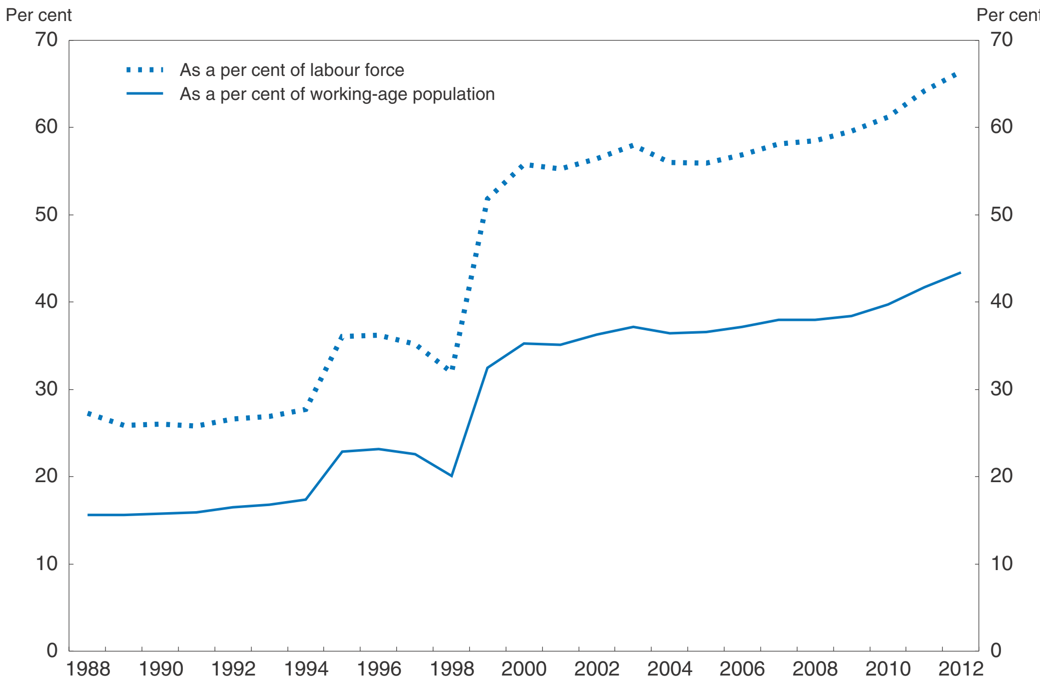
It is important to make the NPS more effective in reducing poverty in the long run. According to the government's 2013 projection, only 40.9% of the elderly will receive NPS pensions in 2030 and the pension amount will be kept low by the plan to reduce the targeted replacement rate for those with 40 years of contributions from 50% to 40%. Moreover, the average contribution period of recipients over 2030-40 will be less than 20 years, reducing the actual replacement rate to less than 20%. A three-pronged approach is needed. *First,* the number of contributors should be increased. In 2012, only 43% of the working-age population paid contributions (Figure 22), well below the 80-100% rate in other advanced countries, reflecting lower compliance by the self-employed, non-regular workers and SME employees (Lee, 2012). *Second,* the average contribution period should be lengthened to increase the size of benefits. *Third,* the targeted replacement rate should be kept around 50%, although this requires raising the contribution rate to 16.7%, compared to 14.1% for a 40% replacement rate, to maintain a balanced budget through 2083.

Even with the cut in the replacement rate to 40% and the planned hike in the pension eligibility age from 61 to 65 in 2033, NPS spending is set to rise much more than revenue (Figure 23). There are three options to sustain public pension systems: cutting benefits, raising the pension eligibility age and increasing revenue. A 40% targeted replacement rate would be too low, given the short average contribution period, as noted above. A more rapid hike in the pension eligibility age, under current labour practices, would create hardship by lengthening the gap between when workers leave firms and when they can receive a public pension. In this regard, the decision to raise the minimum age for mandatory retirement to 60 in big firms from 2017 is a step in the right direction.

The best option, therefore, is to raise more revenue, preferably by raising the contribution rate from its relatively low level of 9%. This has helped limit Korea's marginal tax wedge on labour, which is the third lowest in the OECD area. While some countries rely on general tax revenue to finance pensions, such an approach would not be appropriate in Korea, given that only 40.9% of the elderly will receive an NPS pension in 2030. Relying on general tax revenue would, in effect, transfer income from low-income persons, such as non-regular workers and those in SMEs, who are less likely to participate in the NPS, to higher-income persons. The government projects that maintaining a balanced budget through 2083 would require boosting

**Figure 22. The coverage of the National Pension Scheme is low**

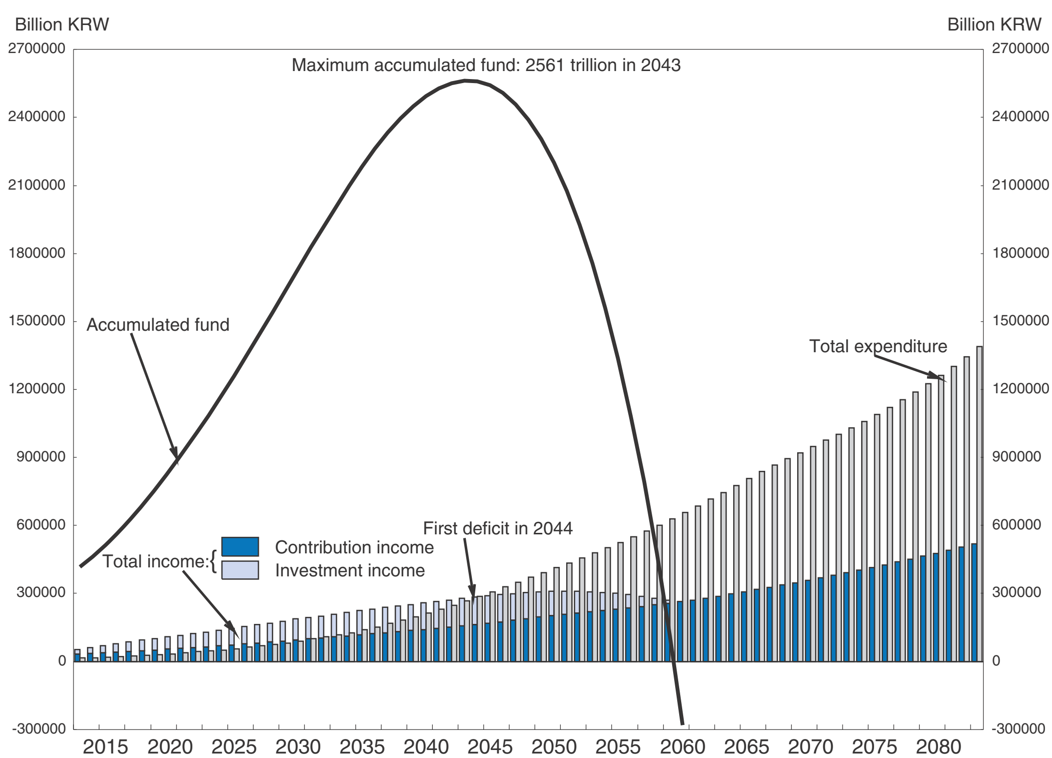
Number of contributors




*Source:* National Pension Service and Statistics Korea.

StatLink http://dx.doi.org/10.1787/888933040528

**Figure 23. The National Pension Scheme is projected to fall into deficit in 2044**




*Source:* National Pension Research Institute (2013).

StatLink http://dx.doi.org/10.1787/888933040547

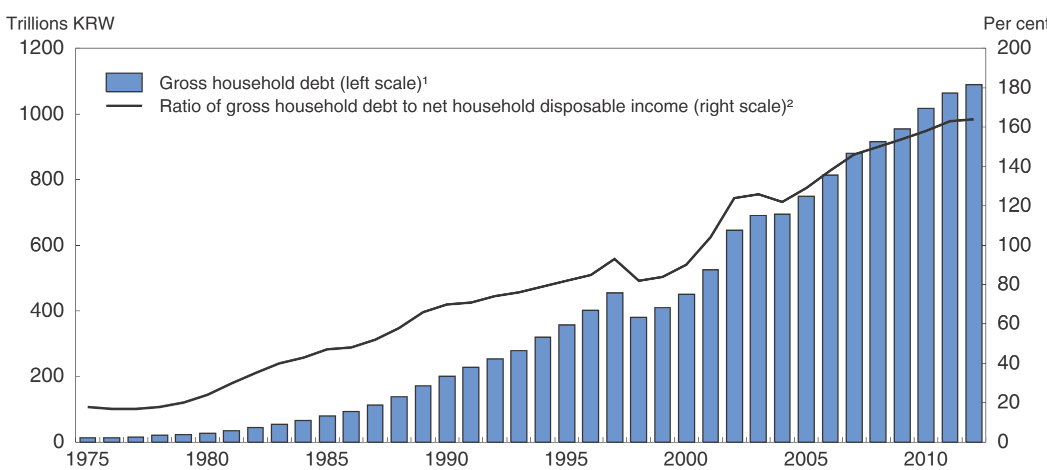
the contribution rate to 14.1% by 2015. The adjustment of the contribution rate should begin as soon as possible, as delays would only make the necessary increase larger.

Achieving adequate income for the elderly requires a multi-pillar approach based on a social consensus. In addition to reforming the NPS, it is important to increase private savings by developing the company pension system and individual pension savings. The introduction of company pensions has been hindered by workers' attachment to the so-called retirement allowance – which requires firms to pay departing employees a lump-sum separation payment equivalent to at least one month of wages per year of work. The government has recently reduced the favourable personal income tax treatment of the retirement allowance. It will be important to assess the effectiveness of this measure in promoting the adoption of company pensions. Individual Pension Accounts should also be strengthened, in part by increasing the penalties for early withdrawal prior to retirement and providing more favourable treatment of existing contracts.

### *Coping with high household debt*

Rising household debt has become a major policy concern (Figure 24). In addition to the economic impact and the risk to the financial sector, it raises social cohesion issues, as financial institutions have become increasingly reluctant to lend to low-income households and delinquent borrowers have lost access to financial markets. According to a survey, a quarter of indebted households borrow money to pay for living costs, reflecting in part Korea's undeveloped social safety net. Low-income households tend to borrow from consumer finance companies at high interest rates, including unregistered companies that charge an average interest rate of 53%.

Figure 24. **Gross household debt has risen sharply**




1. In real terms, adjusted by the 2010 CPI.
2. In current prices. Data are based on SNA1993.
*Source:* Bank of Korea.

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In 2011, the government announced a plan to "induce the soft landing of household debt". The objective is to gradually reduce the household debt ratio, while avoiding a sharp deleveraging. To achieve the goal, the government has strengthened prudential measures on financial institutions. In addition, it is trying to reduce the risk attached to household debt, particularly mortgage loans, which account for one-half of household debt. Given the higher default risk attached to floating-rate and "bullet repayment" loans, their share should be reduced in favour of fixed-term and instalment payment mortgages. The household debt ratio levelled off in 2012.

The government is addressing the social dimension of household debt by expanding support for individuals with low income and credit ratings. Since 2008, 1.4 million people have received preferential loans with interest rates of 5% to 10%, well below the market rate of over 20% on consumer loans. However, the delinquency ratio of these programmes has risen, even though they carry low interest rates. The preferential loans should not be regarded as free money and should be limited to those who have the ability and intention to repay. For debtors unable to service preferential loans, social welfare programmes would be more effective and would prevent an additional run-up in debt.

The government has also expanded debt restructuring programmes for delinquent borrowers. Since 2008, such programmes have assisted nearly one million delinquent borrowers, helping to reduce the number from 2.3 million in 2008 to 1.1 million, which is still about 5% of households. The most important programme is the National Happiness Fund, which writes off up to 70% of debt and interest, depending on the debtor's situation. This may create moral hazard by raising expectations that the government will repeat such policies in the future. It is important, therefore, that the authorities maintain their pledge not to repeat such large-scale write-offs. At the same time, consumer financial education should be enhanced to help households carefully examine whether they can service their debt and to seek alternative solutions, such as social welfare. In addition, lenders should make loans on the basis of careful credit evaluation as they also bear responsibility when debtors default.

The long-run goal should be to reduce the government's role and develop a market-based system to provide credit to households with low income and poor credit ratings, along with a stronger social safety net. Such a system depends on financial institutions gaining experience in such lending to enhance their ability to assess risk. Given that banks have little interest in lending to individuals with low income and poor credit ratings, the role of small non-bank financial institutions, such as mutual saving banks and mutual credit institutions, in lending to such households that are credit-worthy should be encouraged. This would reduce the role of finance companies, which charge substantially higher interest rates on household loans.

### Key policy recommendations to promote social cohesion and well-being

**Reducing poverty, particularly among the elderly**

- Target the Basic Old-Age Pension benefit on the lowest-income elderly to ensure that they escape from absolute poverty.
- Increase the coverage of the National Pension Scheme and maintain the replacement rate at around 50%. Raise the contribution rate to meet rising pension outlays.
- Expand private savings for retirement by accelerating the introduction of company pensions and strengthening personal pension plans.

**Other areas**

- Break down labour market dualism by reducing employment protection for regular workers and by increasing social insurance coverage and training for non-regular workers.
- Address the household delinquent debt problem while limiting moral hazard and containing the growth of household debt.
- Raise the employment rate, particularly for women, by creating high-quality part-time jobs and improving the quality of childcare.

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ANNEX A1

# The Three-year Plan for Economic Innovation

## The background of the Plan

President Park Geun-hye took office in February 2013 calling for a "second miracle on the Han River". On 25 February 2014, the first anniversary of her inauguration, President Park announced the details of a Three-year Plan for Economic Innovation that is to play a central role in this regard. The Plan is aimed at revitalising the Korean economy and achieving 4% potential growth, a 70% employment rate and $40 thousand per capita GDP (compared to $26 thousand in 2013) – as announced by the President at her New Year's address in January.

The Plan comes after several years of sluggish growth. Decisive measures are needed to establish a more dynamic and innovative economy through structural reforms to avoid falling into a low-growth path. As discussed in the *Survey*, Korea has grown rapidly from one of the poorest countries in the world to an advanced economy based on a catch-up strategy centred on input-driven growth. The government acknowledges that the traditional growth strategy, which focused on exports by large companies and depended on imports of technology, has reached its limit. Moreover, it has led to imbalances, for example between exports and domestic demand, manufacturing and services, *chaebols* and SMEs, and regular and non-regular workers. The government that took office in 2013 is seeking a new paradigm based on creativity and innovation. To achieve this objective, the government launched its "Creative Economy" initiative in 2013 and more specific measures are now fleshed out in the broader and more detailed Three-year Plan.

## The main contents of the Three-year Plan for Economic Innovation

The overriding objective of the Plan is to accomplish "an era of happiness for the people". The Plan sets three strategies – an economy with strong fundamentals, dynamic innovation and a balance between domestic demand and exports (Figure A1.1). Each strategy has three tasks, with preparing for reunification added as the tenth task.

Figure A1.1. **The Three-year Plan for Economic Innovation**

| | | | |
|---|---|---|---|
| Objective | Accomplishing an era of happiness for the people | | |
| 3 Major strategies | Economy with strong fundamentals | Economy with dynamic innovation | Economy with a balance between exports and domestic demand |
| 9 + 1 Tasks | 1. Reform the public sector | 4. Develop creative industries | 7. Improve the investment environment |
| | 2. Build a rule-based market economy | 5. Invest for the future | 8. Strengthen domestic demand |
| | 3. Establish a strong social safety net | 6. Make inroads into overseas market | 9. Encourage the labour force participation of youth and women |
| | 10. Prepare reunification | | |

*Source:* Ministry of Strategy and Finance (2014).

### *The first strategy: An economy based on strong fundamentals*

The first strategy includes the tasks of reforming the public sector, developing a rule-based market economy and building a strong social safety net (Chapter 2 of the *Survey*).

The government will reform the public sector, which has been plagued by inappropriate practices and low productivity, due to lax management, high debt ratios and various types of rent-seeking behaviour. By introducing competition between public institutions, as well as with the private sector, the productivity of public institutions is to be enhanced. State-owned enterprises will be required to reduce their debt-to-equity ratios from an average of 239% in 2013 to 200% in 2017 by streamlining their activities and selling assets. In addition, ceilings on bond issuance will be introduced. To improve management, public institutions will be required to disclose all information, excluding confidential data and business secrets. Public-sector efficiency is to be enhanced by eliminating 600 overlapping government programmes during the next three years. Finally, the occupational pensions for civil servants, the military and teachers, for which government spending is rising, will be reformed.

A new public/private taskforce will monitor progress in restoring fairness and produce semiannual reports. The rules governing the Korean economy are to be strengthened to restore fairness between economic entities, such as large companies and small and medium-sized enterprises (SMEs), employers and employees, and producers and consumers. For example, measures to ensure fair trading between large companies and SMEs are to be enhanced based on the legislation passed in 2013 to promote economic democracy. The government will also try to narrow the wage gap between regular and non-regular workers by promoting wage systems based on ability and productivity rather than on type of employment. The gap in employment protection between regular and non-regular workers will be narrowed by strengthening requirements for laying off non-regular workers, as well as rationalising regular workers' protection. In addition, an independent agency to promote consumer financial protection will be established.

The social safety net will be strengthened. The earned income tax credit will be expanded to provide greater incentives to work. The coverage of unemployment insurance will be increased – at present only 45% of employees are protected by unemployment insurance. In addition, the size of unemployment benefits will be adjusted to enhance work incentives. The coverage of the "Hope Growing Account", in which the government matches the saving of poor persons to help them accumulate assets, will be expanded to households with an income between 100% and 120% of the minimum cost of living.

#### *The second strategy: A dynamic economy based on innovation*

This strategy reinforces the government's 2013 initiative to foster a "creative economy" (Chapter 1 of the *Survey*). The goal is to change Korea's economic paradigm by developing creative industries, investing in the future and expanding Korea's presence in overseas markets.

Venture businesses and SMEs are the core of a creative economy. To improve the business environment for them, the government will inject 4 trillion KRW ($3.9 billion) by 2017. This investment will include start-up funds for young entrepreneurs and angel investment. In addition, the government will launch a new fund, modeled on Israel's *Yozma Fund*, with global venture capital companies to invest in Korean start-ups. To encourage foreign investor participation, they will be allowed to buy the government's share at a low price and the government will be the first to bear losses. The government will also establish 17 "Creative Economy Innovation Centres" in major cities by 2015. The Centres are to become the focal point of regional development by supporting start-ups through a range of services including education, technology development and financing. The Centres will be supplemented by on-line "Creative Economy Towns". A "technology bank" will also be introduced to warehouse unused ideas, patents and knowhow developed by government research institutions and companies so that they can be used by entrepreneurs and start-up companies.

R&D investment, which was the highest in the OECD at 4.4% of GDP in 2012, is to be increased to 5% by 2017. In addition, international collaboration in innovation is to be strengthened, in part through the creation of the Korea Research Fellowship to attract foreign researchers. The government plans to invite 300 world-class scientists and researchers by 2017 by providing competitive financial support and guaranteeing a sufficiently long stay in Korea. In addition to supporting economic growth, the foreign experts are to enhance the R&D capabilities of local universities. The government will also provide more tax breaks on capital gains resulting from technology transfers, in an effort to boost trade in intellectual property rights. Finally, the government plans to promote the development of the Internet by ensuring that investments to advance network infrastructure are made in a timely manner.

The government will introduce policies to promote exports by smaller firms. At present only 2.7% of SMEs export. Korea currently has free trade agreements (FTAs) with countries accounting for around 55% of world GDP. The coverage is to be raised to 70%, in part by completing an FTA with China.

#### *The third strategy: An economy balanced between domestic demand and exports*

To create a more balanced economy, the Plan focuses on boosting domestic demand, improving the investment environment and raising the employment rate.

Structural weaknesses constraining domestic demand will be addressed. Household debt, which rose to 164% of household disposable income in 2012, one of the highest in the OECD, is to be lowered by 5 percentage points by 2017 through enhanced financial supervision and regulation. At the same time, preferential loan programmes for low-income people will be expanded. In order to lessen the burden of housing costs, notably the increasing cost of *chonsei* deposits, the government plans to increase the supply of rental housing through deregulation and tax incentives for private investors.

The government will promote ambitious regulatory reform to promote business investment. The total burden of regulation is to be capped by introducing a "one-in, one-out" system; whenever a new regulation is introduced or existing regulations are strengthened, other regulations should be abolished or relaxed. Moreover, the overall level of regulation is to be reduced by requiring that even more existing regulations be relaxed in line with newly-introduced regulations and by strengthening the sunset clause for existing regulations. A cabinet committee on regulatory reform, led by the President, is to be launched to promote deregulation. For five promising service industries – health, education, finance, tourism and software – all regulations are to be reviewed. Moreover, a joint public-private task force is to provide one-stop services for investors in these industries.

The emphasis on labour force participation is in line with the roadmap to boost the employment ratio to 70% of the working-age population. The government will promote the creation of 1.5 million jobs for women and 500 thousand for youth. In order to promote female labour force participation, the government will focus on providing flexible childcare services and strengthening financial and legal support for part-time jobs. For instance, the right to work reduced hours will be expanded for employees who have clear reasons, such as childcare, pregnancy and nursing of young infants. The hourly wage for parents who reduce their working time to take care of children will be raised from 40% of the normal wage to 60%, using financing from the employment insurance system. Part-time workers will have the first opportunity to get information on recruitment when their firms want to expand the number of full-time workers. For youth, the priority is to improve vocational education and solve the labour market mismatch problem. The National Competency Standards, which currently number 286, will be expanded, and educational programmes, credential systems and human resource management are to be developed based on the Standards. The government will also further expand the opportunities for high school graduates to study while working by providing more incentives to schools and companies that participate in this effort. For example, firms that participate in vocational education programmes will receive additional tax benefits.

### *Preparing for the reunification of Korea*

The government will set up a Presidential Reunification Preparation Committee to prepare for the reunification of the Korean peninsula and expand inter-Korean exchanges and dialogue (Annex A2). Experts and civic group representatives from various sectors including foreign affairs, security, economy and culture will be appointed to the Committee, which will develop a detailed blueprint of a unified Korea.

## An evaluation of the Plan

This comprehensive Plan includes bold structural reforms that are needed to boost Korea's growth potential and avoid falling into a low-growth trap. It follows the main themes of President Park's first year in office, namely fostering a creative economy, promoting social cohesion and boosting the employment rate. Most of the measures are consistent with the recommendations in the *Survey*. Some of the targets will be challenging to achieve.

The Plan addresses many longstanding problems in the Korean economy that have not been resolved due to strong resistance from interest groups. The personal involvement and commitment of the President and her promise to personally monitor progress will hopefully lead to greater success in addressing these issues.

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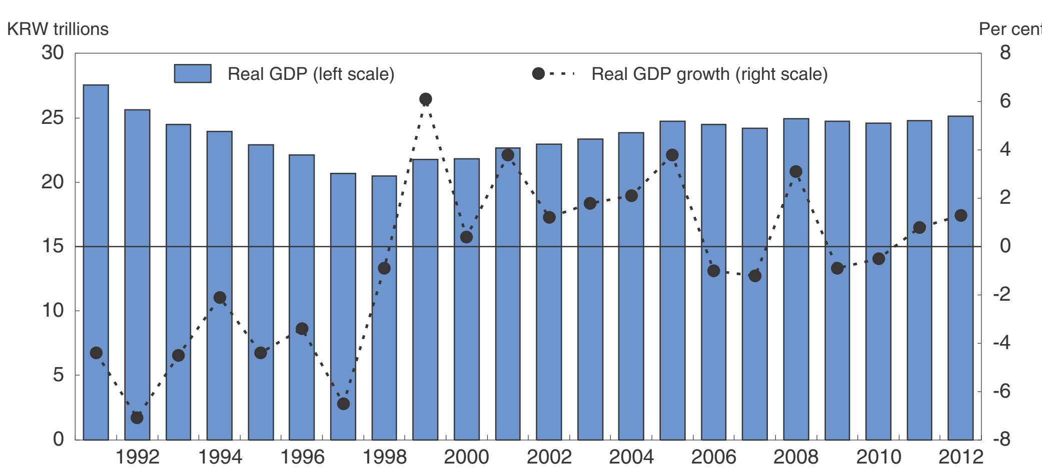
ANNEX A2

# Economic co-operation with North Korea

After declines in 2009-10, the North Korean economy grew during 2011-12, thanks primarily to a rebound in agriculture, which accounts for a quarter of GDP (Figure A2.1). However, compared to the early 2000s, output growth was weak. Consequently, the gap between the two Koreas is enormous. Indeed, South Korea's economy was 38.2 times larger than the North's in 2012 and 18.7 times larger on a per capita income basis, raising concern about the potential cost of economic rapprochement (Table A2.1).

The North Korean economy has been negatively affected by a sharp fall in economic co-operation with the South since 2008 amid political tensions. After the fatal shooting of a South Korean tourist at the Mount Geumgang resort in 2008, South Korea ended the tourism programme. The sinking of a South Korean warship in 2010 prompted the South to

Figure A2.1. **The North Korean economy has returned to positive growth**




*Source:* Bank of Korea.

StatLink http://dx.doi.org/10.1787/888933041060

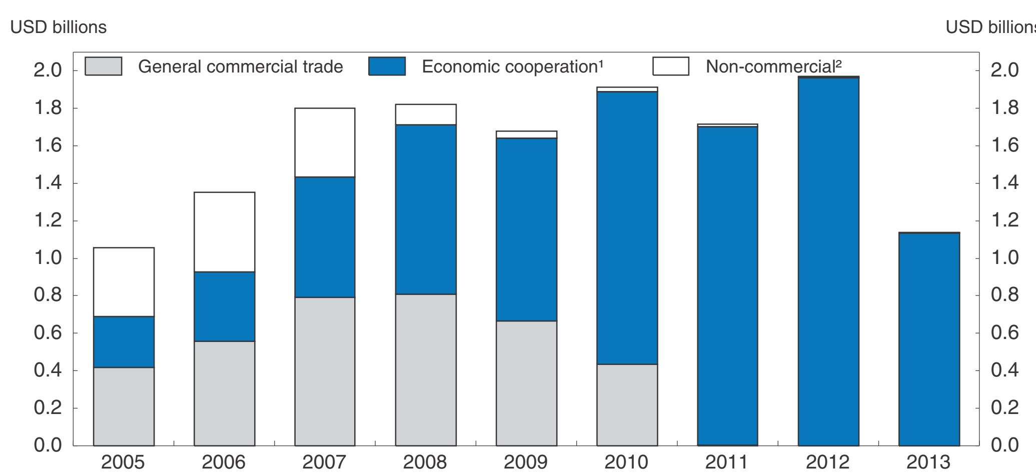
Table A2.1. **Comparison of North and South Korea in 2012**

| | (A) North Korea | (B) South Korea | Ratio (B/A) |
|---|---|---|---|
| Population (millions) | 24.4 | 50.0 | 2.0 |
| GNI (trillion won) | 33.5 | 1 279.5 | 38.2 |
| GNI per capita (million won) | 1.3 | 25.6 | 18.7 |
| Total trade (billion US$) | 6.8 | 1 067.5 | 157.0 |
| Exports | 2.9 | 547.9 | 188.9 |
| Imports | 3.9 | 519.6 | 133.2 |
| *Of which:* Inter-Korean exports[1] | 1.1 | 0.9 | 0.8 |
| Industrial statistics (2012) | | | |
| Power generation (billion kWh) | 21.5 | 509.6 | 18.6 |
| Steel production (million tonnes) | 1.2 | 69.1 | 56.5 |
| Cement production (million tonnes) | 6.4 | 46.9 | 7.3 |
| Agricultural production (2012) | | | |
| Rice (million tonnes) | 1.9 | 4.9 | 2.6 |
| Fertiliser (million tonnes) | 0.5 | 2.6 | 5.4 |

1. North Korean exports to the South in column Panel A, and South Korean exports to the North in column B.
*Source:* Statistics Korea.

suspend investment in the North and inter-Korean trade, excluding that related to the Gaesung Industrial Complex. As a result, commercial and non-commercial trade ceased by 2012 (Figure A2.2). Trade was also reduced by the North's closure of Gaesung for five months in mid-2013. Consequently, total inter-Korean trade dropped sharply from $2 billion in 2012 to $1.1 billion in 2013, a level not seen since 2005.

Figure A2.2. **Inter-Korean trade fell sharply in 2013**

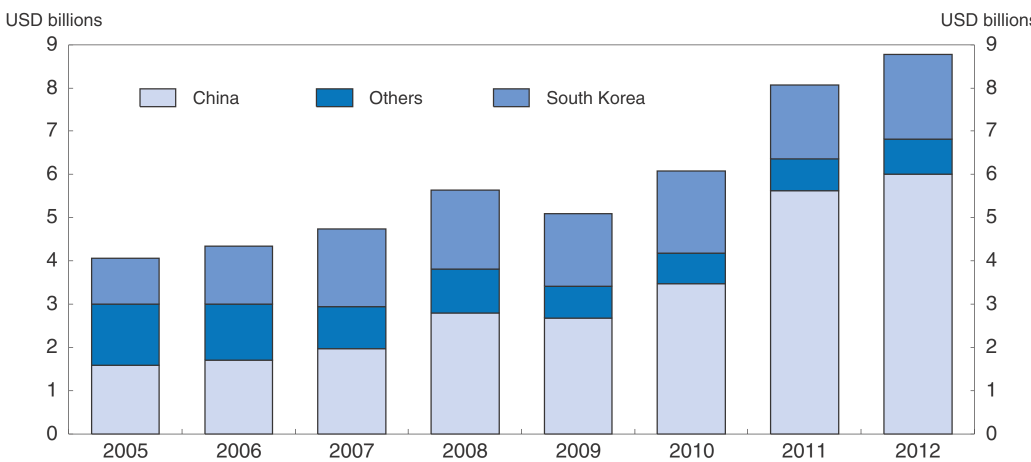



1. Includes special projects, such as the Mount Geumgang resort and the Gaesung Industrial Complex.
2. Primarily humanitarian aid.
*Source:* Ministry of Unification, Seoul.

StatLink http://dx.doi.org/10.1787/888933041079

With North-South economic relations declining, North Korea has significantly expanded its trade with China. In 2007, South Korea and China each accounted for about 40% of North Korea's trade. By 2012, China's share had risen to 68% while South Korea's fell to 22%. In addition to expanding trade, the North Korean government has pursued a number of economic co-operation projects with China. For example, it is creating special economic zones on Hwanggumpyong Island, a border city that handles three-quarters of the trade between North Korea and China, and Raseon, a city on the eastern coast of North Korea, just 20 kilometres from the border with China.

Figure A2.3. **North Korean trade by country**




*Source:* Korea Trade-Investment Promotion Agency and the Ministry of Unification, Seoul.

StatLink http://dx.doi.org/10.1787/888933041098

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ANNEX A3

# Progress in structural reforms

*This annex reviews action taken on recommendations from previous* Surveys. *They cover the following areas: sustaining Korea's convergence to the highest income countries, promoting social cohesion and achieving the low carbon, green growth vision in Korea. Each recommendation is followed by a note of actions taken since the April 2012* Survey. *Recommendations that are new in this* Survey *are listed in the relevant chapter.*

This annex presents under each theme:

- Recommendations of the 2012 *Survey*.
  - ❖ ***Actions taken.***

## Taking stock of structural reforms: Sustaining Korea's convergence to the highest-income countries

### *Encouraging labour market participation, particularly of women, the elderly and youth*

- Encourage better work-life balance, in part by expanding flexibility in working hours and reducing them, lengthening maternity and paternity leave and encouraging their take-up by increasing parental leave benefits and reserving part of the leave for the exclusive use of fathers.
  - ❖ ***The government has increased the flexibility of maternity leave and made it possible for parents to take additional leave or work part-time after the end of maternity leave.***
- Increase the availability of affordable, high-quality childcare.
  - ❖ ***In March 2013, the government introduced a universal childcare subsidy to all parents with children aged five and under, regardless of their financial conditions. It continues to increase the number of public childcare facilities.***
- Reduce labour market dualism to create better job opportunities for women and young people.
  - ❖ ***The government announced a plan in 2013 to convert around 26% of fixed-term workers in the public sector to regular status by 2015.***
- Encourage greater use of flexible employment and wage systems to promote the continuous employment of older workers, while expanding and upgrading lifelong learning and training opportunities to improve their job prospects.
  - ❖ ***Large firms have been required to run training programmes for workers who will soon retire.***
- Set a minimum mandatory retirement age and gradually increase it with an aim of eventually abolishing mandatory retirement.
  - ❖ ***A 2013 law raises the minimum age for mandatory retirement to 60 in big firms from 2017.***
- Ensure better access to employment support programmes to encourage youth to work.
  - ❖ ***The number of cases of job counselling, job search, job placement and employment at youth job centres increased from 145 thousand in 2011 to 364 thousand in 2013. Job information at outstanding SMEs has been collected by central and local governments and disseminated on the Internet since October 2012.***

### *Improving the education system to promote productivity growth*

- Raise the proportion of children attending kindergarten by expanding tuition subsidies, especially for low-income children, and increasing the capacity of public kindergarten by including them in primary school buildings.
  - ❖ ***The universal subsidy introduced in March 2013 for early childhood education and care (ECEC) includes children attending kindergarten. By April 2013, 74.2% of primary schools included kindergartens.***
- Improve the quality of private childcare facilities by upgrading the accreditation process and making it mandatory and relaxing fee ceilings on private childcare, which impinge on quality.
  - ❖ ***A law requiring more information disclosure on childcare centres was passed in 2013.***
- Improve the quality of teachers by increasing the requirements in ECEC.
  - ❖ ***The government has introduced tailored training depending on age to strengthen the specialties of teachers.***
- Gradually integrate childcare and kindergartens to improve quality, while achieving cost savings.
  - ❖ ***The harmonised curriculum for kindergarten and childcare programmes was extended to three and four-year-olds in 2013.***
- Increase school autonomy and enhance co-operation between local governments and local educational authorities, with the eventual aim of merging them.
  - ❖ ***Co-operation has been enhanced recently through increased personnel exchanges, a more active role for the local councils of education administration and joint training programmes.***
- Expand school choice to encourage schools to excel, while continuing to expand diversity in the types of high schools to promote competition and excellence.
  - ❖ ***In October 2013, the government announced a plan to strengthen general high schools by granting them more autonomy in setting curriculum and thereby increasing scope to specialise in certain areas.***
- Develop vocational education by increasing the number of Meister schools and enhancing the role of colleges, in part by developing National Competency Standards (NCS) that link education and the labour market.
  - ❖ ***The government is providing comprehensive support to develop NCS that reflect industrial demands for certain competencies.***
- Promote the internationalisation of the university sector by facilitating the entry of foreign students and tertiary institutions in Korea to enhance competition.
  - ❖ ***In October 2012, the government announced the Study Korea 2020 Project, which aims to attract 200 thousand foreign students to Korea by 2020.***
- Use the rankings that designate the lower 15% of institutions to improve management and foster restructuring; incorporate more national universities to promote autonomy.
  - ❖ ***In 2013 and 2014, the government designated 43 and 35 private universities, respectively, as ineligible for government grants in an effort to promote needed reforms.***

- Make an upgraded accreditation system effective, while easing regulations to promote innovation and diversity.
  - ❖ ***Although accreditation is not mandatory, more universities are participating as the results are publicly disclosed and linked to government funding programmes beginning in 2014.***
- Expand the role of universities in innovation by strengthening links between research institutes in government, business and academia, in part by promoting the labour mobility of researchers.
  - ❖ ***The government is encouraging universities to appoint professionals from the business sector as faculty members and dispatch university faculty to industrial research centres.***

### *Raising productivity in the service sector*

- Further lower entry barriers, including in network industries, through regulatory reform, and upgrade competition policy by raising the deterrent effect of surcharges and criminal penalties.
  - ❖ ***Medical corporations have been allowed to set up subsidiaries and foreign indirect ownership limits in telecom carriers (excluding Korea's dominant wired and wireless telecommunication service providers) were liberalised.***
  - ❖ ***The government established "detailed assessment criteria" to evaluate violations of the fair trade act.***
- Strengthen international competition in services through greater inflows of foreign direct investment by removing ownership restrictions and improving the business climate.
  - ❖ ***The government has eased foreign ownership and investment restrictions, including liberalising ownership limits in telecommunications and allowing foreign educational institutions to establish joint venture schools with Korean partners.***
- Scale back government assistance to SMEs, including subsidies, financial assistance, credit guarantees and tax incentives, to make small companies less dependent on public support.
  - ❖ ***The "Comprehensive Management System for SME Support" was launched in 2014 to determine which firms receive multiple benefits from the government, which will be used to decide whether to scale back government assistance to SMEs.***
- Comprehensively quantify the various forms of explicit and implicit support to manufacturing as a first step to level the playing field.
  - ❖ ***The "Comprehensive Management System for SME Support" will also provide information about support to manufacturing firms.***

## Taking stock of structural reforms: Promoting social cohesion

### *Use well-targeted increases in social spending to address inequality and poverty*

- Relax the eligibility conditions for the Basic Livelihood Security Programme (BLSP) and ensure adequate funding, while improving the work incentives of recipients.
  - ❖ ***During 2013, the government relaxed the asset criteria for family support and reduced the conversion rate for housing. The eligibility for transitional benefits, such as temporary medical and educational support, for people leaving the BLSP will be expanded in 2014.***

- Expand the earned income tax credit (EITC) by relaxing the eligibility conditions and aiming, in the long run, to include the self-employed.
  - ❖ ***The EITC was expanded in 2014 to include single persons and more self-employed workers.***
- Target the Basic Old-Age Pension System on low-income elderly and increase the benefit, while promoting private savings for retirement by accelerating the introduction of company pensions.
  - ❖ ***The BOAP is being doubled to 200 000 KRW, while maintaining broad coverage.***
  - ❖ ***In 2013, new firms were allowed to create company pensions without an agreement with workers.***
- Ensure that the National Health Insurance (NHI) meets its goal of universal coverage and further lower co-payments ceilings to provide adequate care to low-income households and persons with chronic health problems.
  - ❖ ***The co-payment ceiling for low-income households was lowered in January 2014. In July 2013, the government decided that the NHI will pay for all treatments related to cancer, heart and cerebrovascular illnesses and rare diseases until 2016.***
- Gradually expand long-term care services by emphasising home-based care to contain cost increases, while enhancing their quality.
  - ❖ ***The eligibility standards for long-term care were eased in 2012-13, expanding the number of patients by 50 000.***

### *Reduce labour market dualism through labour market reforms*

- Reduce employment protection in practice for regular workers so that firms can realise adequate employment flexibility without relying as much on non-regular workers.
  - ❖ ***The Three-year Plan for Economic Innovation aims to improve dismissal conditions and procedures in order to reduce gaps in employment protection between regular and non-regular workers.***
- Expand the coverage of non-regular workers by workplace-based social insurance, notably by better compliance, to improve their welfare and cut the cost advantages of non-regular workers.
  - ❖ ***The government has provided financial support since 2012 for the premium payments by low-income workers (including non-regular workers) at small workplaces for unemployment insurance and the National Pension Scheme.***
- Increase training and career consultation to enhance employability of non-regular workers and their transition to regular employment.
  - ❖ ***Non-regular workers who voluntarily participate in training can receive a government stipend for living costs since 2012.***
- Revise the 2007 non-regular law, which is increasing employment instability and leading to a concentration of non-regular workers in more vulnerable types of employment, by extending the time limit on fixed-term contracts.
  - ❖ ***No action taken.***

- Relax regulations on temporary agency workers by moving from a positive-list system to a negative list.
  - ❖ ***The roadmap for a 70% employment rate and the Three-year Plan for Economic Innovation include steps to expand the use of temporary agency workers by allowing their use in farming and fishing villages and allowing workers age 55 and over and high-income professional workers to be employed as temporary agency workers.***

### *Promote equality through educational reforms*

- Enhance the access of disadvantaged children to high-quality ECEC by increasing tuition subsidies for low-income children.
  - ❖ ***In March 2013, the government introduced a universal childcare subsidy to all parents with children aged five and under, regardless of their financial conditions. The universal curriculum for kindergartens and childcare centres was extended to four and five-year olds.***
- Increase the capacity of public kindergartens by including them in primary schools.
  - ❖ ***By April 2013, 74.2% of primary schools included kindergartens.***
- Develop the "admissions officer" system for universities to reduce the importance of the CSAT, thereby reducing the role of *hagwons*.
  - ❖ ***This system, now known as the "school records system", is being strengthened by better training the persons responsible for university admissions.***
- Reduce dependence on private tutoring, including *hagwons*, by improving the quality and diversity of secondary schools and strengthening vocational education and career guidance.
  - ❖ ***A pilot project that allows middle school students a free semester to develop talents through job exploration and first-hand experiences was launched in 2013 and will be extended to every high school from 2016.***
- Improve access to after-school tutoring by further expanding Internet and broadcast teaching systems and expanding the after-school programmes in schools.
  - ❖ ***The government is providing support for ICT use in schools in rural areas to improve access to distance learning. Participation in after-school programmes is increasing.***
- Expand student loans through the new programme that makes repayment contingent on income after graduation.
  - ❖ ***The interest rate on the loans was lowered from 3.9% to 2.9% in 2013 and loans for living expenses were expanded.***

## Taking stock of structural reforms: Achieving the low carbon, green growth vision in Korea

### *Mitigating climate change*

- Achieve final approval of the bill to create an ETS, preferably before the end of the National Assembly session in May 2012.
  - ❖ ***The bill was approved in May 2012.***
- Announce a schedule to phase out grandfathering and expand the auctioning of permits.
  - ❖ ***The free allocation of permits has been set at 100% over 2015–7, 97% over 2018-20 and less than 90% over 2021-25 and thereafter.***

- Allow the banking and borrowing of permits to reduce price volatility.
  - ❖ ***Firms can carry over and borrow permits within the commitment phases (2015-17, 2018-20 and 2021-25).***
- Introduce a carbon tax to reduce emissions in sectors not covered by the ETS.
  - ❖ ***No action taken.***
- Reform the electricity pricing system by raising prices to reflect unit costs in each sector and replacing the sectoral price structure with prices set by voltage to effectively reflect costs.
  - ❖ ***Electricity prices have been raised three times since 2012 and the relative pricing structure between electricity and other energy sources was improved. The cross-subsidies between sectors have been reduced by increasing the price for the industrial sector, and basing it on voltage and time of use.***
- Stop earmarking environmental taxes for transport construction, especially roads.
  - ❖ ***No action taken.***
- Monitor the market for renewables to avoid excessive reliance on low-quality options, while promoting long-term contracts to stabilise prices.
  - ❖ ***The weight of each renewable source is reassessed every three years and long-term contracts are required for a portion of the mandatory share of renewables.***
- Phase out the Target Management System, once the ETS and the carbon tax are in place.
  - ❖ ***Entities exempt from the ETS will remain subject to the Target Management System.***

### *Creating new engines for growth*

- Effectively use the large-scale expenditures in the Five-Year Plan to promote green investment and innovation that will underpin sustained growth and give rise to new economic opportunities.
  - ❖ ***Korea has narrowed the green technology gap with advanced economies and the renewable energy industry has expanded.***
- Focus more on basic research in green technologies in public research institutions, emphasising a technology-neutral approach, and attract more industry and academic involvement.
  - ❖ ***The government budget for R&D in green technology rose at 5% annual rate over 2009-13, while the share of basic research in total R&D in green technology has risen markedly.***
- Encourage closer co-operation between government research institutes, universities and firms by facilitating joint projects, enhancing the mobility of researchers and expanding access to the research of government institutes.
  - ❖ ***Government investment in collaborative research in green technology between universities and firms accounted for 37% of the total amount of public investment in green technology R&D in 2012.***
- Channel necessary funds to green businesses through the existing market-based systems and private firms rather than directly through public institutions.
  - ❖ ***Public financial institutions supporting green business do so using measures such as on-lending and indirect investment funds through private financial institutions.***

- Continue to foster green financing for firms, while enforcing rigorous certificate criteria and limiting the inherent risks of "picking winners".
  - ❖ ***Green certification standards are amended by private-sector experts each year. Funds are channeled as evenly as possible to prospective technologies/industries to manage risks.***
- Enhance labour market flexibility and expand effective training systems for skills needed for green growth.
  - ❖ ***In September 2012, 24 occupations in environment-friendly and high value-added services were added to the vocational training programmes for national key and strategic industries.***

### *Improving the quality of life through a better environment*

- Continuously reduce overall emission caps under the cap-and-trade system to improve air quality and shift allocation from grandfathering to an auction scheme to enhance efficiency.
  - ❖ ***A cap-and-trade system for total air pollution in the Seoul metropolitan area is being prepared for 2016. Permits are free up to a standard level, but firms must pay for additional emissions.***
- Improve the accessibility and convenience of public transport, promote the use of bicycles and raise the Average Fuel Efficiency standards for vehicles to reduce pollution, notably in the capital region, until a price on carbon is introduced.
  - ❖ ***The government is preparing a strengthened fuel efficiency evaluation standard in 2014.***

# Thematic chapters

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*Chapter 1*

# Fostering a creative economy to drive Korean growth

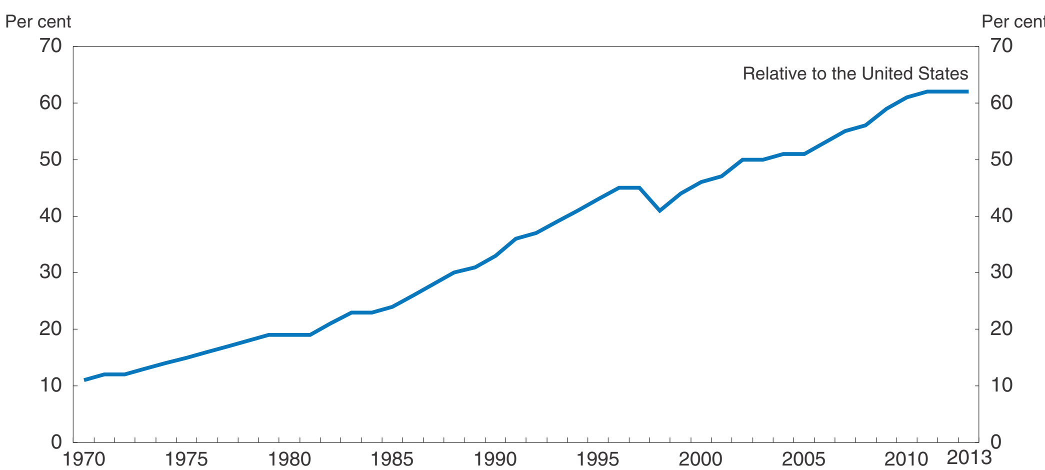
*A creative economy requires innovation-friendly conditions. Korea's innovation system should be improved by upgrading universities and expanding their role in business R&D, while increasing international collaboration in R&D from its current low level. The returns from Korea's large investment in innovation should be enhanced by improving framework conditions – easing product market regulations, promoting international competition and enhancing labour market flexibility – to encourage the adoption of new technology. Venture businesses and start-ups should play a key role in commercialising innovation. To make venture investment a growth driver, it is important to expand the role of business angels, activate the merger-and-acquisition market and foster entrepreneurship. A creative economy also depends on making SMEs, which account for 87% of employment, more dynamic. SME policies should be streamlined and improved to promote market-based financing and reduce the negative effects of government funding programmes, which discourage the expansion of SMEs. The growth of small firms also depends on resolving labour market mismatches and taking full advantage of the opportunities afforded by the Internet.*

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Korea has grown from one of the poorest countries in the world in the 1950s to an advanced industrial economy today. Per capita income increased from 12% of the US level in 1970 to 62% by 2011 (Figure 1.1). Development was driven by policies to promote exports, which were primarily produced by large companies, especially those in the business groups known as *chaebols*. However, as Korea has narrowed the gap with the most advanced economies, this growth model is facing challenges. Strong competition with emerging economies, notably China, in low and medium-end markets, and with advanced economies in high-end markets, is making it more difficult for Korea to further expand its global market share. In addition, the trickle-down effect from exports has declined. In 1998, 1 billion KRW of exports generated value-added of 0.65 billion KRW and 19 jobs. By 2010, the impact, adjusted for inflation, had fallen to 0.56 billion KRW of value-added and 7.9 jobs (Bank of Korea, 2012a), prompting the government to look for other sources of growth.

Figure 1.1. **Korea has achieved rapid economic development**

Korea's per capita income as a share of that in the United States[1]




1. GDP per capita, converted at 2005 purchasing power parity exchange rates. The data for Korea are based on SNA1993, as SNA2008 data are not available prior to 2000, while those for the United States are based on SNA2008. Using SNA2008 for Korean GDP in 2013 would raise Korea per capita income from 62% of the US level to 68%.

*Source:* OECD National Accounts Database.

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Korea's rapid development relied heavily on foreign technology (MOSF, 2013), accompanied by large inputs of labour and physical capital. Over the period 1970-2000, labour and capital contributed 4.3 percentage points to the 7.6% average annual increase in national income (Table 1.1). However, the contribution fell to 1.7 percentage points to an average growth rate of 4.6% over 2000-10 and is likely to fall further as the working-age population begins shrinking in 2017 and working time continues to decline from its still high level. However, Korea has great potential to raise labour productivity per hour worked, which remains less than one-half of that in the United States. To sustain Korea's

Table 1.1. **Korean growth driven by inputs of labour and capital**
Contribution in percentage points

| | 1970-2000 | 1970-80 | 1980-90 | 1990-2000 | 2000-10 |
|---|---|---|---|---|---|
| **National income growth (%)** | **7.6** | **7.8** | **9.3** | **5.8** | **4.6** |
| **Total inputs** | **4.3** | **5.0** | **5.1** | **3.0** | **1.7** |
| Labour | 2.7 | 3.1 | 3.4 | 1.8 | 1.0 |
| Employment | 2.4 | 2.8 | 3.2 | 1.5 | 1.0 |
| Working-time | 0.1 | 0.4 | 0.0 | -0.3 | -0.7 |
| Change in composition[1] | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 |
| Education | 0.3 | 0.1 | 0.5 | 0.4 | 0.3 |
| Efficiency gains[2] | 0.0 | -0.1 | 0.0 | 0.2 | 0.2 |
| Other | -0.1 | -0.1 | -0.4 | 0.0 | 0.0 |
| Capital | 1.6 | 1.9 | 1.7 | 1.1 | 0.8 |
| **Productivity gains** | **3.3** | **2.8** | **4.2** | **2.8** | **2.9** |
| Resource reallocation | 0.2 | 0.7 | 0.2 | -0.6 | 0.8 |
| Reduction in agriculture | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 |
| Reduction in unpaid work | -0.1 | 0.4 | -0.0 | -0.8 | 0.7 |
| Economies of scale | 1.5 | 1.4 | 1.8 | 1.1 | 0.8 |
| Technical progress | 1.7 | 0.7 | 2.2 | 2.3 | 1.3 |

1. Change in the gender and age composition of workers.
2. Increased efficiency due to shorter working hours.
*Source:* Kim et al. (2012).

convergence to the highest income countries, it is therefore necessary to raise productivity through greater creativity and innovation. To meet this challenge, the government launched a blueprint to promote a "creative economy" by combining creativity with "science, technology and ICT to create new industries and markets, and to make existing industries stronger and thus create good jobs" (Box 1.1). The government also unveiled a three-year innovation plan at the end of February 2014 (see Annex A1).

A creative economy is underpinned by three building blocks (Andrews and Criscuolo, 2013), which are featured in the government's blueprint:

1. Investment in knowledge-based capital, such as computerised information, innovative intellectual property and economic competencies. The blueprint sets a goal of "creating an autonomous and challenging research environment" and "strengthening ICT innovation capacity" (Strategy 5).
2. The implementation and commercialisation of new ideas. The blueprint includes "supporting the commercialisation of research outcomes" (Strategy 5).
3. Realising the benefits of innovation through the reallocation of resources via rapid changes in market shares and profitability – so-called "creative destruction". The blueprint emphasises "creating conditions to easily start new businesses" (Strategy 1), "creating new industry based on software and the Internet" and promoting the creation of markets through regulatory reform (Strategy 3), and strengthening the entrepreneurial spirit (Strategy 4).

This chapter addresses the challenges to implementing the blueprint, beginning with the innovation framework, which includes the first two building blocks of investment in knowledge-based capital and the implementation and commercialisation of new ideas. The second section considers framework conditions, such as product market regulation, foreign direct investment (FDI) and labour market flexibility, which play a key role in determining how quickly investment in innovation is transformed into economic growth.

### Box 1.1. **The "Creative Economy Action Plan"**

The blueprint adopted by the Cabinet in June 2013 set three goals, six strategies and related tasks.

- Goal 1: Create new jobs and markets through creativity and innovation.
- Goal 2: Strengthen Korea's global leadership through a creative economy.
- Goal 3: Create a society where creativity is respected and manifested.

The six strategies with their related tasks are:

1. *Properly compensate for creativity and create an ecosystem that promotes the creation of startups:*
   - Create the conditions to easily start new businesses through investment, rather than bank financing.
   - Patent creative ideas.
2. *Strengthen the role of venture businesses and SMEs in the creative economy and their ability to enter global markets:*
   - The government and public institutions will become the largest customer to support the pioneering of new markets.
   - Ease regulations and increase government support to stimulate investment.
   - Achieve the goal of growth for start-ups by accessing global markets.
   - Create an ecosystem that encourages co-operation and win-win relations between SMEs and large corporations.
   - Construct a system that connects demand, education and recruitment to resolve human resource shortages.
3. *Create growth engines to pioneer new markets and new industries:*
   - Combine science, technology and ICT to energise existing industries.
   - Develop new industries based on software and the Internet.
   - Create new markets through human-oriented technology innovation.
   - Pioneer new markets by discovering and fostering new promising industries for the future.
   - Promote market creation and industry convergence through rationalisation of regulation.
4. *Foster global creative talent that has the spirit to rise to challenges and pursue dreams:*
   - Strengthen the development of creative convergence talent.
   - Invigorate a challenging entrepreneurial spirit.
   - Stimulate the overseas advancement and domestic inflow of creative talent.
5. *Strengthen the innovation capacity of science, technology and ICT, which form the foundation for the creative economy:*
   - Create an autonomous and challenging research environment and support the commercialisation of research outcomes.
   - Pioneer next-generation markets by strengthening ICT innovation capacity.
   - Stimulate the regional economy and strengthen the commercialisation function and regional innovation of universities.
   - Solve international social problems through Korean science, technology and ICT in order to raise Korea's status.
6. *Promote a creative economic culture together with the Korean people:*
   - Develop a creative culture that realises creativity and imagination.
   - Fuse Korean ideas with public resources through government 3.0.
   - Innovate government working methods in order to realise a creative economy.
   - Centre the creative economy on the private sector, not the government.

*Source:* Ministry of Strategy and Finance (2013).

The government's objective of creating new industries and markets is addressed in the third section, which discusses policies to promote start-ups. This is a priority, given that new firms play a key role in commercialising new technology and creating jobs. At the same time, the blueprint's goal of strengthening existing industries requires boosting innovation and productivity in small and medium-sized enterprises (SMEs). The fourth section thus focuses on the difficulties that contribute to low productivity in SMEs – such as obtaining financing, labour mismatches and the challenges posed by the *chaebols*. Policy recommendations are summarised at the end of the chapter.

## An overview of Korea's innovation system

Most of the income gaps between developed economies cannot be explained by the stock of labour and tangible capital resources, but instead depend on investment in knowledge-based capital (KBC), defined as innovative property, software and economic competencies (OECD, 2013h). The contribution of KBC depends on both the amount of investment and the returns to these investments. Korea's investment in KBC amounted to 6.6% of GDP in 2008[1] (Chun et al., 2012), which would place it slightly above the average of 26 other OECD countries (Corrado et al., 2012).

Korea's performance in KBC is underpinned by R&D spending that reached 4.4% of GDP in 2012, the highest in the OECD area. Moreover, the business sector accounts for three-quarters of the outlays, one of the highest shares in the OECD area. Business R&D is particularly important as it has the greatest impact on multifactor productivity growth (Westmore, 2013). Korea's business R&D spending has risen 35% in real terms since 2008, in contrast to the G7 countries, where it was more severely affected by the global crisis (Figure 1.2). Strong business R&D supported patent filings, which rose by 32% during the same period, an increase matched only by Japan among the G7 (Panel B). Consequently, Korea's share of world patent filings reached 5.7% in 2011, up from 2.3% in 2003 (OECD, 2012b). Korea's post-crisis performance suggests a dynamic and resilient innovation framework.

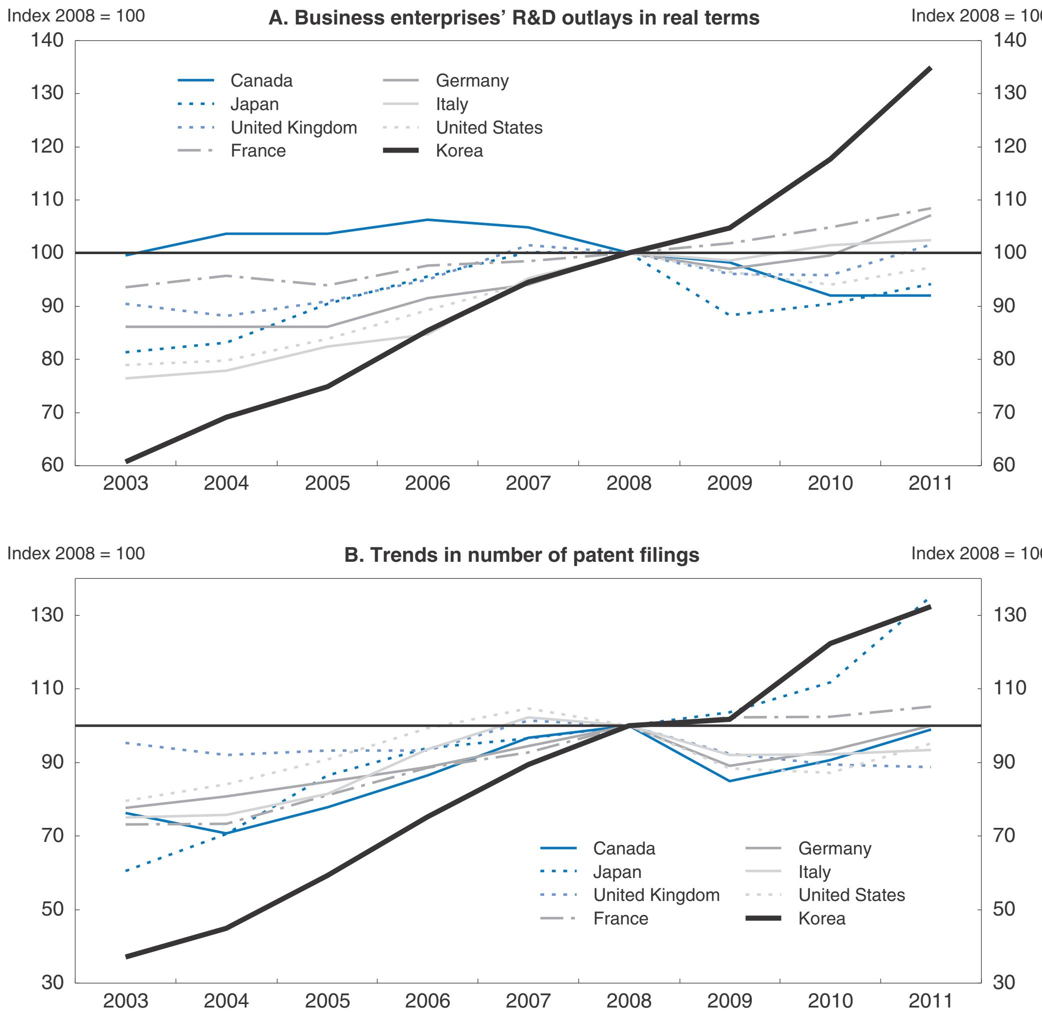
### *The return on investment in innovation could be increased by improving the innovation system*

Korea's total factor productivity (TFP) grew at an annual average rate of 1.1% over 1995-2011 (Figure 1.3). Business R&D has been closely linked to productivity performance (Westmore, 2013). Some countries, such as Australia, Austria, Germany, Ireland and the United States, have achieved TFP growth rates comparable to Korea's with lower business R&D intensity, suggesting scope to improve the efficiency of Korea's innovation system. The high level of R&D spending could be translated into faster TFP growth by upgrading the quality of universities and strengthening their links with firms, expanding international collaboration in innovation, ensuring adequate human capital in science and engineering and improving the framework for public support for R&D.

#### *Upgrading the quality of universities and strengthening their links with firms*

The rapid expansion in Korea's university system has come at some expense to quality (OECD, 2009). The share of high school graduates advancing to tertiary education climbed from 33% in 1990 to a peak of 84% in 2008, before falling to 71% in 2010. Total spending at the tertiary level in Korea was 2.6% of GDP in 2010, one of the highest in the OECD. Nevertheless, the number of Korean universities ranked in the top 500 (relative to GDP) was well below the OECD median in 2011 (Figure 1.4, Panel A).

Figure 1.2. **Trends in innovation in Korea and the G7 countries**




*Source:* OECD (2014c).

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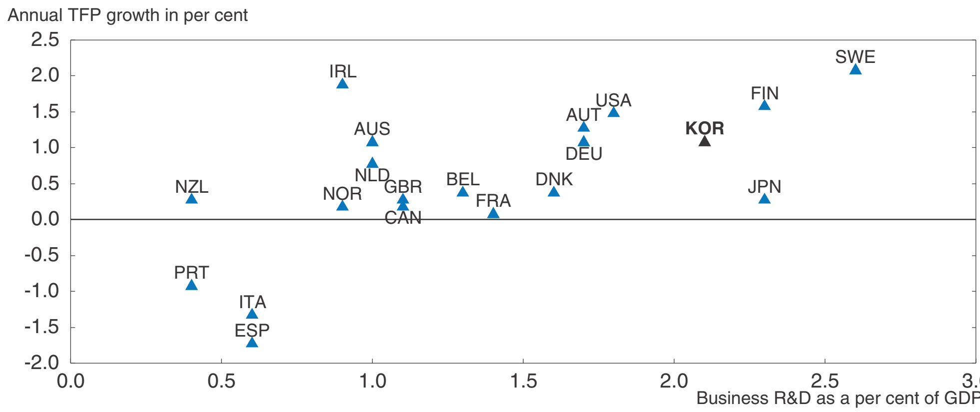
Korea has too many tertiary institutions and those outside of Seoul struggle to fill their student quotas (OECD, 2009). Most institutions run operating deficits and the situation is likely to deteriorate as demographic projections suggest that the number of high school graduates will fall below the current admission quotas for tertiary institutions by 2020. It is essential, therefore, to consolidate the university sector while raising quality. *First,* it is necessary to reduce public funding to poorly performing universities and ensure a well-functioning accreditation system to promote consolidation. *Second,* the top-down system of university regulation should be relaxed to encourage autonomy, innovation and flexibility (Jones, 2013).

Upgrading universities should include R&D performance. While universities employ around three-quarters of PhDs in Korea, they performed only 10% of R&D in 2010, about half of the OECD average. Meanwhile, 97.3% of the R&D financed by enterprises was performed in the business sector, compared to only 1.5% at universities (Table 1.2), suggesting a lack of trust between businesses and universities. As a result, only 5% of

Figure 1.3. **Total factor productivity growth and business R&D intensity**

1995-2011




*Source:* *OECD Analytical Database*; *OECD Long-term Scenario Database*; and OECD (2014c).

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company patents cite university-developed technology, compared to around 9% in Canada and the United States (OECD, 2014a). Increased emphasis on research at universities should be accompanied by greater university-business co-operation in a range of areas, including accreditation and curriculum (Jones, 2013). A greater university role in R&D would also enhance basic research, which is becoming more important as Korea approaches the technology frontier in many fields.

### *Ensuring adequate human capital in science and engineering*

Korea is well known for its educational achievements. The share of the adult population with a tertiary education is above the OECD median (Figure 1.4, Panel C), and will rise toward the top, given that 64% of young adults (25 to 34) have completed tertiary education, the highest in the OECD. Among 15-year-olds, Korea was near the top in science in the 2012 PISA tests (OECD, 2013g) and the proportion of its top performers is well above the OECD average. However, this outstanding performance does not translate into tertiary education and the labour market. Indeed, the share of science and engineering in new doctoral degrees and the share of science and technology (S&T) occupations in total employment are well below the OECD median (Figure 1.4, Panel C). Only 63% of tertiary graduates in natural sciences in 2006 found jobs, compared to 67% for all graduates, and only 60% found jobs in their field of study, compared to 69% for all graduates (OECD, 2007). The low share of S&T workers reduces the absorptive capacity of firms to benefit from knowledge spillovers, thus limiting the returns from innovative activity (Westmore, 2013).

Table 1.2. **Flows of R&D funds in 2011**

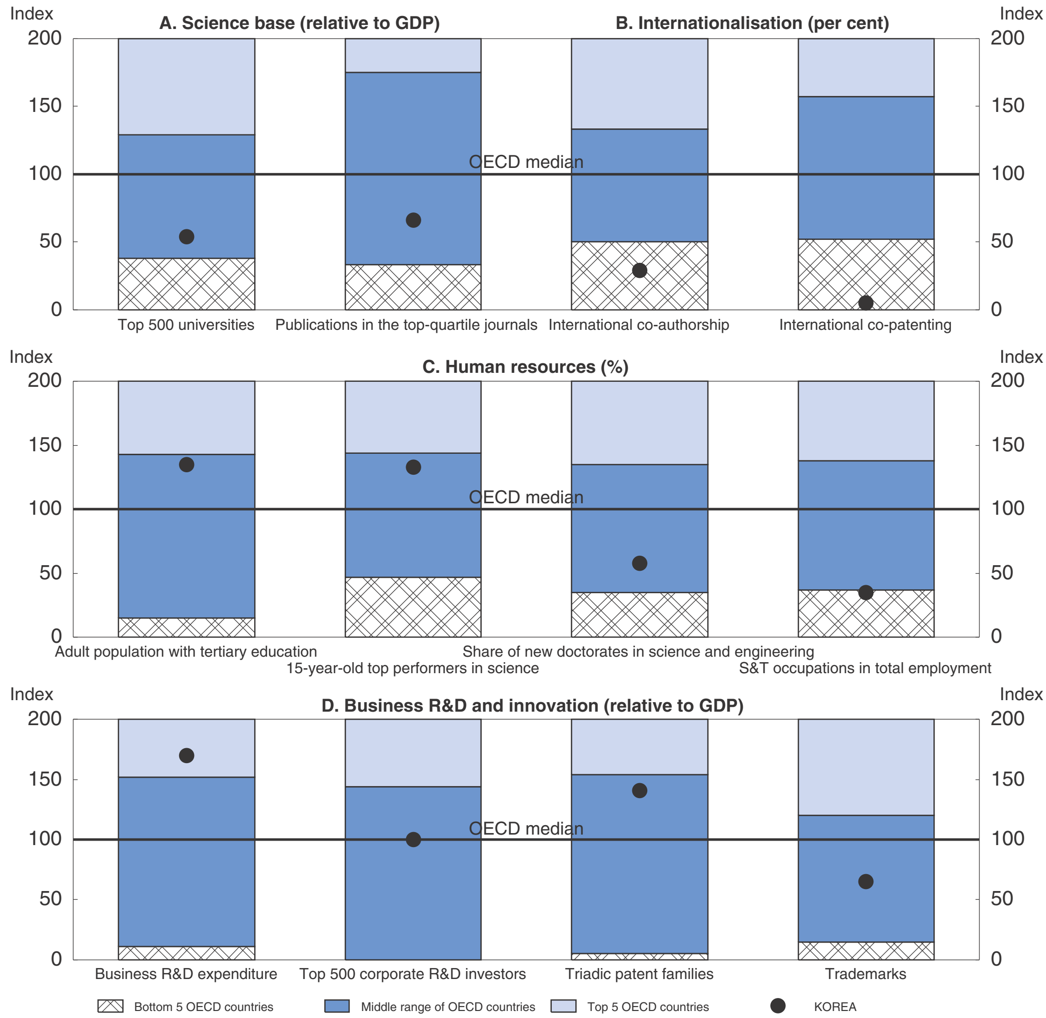
| | Share of total R&D spending | Allocation between R&D actors[1] | | | |
|---|---|---|---|---|---|
| | | Government | Universities | Business enterprises | Total |
| Business enterprises | 73.7 | 1.2 | 1.5 | 97.3 | 100.0 |
| Government | 24.9 | 49.0 | 32.6 | 18.4 | 100.0 |
| Universities | 0.7 | 3.7 | 92.2 | 4.1 | 100.0 |
| Non-profit institutes | 0.4 | 53.7 | 42.8 | 3.6 | 100.0 |
| Foreign sources | 0.2 | 39.2 | 17.8 | 43.1 | 100.0 |

1. By which sector performs the R&D.

*Source:* *OECD R&D Statistics Database.*

Figure 1.4. **Comparative performance of national science and innovation systems**

In 2011




*Note:* Normalised index of performance relative to the median values in the OECD, which are set at 100. The top performer is set at 200 and the lowest at zero. The figure shows the range of scores received by the top five and bottom five performers. For example, the fifth-highest performer in the case of the "Top 500 universities" had a score of 129 relative to the OECD median, while the fifth lowest had a score of 38. Korea, with a score of 54, was in the middle range.

*Source: OECD Main Science and Technology Indicators Database.*

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### *Expanding international collaboration in research and patenting*

Internationalising the university sector would improve its quality and expand international collaboration in innovation. Korea has relatively few overseas students and a near absence of foreign higher education institutions. The share of foreign students in tertiary education in Korea in 2009 was 1.6%, well below the 8.7% OECD average. However, five foreign universities have established branch campuses in Korea, with three approved during 2013-14. Moreover, the number of foreign students increased by 15 times over 2000-09. Greater internationalisation of universities would increase the share of international co-authorship and co-patenting, which are both among the lowest five in

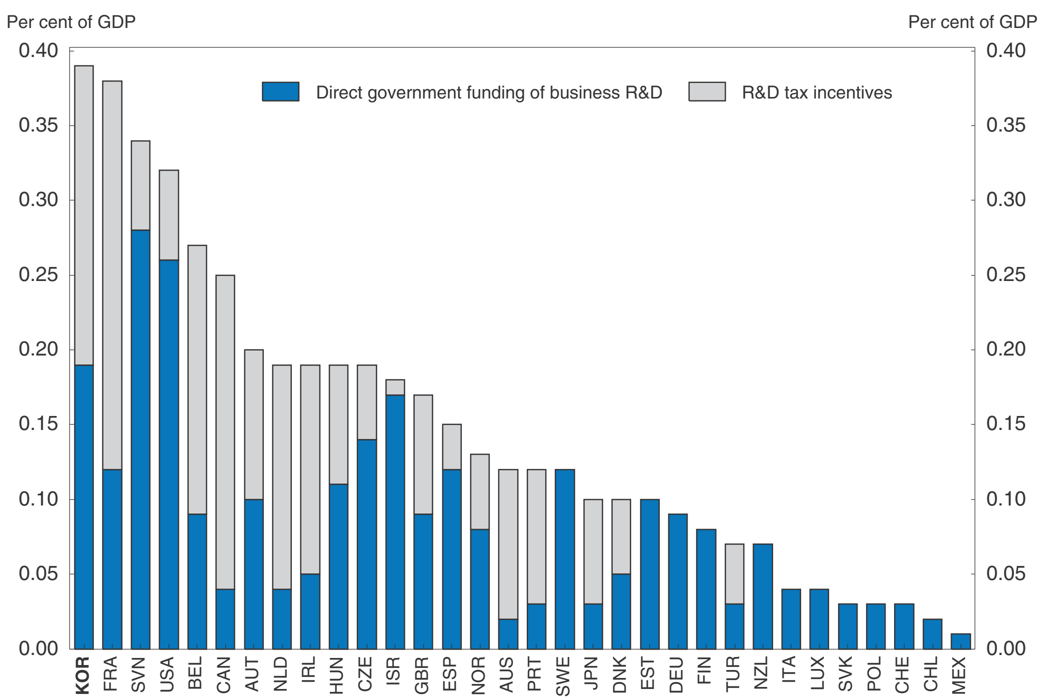
OECD countries (Figure 1.4, Panel B). Only 0.2% of the R&D carried out in Korea in 2012 was financed from abroad (Table 1.2), linkages with foreign firms and institutions are relatively weak, and few foreign researchers come to Korea. This impedes Korea's ability to draw on the global stock of knowledge. The low level of international collaboration is linked to the low degree of openness to trade and investment (see below).

### *Improving the framework for public support for R&D*

Public support for business-sector R&D is justified by market failures that keep R&D spending below the socially-optimal level. Government support in Korea, which is the highest in the OECD as a share of GDP, is evenly divided between tax incentives, a non-discriminatory tool that reduces the marginal cost of R&D for firms, and direct support, such as grants, loans and loan guarantees to specific firms (Figure 1.5). Tax incentives have been found to encourage R&D: according to an OECD study, a 6% increase in the generosity of R&D tax incentives boosts the level of R&D by about 6% in the long run. However, the impact is less if R&D tax policy changes frequently, indicating the importance of a predictable policy framework. In addition, direct government support has a positive impact on private-sector R&D, as a 10% rise boosts private R&D outlays by 5% (Westmore, 2013).

Figure 1.5. **Government support for business-sector R&D is high in Korea**

Budgetary impact as a percentage of GDP in 2011 or latest year available




*Source:* OECD (2013f).

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Korea's balanced approach to supporting R&D appears appropriate, although both R&D tax credits and direct payments may have unintended negative consequences. In particular, R&D tax credits favour large companies because they pay a higher corporate tax rate (24.2%) than SMEs (11%), and in any case, many small firms do not pay any corporate income tax at all. The larger benefits to large companies disadvantage new, more productive firms (Bravo-Biosca et al., 2012). Consequently, more generous R&D tax credits are associated with a higher share of stagnant firms and a lower share of growing firms (Andrews and Criscuolo, 2013). The negative impact is partially mitigated in Korea by allowing the tax credit to be carried over for up to five years, thus allowing new firms, which typically record losses, to benefit from the tax credit if they subsequently make profits. Providing cash refunds of tax credits, as is done in some OECD countries, would provide more assistance to younger firms.

While direct support for R&D has a more neutral impact on incumbents *vis-à-vis* new entrants, it creates the risks associated with "picking winners". Given this risk, direct R&D support in the OECD area has fallen in recent decades. To prevent wasteful outlays, the allocation of direct support should be based on a competitive, objective and transparent selection process. While this increases administrative and compliance costs, subsidies allocated on a selective basis tend to have a larger impact on firm productivity than automatic subsidies (Colombo et al., 2011), in part because a careful evaluation process sends a quality signal to private firms receiving public R&D support (Kleer, 2010). In Korea, 13 ministries run R&D programmes, each with their own selection process. In the case of the Ministry of Science, ICT and Future Planning, the Ministry selects the area for R&D but leaves the selection of firms to experts. Finally, it is essential to constantly evaluate the effectiveness of R&D policies to ensure good value for money.

Another challenge is to raise the quality of R&D conducted in government research institutes (GRIs). In 2011, there were 41 619 government-funded R&D projects, with total spending exceeding 1% of GDP. Of the total, more than one-third went to the 27 GRIs, whose performance has been criticised (OECD, 2014a). GRIs have failed to meet expectations of the private sector, which has greatly expanded its R&D capabilities. It is important to clearly define the role of GRIs, improve their steering and incentives and enhance co-operation between GRIs, universities and corporate research labs. GRIs may have a role to play with SMEs where R&D is low. Firms with less than 250 workers accounted for only 24% of total business R&D, compared to the OECD average of 33% (OECD, 2013f). In addition, there may be a role for them to play in services, which accounted for only 9% of business R&D in 2011, well below the OECD average of 38%.

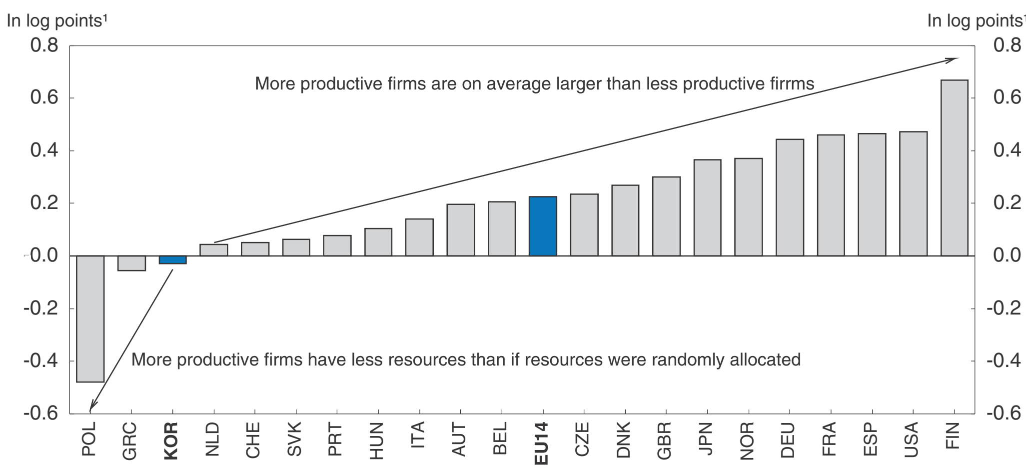
## Framework conditions to promote a creative economy

As noted above, cross-country differences in productivity and growth are due in part to the returns on investment in KBC, which in turn depend on a reallocation of resources in favour of innovative firms. If the market works, those that fail to adopt the most productive technologies have to downsize or exit, thereby releasing resources to more efficient firms. Productivity and output growth are maximised when productive resources flow toward innovating firms. The ability to rapidly reallocate labour and capital is particularly important in innovative sectors so that firms can capture the value of their ideas before imitation by competitors (Andrews and de Serres, 2012). On the other hand, frictions in the reallocation of labour and capital lower the expected net benefits of innovation. Likewise, in the event of technological failure, it is vital that firms in innovative sectors can rapidly scale down operations to release resources to other firms. By raising the return on investment in KBC, flexibility in resource allocation also raises the amount of such investment (Andrews and Criscuolo, 2013).

Allocative efficiency in Korea is low, based on a measure that shows the extent to which the most productive firms have larger employment shares (Figure 1.6). A score of zero means that labour is allocated randomly. By this measure, the actual allocation of employment boosts manufacturing labour productivity in most OECD countries. In the United States, the actual distribution of workers boosts labour productivity by around 50% above what it would be if workers were distributed randomly (Andrews and Cingano, 2012). However, in Korea, more productive firms tend to have slightly less labour than if labour were allocated randomly, suggesting weakness in resource allocation. This section considers three policy areas – product market regulation, foreign competition and labour mobility – that influence allocative efficiency. SME policies, which also have a major impact, are discussed in a later section.

Figure 1.6. **OECD countries differ in their ability to allocate labour to the most productive firms**




1. The covariance across firms between firm size in terms of the numbers of employees and labour productivity in manufacturing in 2005. If a country's covariance (a measure of the extent that the two variables change together) is positive, the allocation of employment boosts labour productivity.

*Source:* OECD (2013d).

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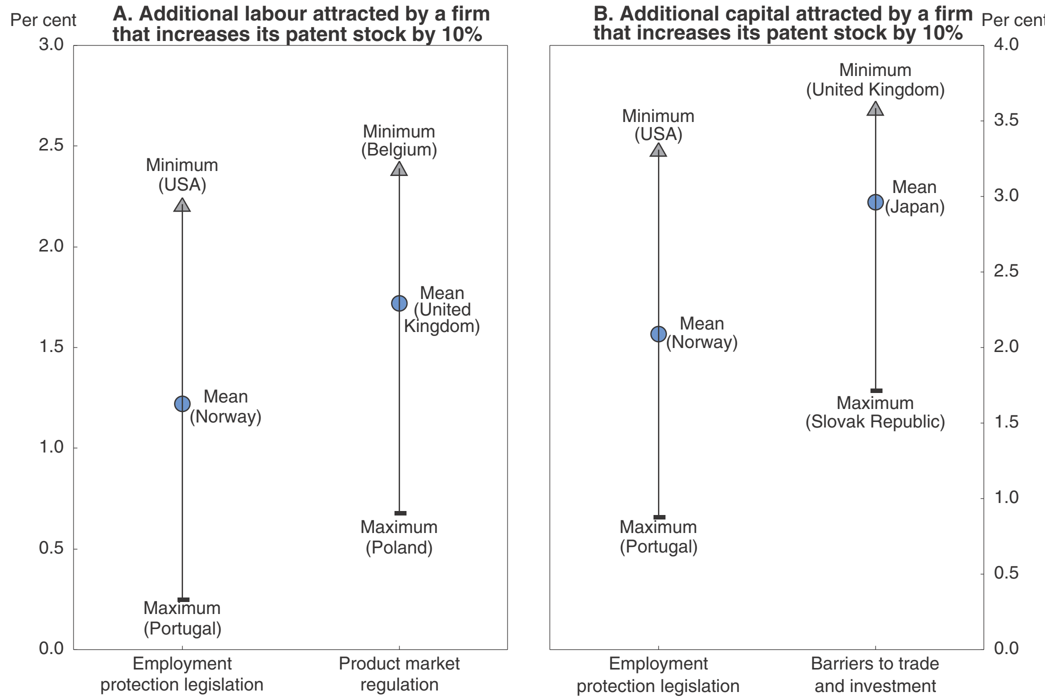
### *Product market regulation and innovation*

Empirical studies show a significant relationship between product market regulations (PMR) and productivity at the aggregate level (Bouis et al., 2011), reflecting the pervasive impact of PMRs at each stage of the innovation process. Less restrictive PMRs promote: *i)* private investment in innovative activities;[2] *ii)* the effective diffusion of knowledge from both domestic and overseas sources (Westmore, 2013); *iii)* improved managerial performance; and *iv)* entry by new firms, thus increasing the supply of new ideas.

Less restrictive regulations also enable firms to attract the complementary resources that are needed to implement and commercialise new ideas. For a firm that experienced a 10% increase in patents over 2002-10, it is estimated that its work force increased by between 0.7% and 2.4% depending on the strictness of product market regulation (Figure 1.7). In turn, greater allocative efficiency results in faster productivity and output gains. In contrast, higher PMRs stifle innovation and economic growth. For example, an increase in PMRs is found to have a direct negative impact on patenting activity.[3] One study found that convergence to the frontier will be slower for countries with higher PMRs (Westmore, 2013).

Figure 1.7. **Impact of the stringency of regulation on resource allocation**

For a firm with a 10% increase in its patent stock over 2002-10[1]




1. For each category of regulation, "minimum" refers to the country that is least restrictive (for example, Belgium in the case of PMR), while "maximum" refers to the country that is most restrictive.

*Source:* Andrews et al. (2014).

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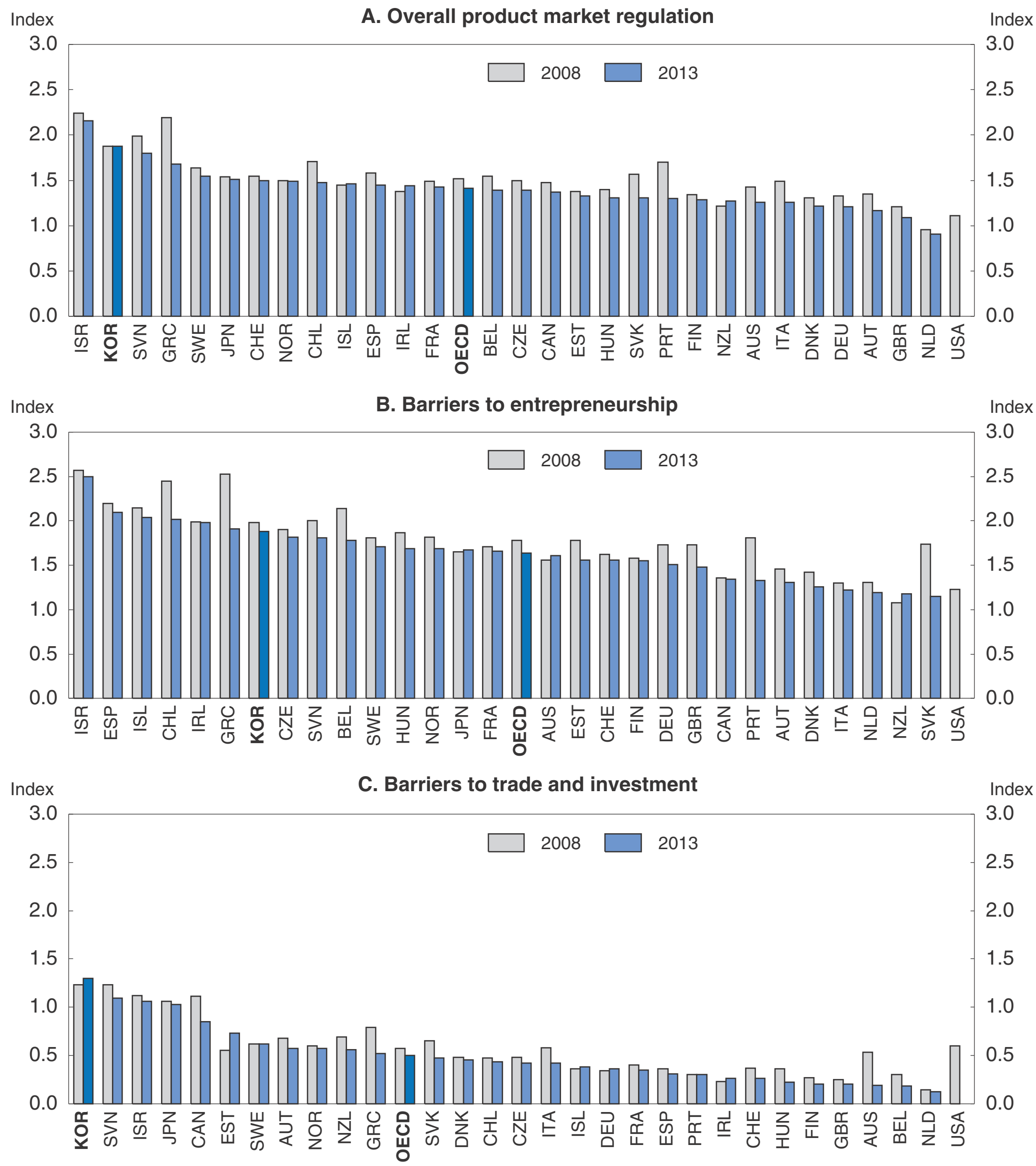
Korea's overall PMR indicator was 1.9 in both 2008 and 2013, the second highest in the OECD, while the OECD average fell from 1.5 to 1.4 over that period (Figure 1.8). In terms of barriers to entrepreneurship, Korea recorded a small decline from 2.0 to 1.9 (Panel B). Nevertheless, it failed to narrow the gap with the OECD average, which fell from 1.8 to 1.5 over the same period. Further efforts to eliminate unneeded product market regulation should be an essential element of Korea's strategy to foster the development of a creative economy, as stated in Strategy 3 of the Creative Economy Action Plan (Box 1.1) and in the Three-year Plan for Economic Innovation (Annex A1).

### *Promoting international competition*

The liberalisation of barriers to international trade and investment broadens the scope for knowledge diffusion and technological transfer across borders, either embodied in goods and services or through investment that transmits ideas. International openness also encourages more efficient resource allocation; firms that cannot compete in the global market downsize, while those that can, expand production. The increase in the capital stock in a firm that experienced a 10% increase in patents ranged from 1.7% to 3.6% depending on the strictness of trade and investment barriers (Figure 1.7). Countries that are open to trade and investment can benefit more from foreign R&D and new technologies, production processes and organisational methods, spurring domestic innovation (Jaumotte and Pain, 2005). These benefits are maximised by pro-competition PMRs, which intensify incentives for firms to incorporate foreign technologies.

Figure 1.8. **International comparison of product market regulation**[1]




1. The OECD Indicators of Product Market Regulation are a comprehensive and internationally-comparable set of indicators that measure the degree to which policies promote or inhibit competition. Empirical research shows that the indicators have a robust link to performance. The indicator, which ranges from zero (most relaxed) to three (most stringent), is available for 30 OECD countries. The overall indicator is based on more than 700 questions.

*Source:* *OECD Product Market Regulation Database* and Koske et al. (2014).

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Korea has pursued trade liberalisation through free trade agreements, notably with the European Union (2011), the United States (2012), Canada (2014) and Australia (2014). Nevertheless, its index of barriers to trade and investment was the highest in the OECD area in 2013 (Figure 1.8, Panel C), helping to explain why Korea has the third lowest stock of FDI in the OECD area, at 13% of GDP in 2012. In addition to explicit barriers, the low stock reflects the business environment and other domestic restrictions, making regulatory reform a key to attracting more FDI.

### *Labour market flexibility: Relaxing employment protection*

Innovation requires continuous reallocation of labour and other resources within and across firms and sectors. There is considerable evidence that employment protection has a major impact on labour flows (Martin and Scarpetta, 2012). Low levels of protection allow resources to flow to their most productive uses, benefiting firms that undertake innovations that require large employment adjustments. But high employment protection has negative impacts on innovation:

- It reduces R&D expenditure, particularly in innovative sectors (Andrews and Criscuolo, 2013). Firms in industries characterised by rapid technological change place a high value on flexibility, given their tendency to experiment with uncertain technologies. By raising exit costs, stringent employment protection makes experimentation less attractive.
- It reduces the ability of innovative firms to attract the resources needed to implement and commercialise new ideas. The increase in the work force in a firm that experienced a 10% increase in patents ranged from 0.3% and 2.2% depending on the strictness of employment protection, while the increase in capital ranged from 0.9% to 3.3% (Figure 1.7). Moreover, the negative effect of employment protection falls disproportionately on young firms.

High employment protection thus hinders resource reallocation, weakening productivity growth, particularly in firms in ICT-intensive sectors and those close to the technology frontier (Andrews and Criscuolo, 2013). Employment protection also hinders venture capital financing in innovative sectors, which rely on the rapid reallocation of resources across the investment portfolio from failing to successful ventures. Finally, multinational enterprises tend to concentrate more technologically-advanced innovation in countries with low employment protection, thus making resource shifts easier.

In Korea, employment protection has been a factor in the rise in the share of non-regular workers (such as fixed-term, dispatched and part-time workers) to around one-third of employment (Chapter 2). Indeed, the share of temporary workers was the fourth highest in the OECD in 2012. According to surveys, firms hire non-regular workers in part to enhance employment flexibility and avoid the cost of laying off regular workers, who receive high employment protection as a result of government policies, business practices, social customs and labour unions (Koh et al., 2010). Relaxing employment protection would benefit Korea by increasing investment in R&D in innovative sectors and enabling innovative firms to attract the resources necessary to commercialise new ideas, thereby promoting higher productivity and output growth. In addition, reducing the reliance on temporary employment would encourage firm-based training and human capital accumulation, which would enhance innovation.

## Promoting venture business and start-ups

Successful innovative start-ups play an important role in mature economies. Firms that drive one technological wave often fail to participate in subsequent waves. Instead, young firms often have a comparative advantage in commercialising radical innovations. Firms less than five years old, regardless of their size, accounted for less than a fifth of total non-financial business employment but generated half of all new jobs over 2001-11 (OECD, 2013f). The success of Korea's strategy to promote a creative economy depends to a large extent on raising the rate of business creation and the role of fast-growing young firms.

### *Spurring the development of Korea's venture capital market*

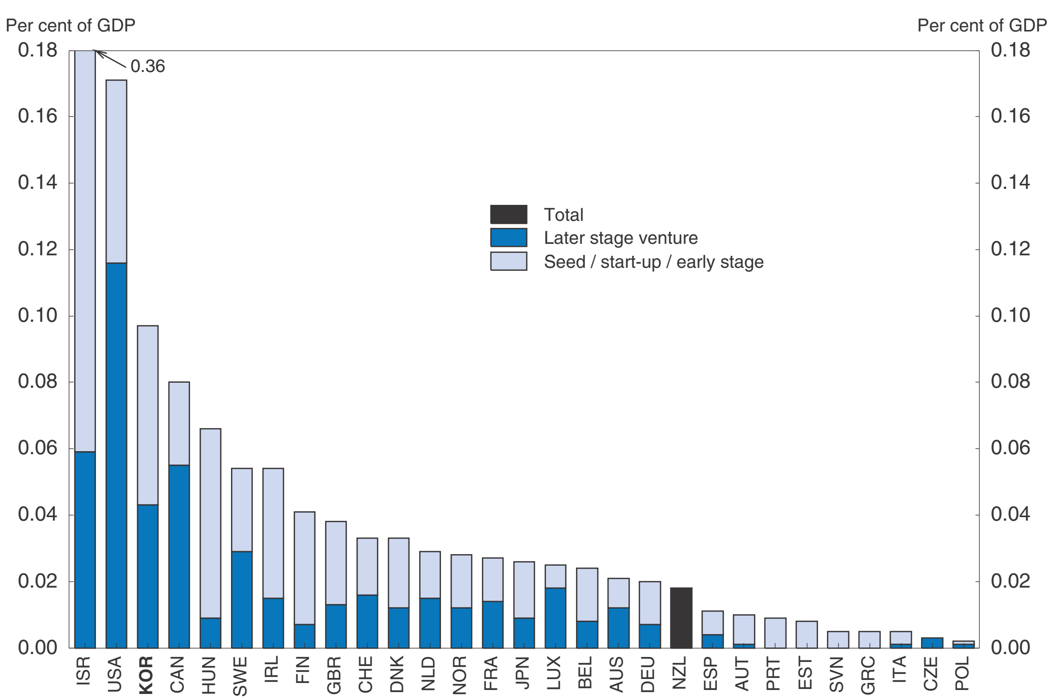
The major challenge is financing start-ups, giving their limited internal funds, short history and lack of tangible collateral. The financing gap can be bridged by venture capitalists and business angels who are willing to accept high risk for high returns. Such investors address the information asymmetries by intensively scrutinising new firms before providing capital and monitoring them afterwards. In Korea, the government jump-started the venture capital market in 1998 through a direct infusion of equity capital, generous tax incentives and credit guarantees. The government's objective then, as it is today, was to accelerate business restructuring and shift the economy from *chaebols* to start-ups in knowledge-based industries. However, these policies fuelled a bubble in the Korea Securities Dealers Automated Quotation (KOSDAQ), the secondary stock market. With the collapse of the IT bubble, the KOSDAQ experienced a 90% decline from its peak. The venture capital market contracted by a quarter over 2002-06.

However, Korea's venture capital market has rebounded steadily since 2006, with paid-in capital more than doubling by 2013 despite the 2008 crisis. The total number of firms with venture investment on their balance sheets has been on an upward trend since 2009, although it remains below its level in the early 2000s.[4] In 2012, venture capital investment reached 0.1% of GDP (on a flow basis), the third highest among OECD countries for which data are available (Figure 1.9).

Despite its recovery and relatively large size, the venture capital market accounted for less than 1% of SME financing in 2011 (Table 1.3). Moreover, it faces a number of weaknesses, including a M&A market that is underdeveloped compared to other OECD countries (OECD,

Figure 1.9. **International comparison of venture capital investment**

Venture capital investment in 2012 or latest year available




*Source:* OECD (2013b).

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Table 1.3. **Sources of SME financing**

As a per cent of the total[1]

| | Banks | Non-banks | Bonds and equities | Venture investment | Government guarantees | Other government | Total |
|---|---|---|---|---|---|---|---|
| 2004 | 61.1 | 22.7 | 0.6 | 1.2 | 13.6 | 0.8 | 100.0 |
| 2006 | 64.0 | 22.7 | 0.8 | 0.8 | 11.0 | 0.7 | 100.0 |
| 2008 | 68.0 | 21.0 | 0.8 | 0.7 | 8.9 | 0.6 | 100.0 |
| 2009 | 64.7 | 21.0 | 1.0 | 0.7 | 11.7 | 1.0 | 100.0 |
| 2010 | 64.5 | 20.7 | 0.7 | 0.8 | 12.3 | 1.1 | 100.0 |
| 2011 | 67.8 | 17.2 | 0.5 | 0.9 | 12.3 | 1.4 | 100.0 |

1. Government guarantees are assumed to cover bank lending. Some of the lending by government institutions is reported as loans by banks and non-banks.

*Source:* Sohn and Kim (2013).

2014a), constraining the ability of venture capitalists to realise returns from their investment. Indeed, the share of venture capitalists' earnings that are realised from M&As was only 7% in 2011 compared to 69% in the United States,[5] in part due to cultural factors in Korea, where M&A activity has long been associated with bankruptcy proceedings. Consequently, venture capitalists have to turn to initial public offerings (IPOs) in the KOSDAQ, although this is complicated for start-ups due to demanding requirements, including maintaining a high profitability rate. Indeed, the average net profit ratio of newly-listed companies in KOSDAQ ranged from 11% to 16% over 2008-12, making it two to three times higher than the 5% average of all listed companies (MOSF et al., 2013). Consequently, it takes a long time for a start-up to meet the criteria for an IPO. On average, it takes more than 14 years for start-ups to be listed on KOSDAQ, far exceeding the lifespan of most venture capital funds. Indeed, only 78 of 393 funds in 2010 were more than six years old (Yang et al., 2013).

As a result, venture capital funds tend to invest in relatively mature companies rather than in firms at an earlier stage when such funding is most critical. Indeed, 55% of firms receiving venture capital investment were older than three years and 27% were more than seven years old. Moreover, the share of venture capital investment in firms younger than three years fell from 40% in 2008 to 28% in 2012, reflecting institutional weaknesses.

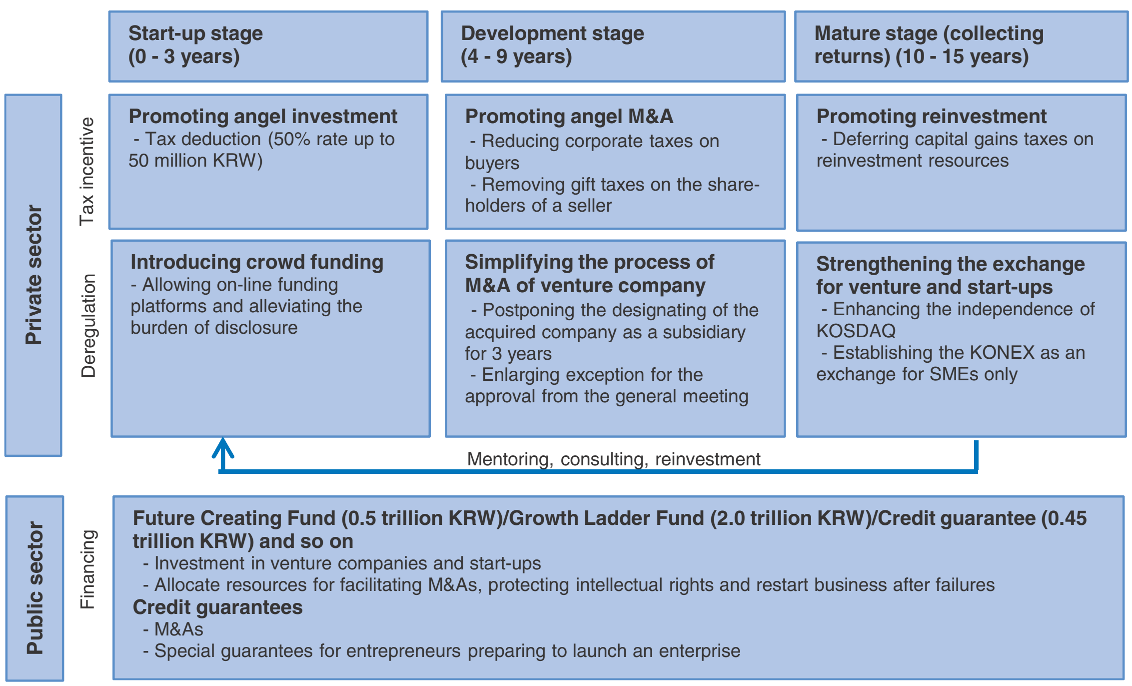
There are a number of other weaknesses in the venture capital sector:

- The number of individual investors in the market, the so-called business angels, fell sharply from nearly 29 thousand prior to the collapse of the ICT bubble to only 4 870 in 2013. This is an impediment to a vibrant venture business sector, as the angels play an important role in mentoring start-ups and providing networking, in addition to their financing role.
- The narrow and shallow venture capital market thus depends heavily on the government, which risks crowding out private investors. Public funds accounted for 33% of venture funds in 2012, with an additional 12% share for public pension funds (MOSF et al., 2013).
- While the government has emphasised support to the supply side of the venture capital market, the availability of high-quality projects appears to be the key constraint (OECD, 2014a). Indeed, the experience of other countries shows that the development of the venture capital industry has followed, rather than preceded, the availability of attractive opportunities.[6]
- Re-investment by venture entrepreneurs who have already achieved success is relatively small for a number of reasons related to the tax system and financial market practices.[7]

### *The government's plan for a "creative economy" through enhancing the role of venture business*

The government launched a plan in May 2013 (Figure 1.10) that aims to: *i)* promote angel investment and introduce crowd-funding, which is a collective effort by individuals who pool their resources, usually through social networking via the Internet, to invest in new projects; *ii)* develop the market for M&As involving venture businesses and business angels; and *iii)* encourage reinvestment by both successful and failed entrepreneurs.[8]

Figure 1.10. **The May 2013 "Measures to improve the venture start-up ecosystem"**




*Source:* MOSF et al. (2013).

Increased investment by business angels is to be achieved through more generous tax incentives. This is meant to be part of an overall shift from loans to investment-based financing for ventures and start-ups, reflecting the critical importance of risk sharing between entrepreneurs and financial institutions during the first few years of a firm's existence. The government also launched the Future Creation Fund, partially funded with the private sector, to finance venture business, with a share reserved for start-ups.

Regulations related to M&As are also evolving. For example, when the merger of two SMEs creates a firm too large to be classified as an SME, the new entity can nevertheless maintain the legal status of a SME for three years, thereby continuing to receive preferential treatment. In addition, the government will provide financial support for M&As involving venture businesses through the Growth Ladder Fund and public guarantees for M&As relying on private financing.

The Korea New Exchange (KONEX) was established in 2013 to ease the difficulties of start-ups younger than three years by relaxing the requirements for listing and disclosure.[9] For example, the number of mandatory disclosure items was set at 29 compared to 64 in KOSDAQ. Meanwhile, KOSDAQ, which was originally created to support venture businesses, will be made more accessible to start-ups. In 2012, only 21 new companies were listed in KOSDAQ, compared to 171 in 2001, reflecting its focus on investor protection (MOSF et al., 2013). KOSDAQ's management is being changed and the requirements for an IPO are being relaxed while not significantly reducing investor protection.

The government is also taking measures to expand and improve the infrastructure for venture businesses and start-ups. *First,* in 2013, the government launched a start-up platform, a type of crowd sourcing that allows entrepreneurs to propose ideas that are then voted on by the on-line community. *Second,* government research institutes are being encouraged to co-operate with venture businesses and to establish firms using their own technology and ideas. *Third,* visas will be granted to foreigners willing to start a business in Korea. Although the visas are for only two years, they can be renewed if foreigners continue doing business in Korea.[10] *Fourth,* the government will also improve protection for SMEs' technology by expanding the "Intellectual Property Rights Fund", which buys patents and technology from small firms and then licenses the rights back to them. The advantage is that the Fund is better at fighting piracy than small firms.[11]

Finally, the insolvency framework has been improved, increasing opportunities for entrepreneurs to try again. In particular, the practice of "joint liability", which required a firm requesting loans from financial institutions to obtain an agreement from a co-guarantor – typically the company owner or his relatives – was prohibited for banks in 2012 and for non-bank financial institutions in 2013. Joint liability had increased the cost of bankruptcy by making entrepreneurs personally delinquent, leading to their exclusion from financial markets.

### *Directions for reform to promote the venture business sector and new start-ups*

The success of the government's comprehensive plan to develop venture business depends on overcoming traditional social norms. For example, the stigma attached to bankruptcy limits second chances for failed entrepreneurs and the negative perception of M&As restricts financing options. The plan combines public funds with structural reforms in an effort to create a new environment. One of the biggest challenges is to shift from bank-centred finance to greater reliance on investment-based financing, which depends in part on the success of KONEX as an exchange for start-ups. The sound development of KONEX requires correctly balancing investor protection and market dynamism. Excessive investor protection would make the market unattractive to companies and investors alike, while inadequate protection would raise risks of moral hazard, illegal activities by listed companies and an asset price bubble. Venture business also depends on the M&A market, hence the government's plans to jump start it through the provision of public funds and guarantees.

It is important to avoid an excessive supply of public funds relative to the number of high-quality projects, as they would tend to crowd out private investment. In order to avoid a repeat of the KOSDAQ collapse, it is important to make sure that money goes to firms that truly qualify as venture businesses. Providing public money through a "fund-of-funds" approach, in which the government invests in private venture capital firms rather than directly in start-up firms, has been identified as good practice internationally (OECD, 2014a). Public funds should be focused on early-stage financing where it is most difficult to attract private-sector investors.

Success in revitalising venture business also depends on reversing the sharp decline in the number of business angels, who bring funding, expertise and networks. The increased tax incentives should be accompanied by support to develop their quality and skills (Lerner, 2012). At the same time, there seems to be too much money (including public funds) chasing too few high-quality projects. A number of countries are shifting the focus of their venture programmes to enhance the quality of the investment projects proposed by venture businesses. Enhancing venture business also requires overcoming the social preference for working at *chaebols* rather than taking the risk of entrepreneurship. Indeed, only 34% of the population have a favourable image of entrepreneurs, well below the 49% OECD average (OECD, 2013b). Government efforts to create an environment that allows entrepreneurs who experience "honest failure" to have additional opportunities to create new ventures should help make entrepreneurship more attractive.

Korea should proceed cautiously with its plan to introduce crowd-funding. By 2011, an estimated $1.5 billion has been raised worldwide through 700 platforms, even though the legal and institutional framework is still in its initial stages. The key concern is investor protection. In contrast to business angels, who have expertise and spend considerable time and money on due diligence before investing, crowd-funding relies on the general public, raising the risk of fraud (Isenberg, 2012). From a company perspective, relying on equity crowd-funding would mean losing the guidance and networks provided by seasoned angel investors. In addition, an idea launched via the Internet is easily copied.

## Making the SME sector more dynamic

SMEs, which in the manufacturing sector are defined as firms with less than 300 employees or capital of less than 8 billion KRW (about $7.7 million), accounted for 99.9% of registered firms in Korea in 2011, which is typical in OECD countries, and 87% of employment.[12] The government provides large-scale support through public funds, credit guarantees and around 1 300 SME programmes. Nevertheless, labour productivity in SMEs fell from 33% of that in large companies in 2000 to 28% by 2011 (SMBA, 2013). At that point, wages in SMEs were only half of those in large companies. About one-third of SMEs have an interest-coverage ratio of less than 100%, meaning that their earnings (before interest and taxes) are insufficient to cover their interest payments. Small SMEs, defined as firms with annual sales of less than 10 billion KRW ($9.6 million), have had negative operating profits as a group since 2006 (Bank of Korea, 2012b). The problems in the SME sector are linked to the weakness of services, given that SMEs account for 91% of employment in that sector. In 2012, service sector productivity was only 45% of that in manufacturing, far below the OECD average of 86%.

### *Financing SMEs*

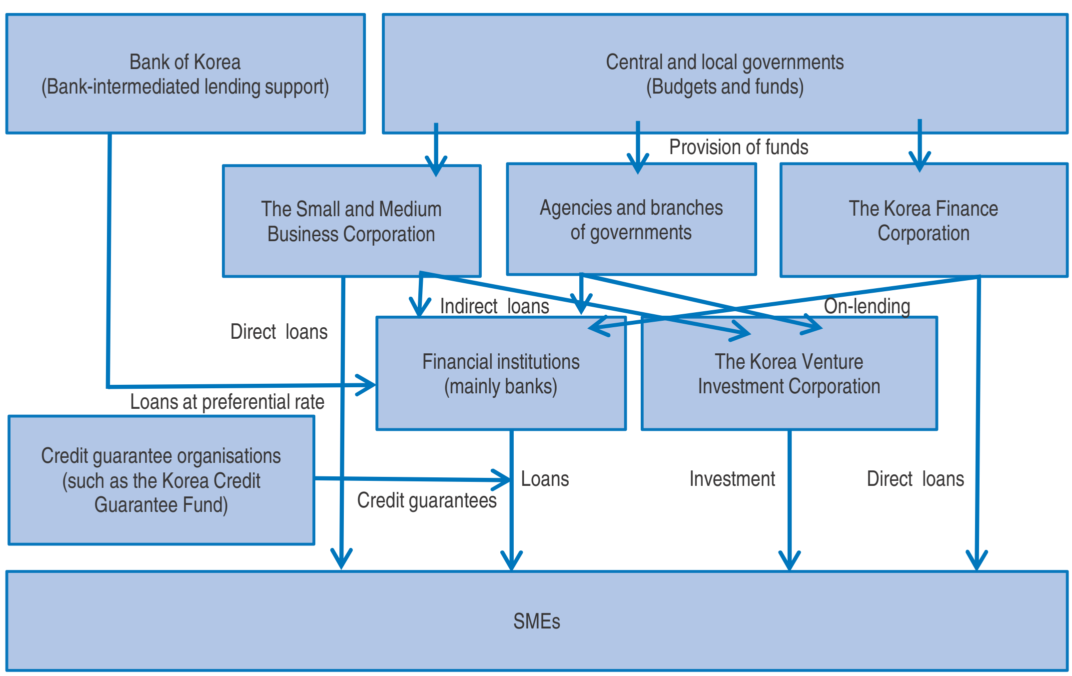
Small firms' access to credit is constrained by their lack of collateral, short credit history and limited expertise in producing financial statements. Lending to SMEs is more risky, as information about small firms is costly to obtain and less reliable than for large companies. Nevertheless, lending to SMEs in Korea has risen sharply, reflecting structural changes in financial markets following the 1997 crisis and changes in government policies.

In 1997, commercial bank loans to large companies exceeded those to SMEs. However, loans to SMEs increased from 13% of GDP in 1997 to 42% by 2009, before declining somewhat to 36%. This was due in part to reduced demand from large companies, which emphasised deleveraging in the wake of the 1997 crisis. Indeed, the top 30 *chaebols*' debt-to-equity ratio fell from 500% at the end of 1997 to 118% by 2005. In addition, large firms were able to increase direct financing through capital markets, in contrast to SMEs. Consequently, loans to large firms in 2012 were 12% of GDP, down from 16% in 1997.

The government plays a key role in SME financing through a number of channels:

- It provides loans through public financial institutions (Figure 1.11), such as the Korea Finance Corporation (KFC) and the Small and Medium Business Corporation (SMBC). Loans can be provided directly to SMEs or through "on-lending" in which the KFC provides 40% of the loan amount to financial institutions, which are responsible for the remainder. On-lending is more efficient as it utilises the knowledge and experience of financial institutions (KDI et al., 2011). Total SME lending during 2011 by the KFC and the SMBC amounted to 11.8 trillion KRW (BAI, 2012), equivalent to 85% of the increase in the stock of loans to SMEs that year.
- The largest instrument of public support is credit guarantees, which promote loans to SMEs by reducing lenders' exposure to risk. Over 2007-11, public support in the form of credit guarantees amounted to 100 trillion KRW (8% of 2011 GDP) compared to 42 trillion KRW of direct lending (BAI, 2012).[13] Credit guarantees covered 12% of bank lending to SMEs in 2011, well above the 5% OECD average (OECD, 2013c). Following the 2008 crisis, the limit on individual credit guarantees was raised from 3 billion KRW to 10 billion KRW ($9.6 million) and the ceiling on the coverage of guarantees from 85% of the loan amount to 100%.

Figure 1.11. **The framework of SME financing support in Korea**



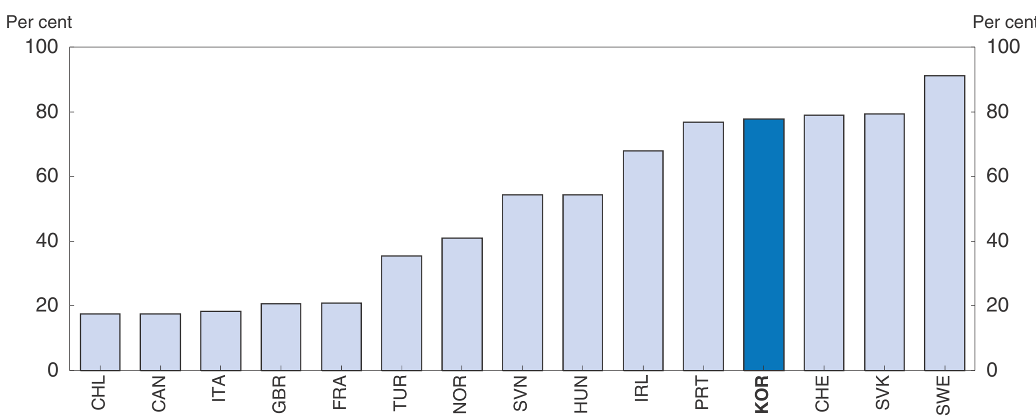

*Source:* The Board of Audit and Inspection (2012).

- The Bank of Korea also encourages SME lending through its Bank-Intermediated Lending Support Facility, which provides funds to banks at preferential rates subject to certain conditions. To receive the full amount of funds available under this scheme, nationwide banks must allocate more than 45% of their new loans to SMEs (more than 60% in the case of local banks). Since August 2013, the scheme's base rate has been between 0.5% and 1.0% per year, well below the central bank's policy rate of 2.5%. Such policy-based lending schemes raise concerns about resource allocation.
- The government promotes SME financing through moral suasion on financial institutions. For example, in the wake of the 2008 financial crisis, it asked banks to roll over SME loans automatically to prevent the default of sound SMEs.

As a result of structural changes in the financial market and public support, SMEs accounted for 78% of banks' corporate lending in 2012, one of the highest shares in the OECD (Figure 1.12). In principle, the level of public financing support for SMEs should depend on the financing gap, i.e. the difference between the amount of SME financing that would occur in the absence of market failures and the actual amount of financing, although this is difficult to calculate in practice (OECD, 2006). However, the focus of SME policies in Korea has expanded from correcting market failures to enhancing social cohesion, overcoming economic crises and promoting new growth engines (KDI et al., 2011). Finally, the share of direct financing through equities and bonds has remained low at only 0.5% in 2011 (Table 1.3).

Figure 1.12. **Korean SMEs account for a large share of banks' corporate lending**

Per cent of total in 2012




*Source:* OECD (2013c).

StatLink http://dx.doi.org/10.1787/888933040737

### *Problems associated with government intervention in SME financing*

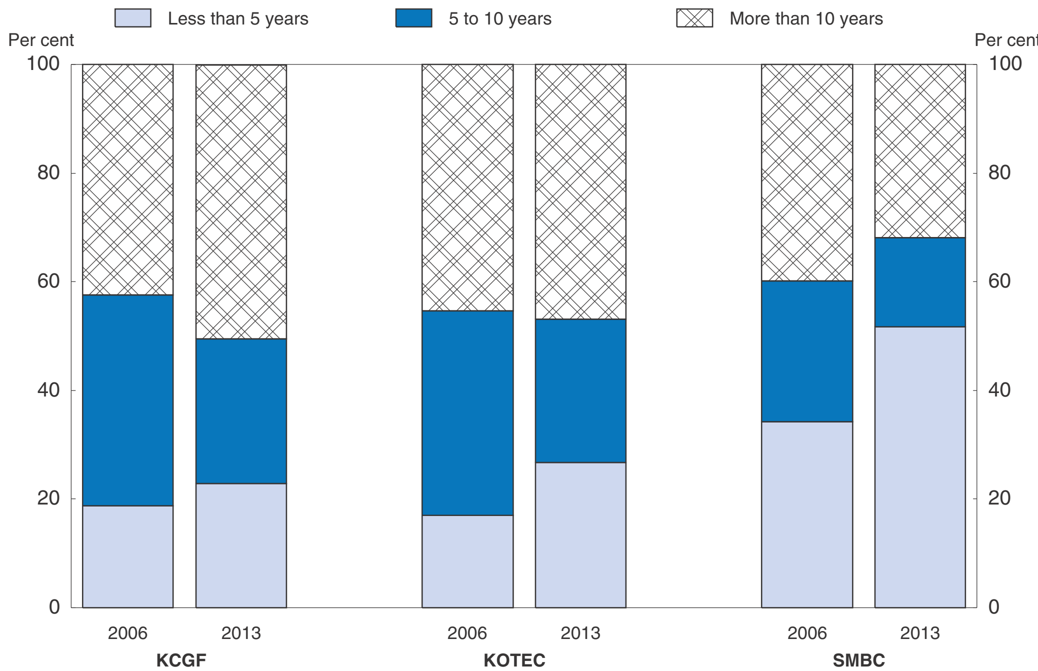
While in general terms, government support for SMEs is justified by market failures, it can also have negative side effects. *First,* the government's large role in SME financing in terms of providing direct credit and guarantees hinders the development of the market (Sohn and Kim, 2013). Financial institutions are content to enjoy stable profits at low risk thanks to government credit guarantees, thus reducing incentives to develop their credit evaluation and risk management skills for SME lending. Most lending to smaller firms is still made on the basis of collateral or credit guarantees provided by the government. The share of "pure credit loans" – loans from private financial institutions that are not guaranteed by a public institution or collateralised – was 21% of lending to SMEs in manufacturing in 2012, although that is a marked rise from the 7% in 2000. SMEs also have an incentive to rely on government loans, which are easier to obtain and carry lower interest rates than loans by financial institutions. Indeed, the interest rate on SMBC loans for SMEs was 3.6% in late 2013 compared to the market interest rate of 4.8%. Such a gap discourages borrowing from financial institutions, thus slowing the development of a private SME financing market.

*Second,* government intervention often supports non-viable SMEs. Once loans are given to such a firm, financial institutions and credit guarantee providers share a common interest in its survival, as a default would result in losses for both of them. To delay or prevent such a loss, they may continue to support the firm, a phenomenon referred to as "evergreening". SME policies have been criticised for extending the life of non-viable companies in Korea and thereby reducing the country's growth potential (Kim and Koo, 2010). A Bank of Korea study of 1 381 SMEs with an interest-coverage ratio below 100% over 2000-02 found that 27% had achieved a ratio of at least 100% by 2010 while 10% went out of business. Consequently, a majority of the firms (63%) had somehow survived for a decade despite failing to earn enough income to cover their interest payments (Bank of Korea, 2012b). Another study of 1 200 listed firms found that 17% of SMEs had an interest-coverage ratio of less than 100% for three years in a row compared to 8% of big companies (Noh and Lee, 2013). The policies introduced to assist SMEs after the 2008 crisis appear to have exacerbated the problem of non-viable companies. Despite the slowdown in GDP growth to 3.7% in 2011, the number of bankruptcies was only about half of that in 2007. Korea was one of only four OECD countries in which bankruptcies were lower in 2011 than in 2007 (OECD, 2013c).

The long-term survival of non-viable SMEs is facilitated by public financial support for mature firms. Although the market failure rationale for public support to SMEs suggests that assistance should be targeted at young firms, about half of government loans and credit guarantees in 2013 from Korea Credit Guarantee Fund (KCGF) and the Korea Technology Finance Corporation (KOTEC) went to companies that were more than ten years old (Figure 1.13). In contrast, only 20% of support was for firms created during the past five years. Moreover, the share of support to firms more than ten years old rose between 2006 and 2013. The average age of SMEs receiving assistance from public institutions is around nine years (KDI et al., 2011). In addition, the market-failure rationale for SME support also implies that the length of public support should be relatively short. Lending based on public guarantees should create a relationship between financial institutions and firms that overcomes the information asymmetry and eliminates the need for such guarantees (OECD, 2013c). However, in Korea, a significant share of public support is long term, thereby helping to prop up weak companies. As of 2011, 11% of the credit guarantees from the KCGF and KOTEC had been given to the same firm for more than ten years.

*Third,* a notable aspect of Korea's corporate landscape is the relatively small number of middle-sized companies. Of the several million SMEs (i.e. firms with less than 300 employees) in 2002, only 696 had expanded into mid-sized companies (defined as 300 to 999 workers) by 2012 (Statistics Korea, 2013). The low number of firms that exit the SME category, the so-called "Peter Pan syndrome", reflects the generosity and long duration of government support, as well the abrupt end to such support once companies graduate from SME status. In addition to the 1 300 SME programmes, graduating firms lose access to 47 government support measures covering taxes, marketing and employment (OECD, 2014a).

Figure 1.13. **The share of government financial support[1] given to SMEs according to the age of the firm**




1. Loans and credit guarantees from the KCGF, KOTEC and SMBA.
*Source:* Hong (2012) and SMBA.

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*Fourth,* government support does not significantly improve SME performance. A comparison between firms three years after they began to receive public financial support through one of the four major institutions[14] with firms that did not during 2003-09 found little difference in the performance of the two groups in terms of profitability and growth (KDI et al., 2011). All else equal, public support: *i)* failed to increase the operating profit ratio and had only a mixed impact on the net profit ratio; *ii)* reduced sales growth in the case of two of the support programmes; *iii)* improved the return on assets while lowering the return on equity; and *iv)* improved the financial position by reducing the debt-to-equity ratio. Performance could be improved by focusing support on companies with high growth potential.

### *The framework for public support for SMEs is inefficient*

The government is implementing a vast array of SME support measures. According to the SMBA, 14 central government ministries ran 201 programmes in 2011, with total outlays of 9.7 trillion KRW (0.8% of GDP) (Table 1.4). In addition, the 16 provincial governments and 130 SME-related organisations administered another 1 101 programmes. The number of programmes is excessive, resulting in significant duplication and a waste of resources. For example, more than half of the SMEs that received financial support from the SMBC in 2012 also benefited from financial aid from other public agencies (Yoon, 2012).[15] The proliferation of programmes has created a complex and confusing landscape for start-ups and SMEs (OECD, 2014a). The large number of SME programmes reflects weak linkages between the 14 central government ministries and the absence of a central

Table 1.4. **Central government programmes to support SMEs**

In billion KRW in 2011

| | Outlays | Per cent of total | Number of programmes |
|---|---|---|---|
| SME financing | 5 387 | 55.3 | 39 |
| Establishing new firms and ventures | 244 | 2.5 | 10 |
| Marketing and exports | 154 | 1.6 | 27 |
| Human resources | 576 | 5.9 | 21 |
| Innovation | 1 662 | 17.1 | 43 |
| Co-operation with large companies | 291 | 3.0 | 8 |
| Other | 1 433 | 14.7 | 53 |
| **Total** | **9 746** | **100.0** | **201** |

*Source:* KDI et al. (2011).

authority to co-ordinate programmes. As a result, the size of SME support is determined incrementally by individual ministries, without adequate oversight, resulting in duplication and overlap. Another source of waste in public support is the large and rising share of credit guarantees from public institutions for SMEs with good credit ratings, which could likely obtain financing without public assistance. The share of KCGF guarantees to SMEs with a rating of B3 and above[16] increased from 15% in 2005 to 37% in 2011 (Yang et al., 2013).

### *Directions for reform to improve government programmes for SMEs*

The government has long recognised that credit guarantees in Korea are higher than in most other countries (MOFE et al., 2005). However, SME support was increased to mitigate the impact of the 2008 crisis, and was boosted further in 2010. One key to reversing the upward trend is to sharply cut the number of SME programmes to reduce duplication and overlap. The SMBA is launching the "Comprehensive Management System for SME Support" to help determine which firms receive multiple benefits from the government, thus indicating overlap. In addition, the government plans to strengthen the performance evaluation of programmes. Finally, there should be prior consultations among ministries whenever a new programme is proposed. More generally, SME support should be limited by focusing on market failures and boosting efficiency, leaving concerns about social cohesion to the social welfare system.

SME programmes should also be improved to reduce the negative effects discussed above. *First,* support to mature SMEs should be decreased to allow more focus on young firms and new start-ups, where the difficulty of securing market financing is greatest. As successful SMEs mature, their default rate declines and they develop links to financial institutions, enabling them to obtain market-based financing. To increase the focus on young firms, Korea should also introduce a graduation system to prevent SMEs from receiving long-term support. Of the 1 300 SME programmes, only 50 have a time limit (KDI et al., 2011). In addition, the price of guarantees paid by SMEs should increase over time and with the size of the guarantee to discourage long-term dependence on public assistance.

*Second,* the quality of government programmes should be improved by making them more market oriented by reducing the coverage ratio of credit guarantees, which are generally set at 85% and can go up to 100% in some cases, to encourage banks to be more active in monitoring credit risks. In OECD countries, loan guarantees typically cover 75% to 80% of the value of the loan (OECD, 2013c). In addition, the interest rate on government lending to SMEs should be raised closer to market levels to limit the crowding out of private financial institutions. The weak performance of firms receiving public guarantees, as noted above, suggests that firms are selected with little regard to their growth potential (KDI et al., 2011). Improving the selection process would make the SMEs a more dynamic sector that would make a greater contribution to Korea's growth.

The government should also develop the infrastructure for market-based SME financing, including the framework for credit evaluation. Small non-bank financial institutions, such as saving banks and credit unions, could be encouraged to lend to viable SMEs, given that they are local financial institutions with longstanding ties to local firms.[17] The range of collateral accepted for SME lending could also be expanded beyond real estate. Although SMEs, especially start-ups, tend to have few tangible assets, many have intellectual property. A 2012 law created the legal basis for lending based on intangible assets, but no loans have been made thus far on the basis of intellectual property (FSS, 2013b). Finally, the authorities should pay close attention to risks in the SME sector, even though the delinquency rate of SME loans has stayed low (FSS, 2013a). Encouraging financial institutions to maintain a large buffer against potential losses from SME loans would enable them to focus on closing non-viable SMEs and restructuring troubled firms.

### *Make greater use of the Internet to make SMEs more efficient*

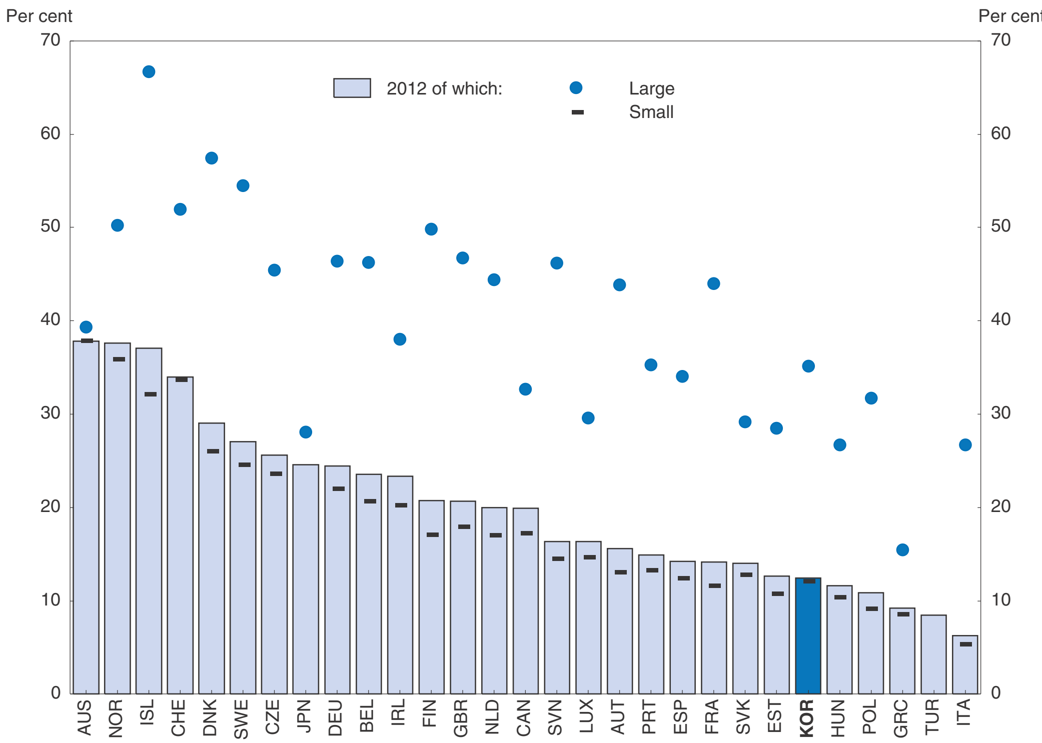
The Internet supports entrepreneurship by decreasing the resources needed to create a business and increasing the flexibly to expand. A small firm today has access to communications and information systems that were available only to large multinationals 25 years ago. In addition to lowering barriers to entrepreneurship, the Internet can promote efficiency within firms by enabling them to lower fixed costs and outsource many activities, such as financial and human resource management, which are relatively burdensome for SMEs. Cloud computing and storage services, for example, allow entrepreneurs to buy as much data storage and computing power as needed at any given moment, without costly and time-intensive investment in infrastructure aimed at meeting peak load demands. While web-based services and infrastructure can benefit all sizes of firms, they play a particularly important role for SMEs and help level the playing field with large firms. The Internet also promotes the availability of human capital by enhancing the flexibility of working arrangements (OECD, 2014e).

The advent of the Internet implies a significant re-shuffling of the business environment in ways that intensify competition. In particular, the Internet has extended the geographic reach of firms, especially those that are young and small, opened new ways of delivering products and expanded consumer choice. The Internet thus facilitates the entry of new firms by lowering transaction costs, which are particularly burdensome for small firms, in part by cutting out middle men. Many intermediaries historically based their business models on the fact that it was difficult for suppliers and final customers to contact each other directly. The Internet can thus help firms integrate their supply chains. The Internet also enhances price transparency, thereby strengthening competition, which can help start-ups compete with established firms.

The extent to which an economy can benefit from the opportunities afforded by the Internet depends on several factors. *First,* regulations may prevent entrepreneurs from experimenting and taking risks needed to succeed, making it essential to revise the regulatory framework in line with technological development. *Second,* a lack of Internet competence may be an obstacle. ICT skills are necessary for both entrepreneurs, as the

Internet becomes more engrained in work processes, and for the general population to benefit from new services offered on the Internet. Korea has great potential, as a front-runner in ICT. Indeed, the share of the population with wireless broadband connections is the highest in the OECD. Nevertheless, the share of firms selling on-line is one of the lowest in the OECD (Figure 1.14). It is important to identify the obstacles that hinder business use of the Internet.

Figure 1.14. **Share of companies that sell their goods and services on the Internet**




*Source:* OECD (2014e).

StatLink http://dx.doi.org/10.1787/888933040775

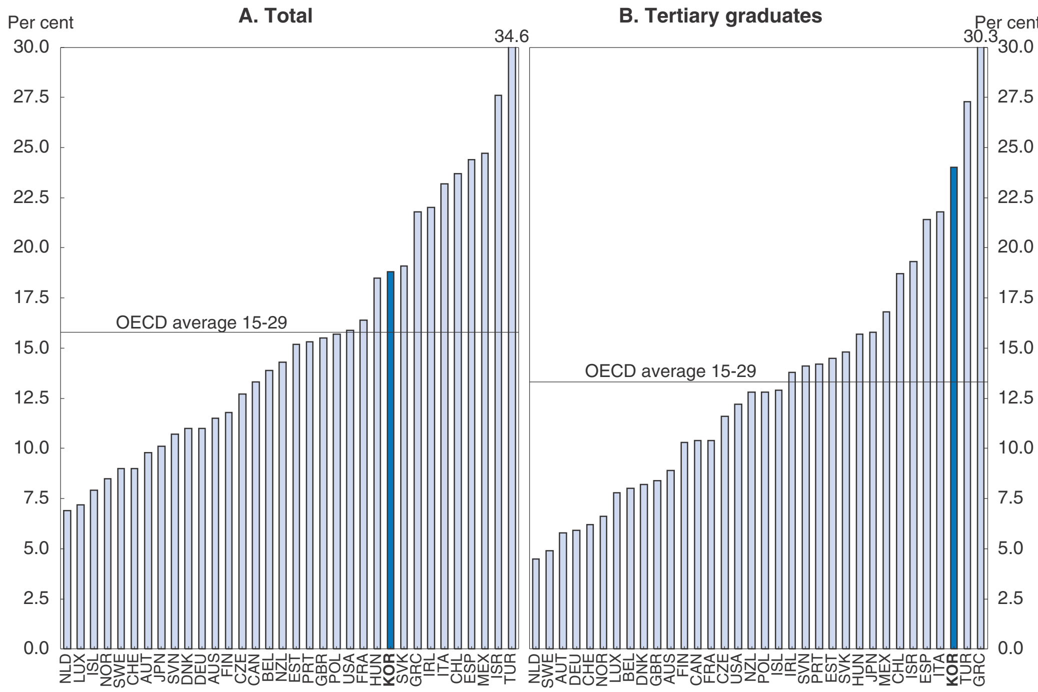
### *Reducing labour mismatches: Ensuring appropriate human capital for SMEs*

As noted above, the share of tertiary graduates among young adults (25 to 34) in Korea is the highest in the OECD. However, graduates tend to avoid jobs in SMEs. In 2011, 43% of small firms faced a labour shortage and another 40% expected to face one, according to a government survey. Firms blamed shortages on a lack of qualified job applicants, their high expectations and the low wages and benefits offered by SMEs, reflecting their low productivity. One alternative is foreign workers, who receive five-year non-renewable visas to work in Korea. For 2013, the number of ethnic Koreans from foreign countries allowed to work in Korea was held to 303 thousand, while the number of foreign workers allowed to enter the country was set at 62 thousand (0.2% of the labour force), as against 39 thousand leaving Korea (MOEL, 2012). Most foreign workers (52 thousand) were allocated to manufacturing. There is severe competition from SMEs for foreign workers.

In order to fundamentally address the SME labour shortage, it is necessary to reduce the mismatch in the labour market. In 2011, 24% of youth with tertiary education were "neither in employment nor in education or training" (NEETs) (Figure 1.15).

Figure 1.15. **Korea has a high share of youth who are neither in employment nor in education or training**

Per cent of youth 15-29 years old in 2011[1]




1. Data on the category ISCED4 are not available for Korea. The NEET population thus includes some people who are in training for employment or for tertiary education exams.

*Source:* OECD (2013e).

StatLink http://dx.doi.org/10.1787/888933040794

It is thus essential to reduce the overemphasis on tertiary education by improving vocational education at both the secondary and tertiary levels and expanding training that meets the needs of SMEs (2012 *OECD Economic Survey of Korea*). Reducing the blind pursuit of higher education is difficult as it is driven by the national consensus that it is the key to success (Jones, 2013). A university degree has become the standard expectation, regardless of capabilities or career aspirations. It is necessary to gradually shift the focus from chasing the status and prestige of high-ranking universities to rewarding the acquisition of skills that are demanded in the labour market. The government has made an important start in this direction in 2008 by introducing Meister schools, which emphasise workplace training, based on the German model of training master craftsmen. Thus far, 35 Meister schools have been created (OECD, 2014d).

### *Competition from* chaebol*-affiliated firms*

*Chaebols* are often blamed for the problems of SMEs (NCCP, 2013). In response to the 1997 crisis, the government introduced comprehensive reforms of corporate governance and accounting and disclosure practices, and required *chaebols* to reduce their debt-to-equity ratio from 500% at end-1997 to 200% (OECD, 2000). In addition, 17 of the top 30 *chaebols* went through some type of rehabilitation procedures (Lim, 2012), ending the "too big to fail policy". The easing of the ceiling on foreign ownership increased the share of foreign investors from 13% of listed companies in 1996 to 33% in 2013. Combined with a liberalisation of regulations on M&As, *chaebol* owners face increased checks on their power.

However, after a period of consolidation, the number of *chaebol*-affiliated companies is rising again. By 2010, companies affiliated with the ten-largest *chaebols* accounted for half of the value on the stock exchange and Samsung alone accounted for a fifth of Korean exports, prompting the Korea Fair Trade Commission (KFTC), the competition authority, to implement new measures. *First,* new circular shareholding between *chaebol* affiliates was banned (cross-shareholding has been banned since 1987). *Second,* regulations on intra-*chaebol* trading were tightened to prevent major shareholders from using such transactions to subsidise affiliated firms or related persons. Concern that some large companies take advantage of small firms, for example, by arbitrarily demanding price cuts, led to a strengthening of the subcontracting law. In particular, the range of unfair practices subject to punitive damages has been enlarged. In principle, market forces should promote "win-win" co-operation between SMEs and *chaebols*, as large firms' success in global competition depends in part on mutually-beneficial relationships with suppliers. Around half of SMEs supply *chaebol*-affiliated firms.

Although the *chaebols* have succeeded in a number of heavy industries, such as cars and shipbuilding, they have looked for new growth opportunities, fuelling criticism that they are encroaching on markets traditionally dominated by SMEs. In response, the National Commission for Corporate Partnership, a private committee, launched negotiations in 2011 among enterprises on business areas to be restricted to SMEs. It was agreed to reserve 100 business lines, including restaurants, bakeries and car repair, for SMEs for three to six years. However, preventing the entry of large firms from important markets, many in services, and restricting their expansion in industries where they are already operating reduces aggregate productivity and consumer welfare. Rather than reducing their opportunities in Korea, the government should make the domestic market attractive for all firms, including *chaebols*, whose share of domestic employment fell from 18% in 1995 to 12% in 2010 as they internationalised their operations. Policy should focus on enforcing competition policy and improving corporate governance of *chaebols*. Although the framework has been substantially improved since 1997, notably by introducing independent directors, limiting the control of the founding families remains a challenge. The goal should be to ensure that non-controlling shareholders are not expropriated by the families, which maintain control through circular shareholding. The corporate governance framework could be improved, in particular by ensuring the independence of audit committees. Finally, given that some SMEs will not be able to compete with *chaebol*-affiliated firms, it is essential to further develop the social safety net. In addition, it is essential to raise the retirement age from firms to reduce the number of low-productivity SMEs (Chapter 2).

### Summary of recommendations to foster a creative economy

**Upgrade the innovation system**

- Improve universities and expand their co-operation with the business sector in R&D, while increasing the contribution of government research institutes.
- Expand Korea's international linkages in science and innovation from their current low level.

**Improve framework conditions to accelerate the implementation of innovation**

- Liberalise product market regulations and reduce obstacles to international competition to promote an efficient allocation of resources in favour of innovative firms.
- Enhance labour market flexibility to expand the ability of innovative firms to grow and implement their ideas.

**Promote the venture business sector and new start-ups**

- Make the new KONEX a key player in funding start-ups, while ensuring adequate investor protection in KONEX and for crowd-funding.
- Activate the market for M&As by addressing the obstacles that have kept it small.
- Avoid excessive public funding of venture capital investment that would crowd out private investment, rely on a "fund-of-funds" approach and focus public support on the early stage of a firm's development when attracting private investors is most difficult.
- Develop the demand side of the venture capital market, in part by using public institutions to enhance the quality of investment projects.
- Foster an environment that allows failed entrepreneurs to have second chances to launch start-ups.

**Make SMEs part of the creative economy**

***Improve policies to finance SMEs***

- Target public loans and credit guarantees on young firms and startups, which struggle most to obtain market financing, introduce a graduation system to prevent firms from receiving long-term support and reduce public credit guarantees to firms with a credit rating high enough to obtain market financing by themselves.
- Strengthen the market orientation of SME programmes by: *i)* raising interest rates on public SME loans closer to market levels; *ii)* lowering the coverage ratio of the guarantees; and *iii)* more clearly differentiating the price of guarantees based on their length and size.
- Improve the selection of SMEs that receive public support by focusing on firms with the potential to upgrade their performance by analysing their competitiveness and technological capacity.

***Strengthen the infrastructure for market-based SME financing***

- Use the government's expertise to enhance the infrastructure for credit evaluation of SMEs by private financial institutions.
- Encourage a larger role for local non-bank financial institutions, such as saving banks and credit unions, in lending to viable SMEs.
- Develop the infrastructure for using non-tangible collateral, including intellectual property, for private-sector loans.

**Summary of recommendations to foster a creative economy** *(cont.)*

***Reduce the number of government programmes for SMEs***

- Reduce the generosity of SME support to weaken the disincentives for small firms to grow out of the SME category, thereby increasing their productivity through economies of scale.
- Gradually reduce the number of SME programmes through stronger *ex post* evaluation of SME programmes to focus the budget on those that are most effective and expand prior consultations among ministries before introducing new programmes.
- Use the "Comprehensive Management System" to co-ordinate SME programmes between ministries and prevent SMEs from benefiting from multiple programmes.

***Enhance the competitiveness of SMEs***

- Improve SMEs' human resources by reducing labour market mismatches through greater emphasis on vocational education.
- Facilitate the use of the Internet to enhance the growth of SMEs by ensuring an appropriate regulatory framework and ICT skills.
- Enforce fair trading rules to avoid unfair treatment of SMEs by *chaebols* and improve *chaebols'* corporate governance, while phasing out restrictions that reserve certain sectors to SMEs.

## *Notes*

1. All comparisons in this chapter using GDP are based on SNA1993, which provides time series data back to 1970, rather than on SNA2008, which was released in late March 2014 for the period 2000-13.
2. New OECD research shows that a modest cut in the PMR in the energy, transport and communications sectors – corresponding to the difference in regulation between Australia and Austria in 2008 – could boost the level of business R&D by 5% and patents per capita by 3% in the long run (Westmore, 2013).
3. A hypothetical reduction in regulation in Finland in 2008 equivalent to the PMR indicator falling to the sample average in that year (a decline of 0.35) is estimated to result in a 3% rise in patents per capita.
4. The number of firms classified as venture businesses by the government increased more than threefold from around 9 thousand in 2000 to nearly 29 thousand in 2012. In contrast to some countries, a Korean firm that does not receive investment from a venture capitalist can still be designated as a venture business by spending more than 5% of sales on R&D or having its technology certified by the government.
5. This compares earnings from M&As as a share of earnings from IPOs and M&As combined (Korea Venture Capital Association, 2013).
6. The Korea Venture Capital Association has stated that it is becoming increasingly hard to find good investment opportunities in Korea, leading some of its members to establish operations overseas, particularly in China and Vietnam (OECD, 2014a). In addition, there are complaints that in Korea the most talented individuals work at *chaebols* rather than becoming entrepreneurs.
7. For example, when shares are sold at more than 30% above the market price, the sale is subject to the 50% maximum gift tax instead of the 11% capital gain tax. Such high tax rates limit the scope for re-investing gains in the venture capital market.
8. The Fund for the Next Venture Generation will promote reinvestment by successful entrepreneurs, while the Restart Support Fund will support entrepreneurs who have failed. Details on government programmes to promote venture business are provided in Jones and Kim (2014).
9. KONEX is aimed at smaller companies, requiring firms to meet only one of three listing conditions: *i)* sales revenue of more than 1 billion KRW ($963 thousand); *ii)* capital of more than 0.5 billion KRW; or *iii)* profits of more than 0.3 billion KRW.

10. Moreover, start-up visa holders who stay in Korea for three years or more, attract investment of at least 300 million KRW ($289 thousand) and hire two or more Korean citizens are eligible for permanent residency.
11. In addition, the "Technology Deposit Safe" system, which allows SMEs to store technologically-valuable items in public institutions, will be expanded.
12. However, their share of employment falls to 37% if firms with less than ten employees are excluded.
13. Guarantees are provided through the Korea Credit Guarantee Fund (KCGF), the Korea Technology Finance Corporation (KOTEC) and 16 Local Credit Guarantee Foundations established by the government and controlled by it. For more information, see Jones and Kim (2014).
14. In addition to the SMBC, KOTEC and KCGF, this includes the Korea Fund of Funds.
15. One company received 380 million KRW ($366 thousand) in 2010, around one-half of its annual sales, from four programmes run by three different ministries (KDI et al., 2011).
16. The KCGF credit rating system divides SMEs into six groups, S, A, B, C, D and E, with C defined as "normal" and B is defined as "good". Within the B category, there are four grades from B4 to B1.
17. Saving banks were originally consumer finance companies. The government legalised them as regional financial institutions, which prohibits them in principle from having bank branches across provinces.

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*Chapter 2*

# Reducing income inequality and poverty and promoting social mobility

*To strengthen social cohesion, a top government priority, it is essential to address the labour market roots of inequality by breaking down dualism to reduce the share of non-regular workers and to boost the employment ratio toward the government's 70% target. Education reforms are also important to enhance social mobility. Social welfare programmes should be improved to make them more effective, especially among the elderly, where the relative poverty rate is 49%. In addition, reforms are needed now to develop an effective three-pillar system of retirement income based on the National Pension Scheme, company pensions and individual savings. High household debt also has adverse implications for equity, as well as for growth, as individuals with low income and credit ratings have limited access to financial markets and many are delinquent on their loans. Policies to offer credit to such households and restructure their debt, while limiting moral hazard and developing market-based lending, are essential.*

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Korea is well known for achieving rapid economic development and social cohesion. From 1980 until the 1997 crisis, the Gini coefficient measure of income inequality declined. Since that crisis, however, inequality has risen significantly, reflecting increased labour market dualism leading to a high degree of wage inequality. By 2009, the ratio of the top to the bottom quintile had risen to 5.7, while the relative poverty rate, at 15%, was the eighth highest in the OECD area (Figure 2.1). Rising inequality has squeezed the middle class: the share of the population with an income between 50% and 150% of the national median fell from 75% in 1990 to 68% in 2010. Inequality is a pressing problem, not least as it reduces social mobility over generations. Other well-being indicators, such as work-life balance and health status, also point to tensions in Korean society.

In contrast to many other OECD countries, the latest indicators suggest that income inequality has declined, if only slightly, in Korea since the 2008 crisis, while the relative poverty rate has remained fairly stable. Nevertheless, social cohesion remains at the top of the government's policy agenda. Indeed, the administration that took office in 2013 pledged to boost public social spending over the period 2013-17. This chapter begins by addressing a number of issues that are key to social cohesion: *i)* the labour market challenges of dualism and boosting the employment rate to 70%; *ii)* the limited impact of social welfare programmes; and *iii)* the role of education, including private tutoring. The following sections address the high poverty rate among the elderly and the implications of high household debt for social cohesion. Policy recommendations are summarised at the end of the chapter.

## Policies to reduce inequality and promote social mobility

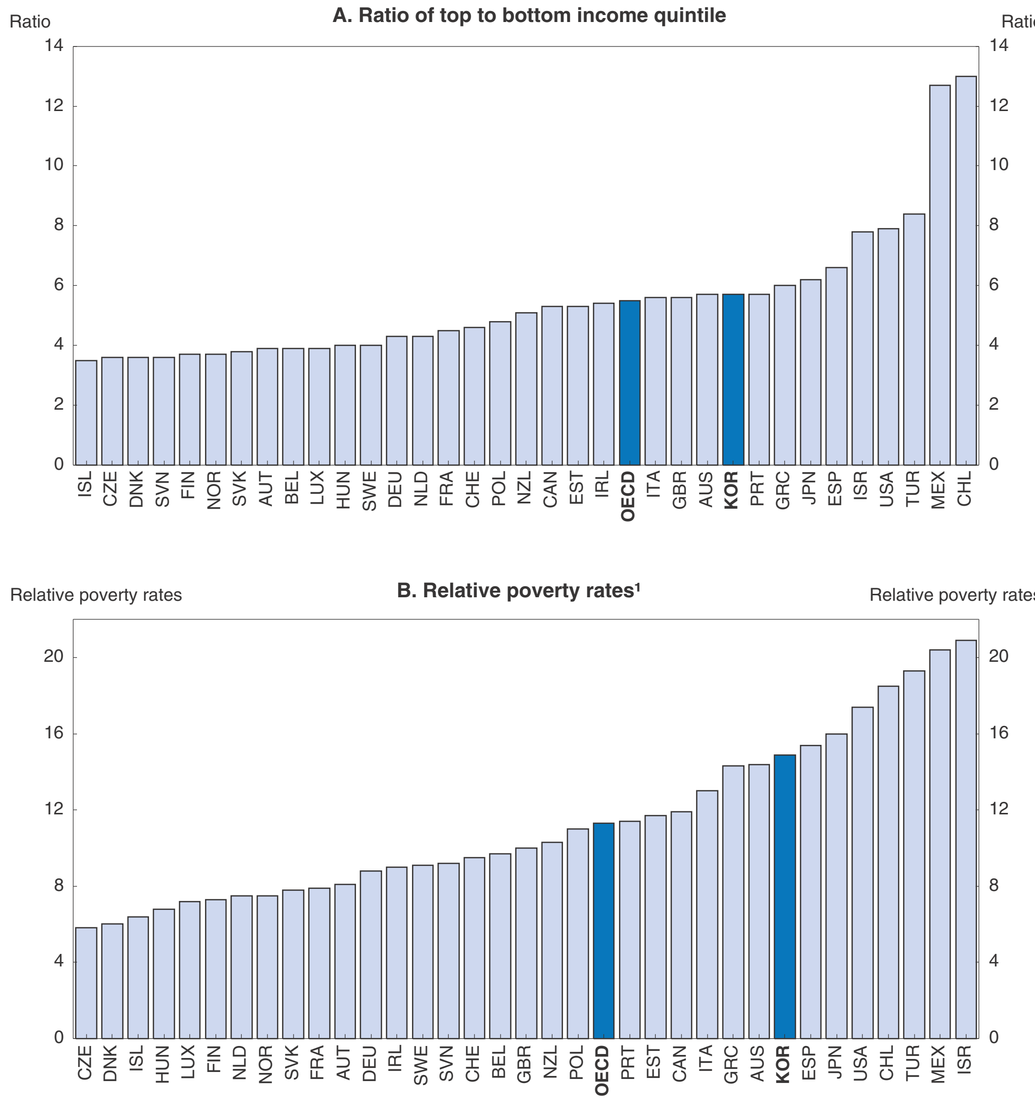
### *Labour market policies*

#### *Breaking down labour market dualism*

Dualism in Korea is exceptionally strong. Non-regular workers, such as fixed-term, part-time and dispatched workers, have accounted for around a third of dependent employment during the past decade. The share of temporary workers (24%), who account for a majority of non-regular workers in Korea, was the fourth highest in the OECD area in 2012 and more than double the OECD average. Dualism is a major source of inequality, as non-regular workers were paid 64% as much as regular workers in 2012. The large gap is inconsistent with the level of skills of non-regular workers. According to the OECD study on the skills of adults, the literacy skills of temporary workers in Korea was equivalent to those of permanent prime-age workers (25 to 54) and even higher in the 16-to-24 age group (Figure 2.2). However, they are penalised by their relatively short tenure, given the strong link between tenure and wages in Korea. Indeed, the average tenure of non-regular workers in 2012 was only 28 months, compared to 82 for regular workers. Even after adjusting for tenure, as well as other characteristics such as gender, age, place of employment and educational attainment, the wage gap remained sizeable at 8.4% in 2012, suggesting that discrimination still plays a role. The wage disparity rises as the size of firms increases (MOEL, 2012).

Figure 2.1. **Income inequality and relative poverty in Korea are above the OECD average**

In 2010 or latest year available




1. The poverty threshold is set at 50% of the median for the entire population.

*Source: OECD Database on Income Distribution and Poverty.*

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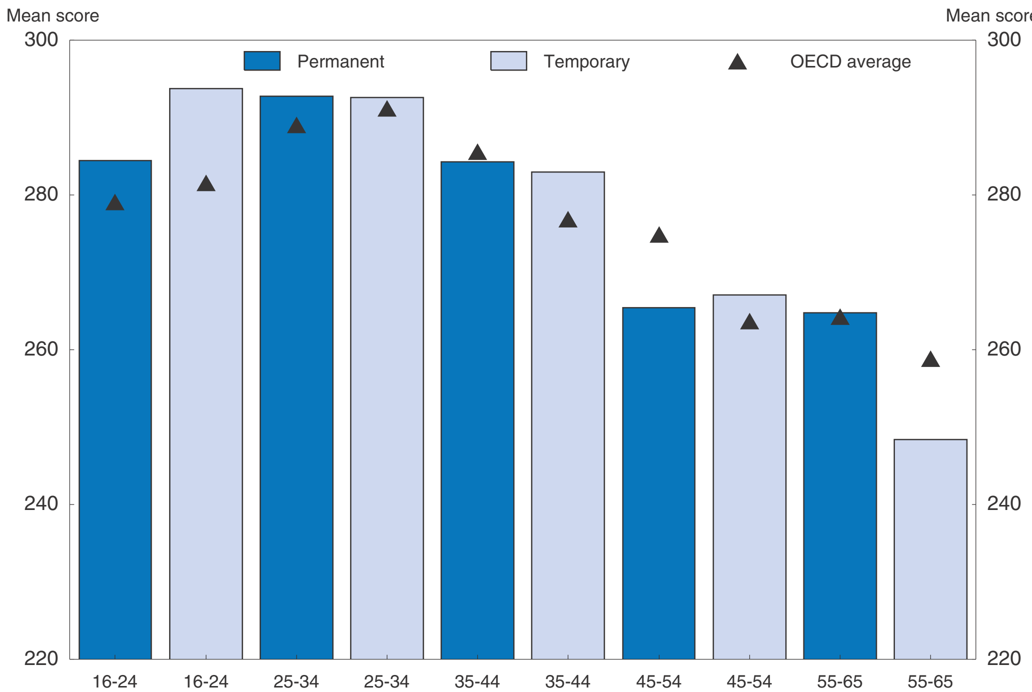
Labour market dualism is thus a key factor in income inequality. Almost a quarter of full-time workers in Korea earn less than two-thirds of the median wage, the highest share in the OECD. Moreover, overall earnings dispersion for full-time workers, measured by the ratio of the 9th decile to the 1st, was the third highest. Dualism has a number of other negative implications for social cohesion:

- *Less coverage by the social safety net:* Although the legal framework requires nearly all private-sector workers to be covered by the social insurance system, coverage is low for non-regular workers, despite the introduction of government subsidies to help pay premiums. In 2012, only 43% of non-regular workers, who have precarious jobs, were

Figure 2.2. **Skills of temporary workers in Korea match those of permanent workers**

Mean literacy proficiency level by type of contract and age group in 2012[1]




1. The results for numeracy skills are similar to those for literacy, while the third category – problem-solving – shows smaller gaps by age group and type of contract.

*Source:* OECD (2013d).

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covered by employment insurance. Also, only 39% of non-regular workers were covered in their workplace by the National Pension Scheme and 45% by the National Health Insurance.

- *Precarious employment:* Shorter tenure causes job instability. Indeed, the worker turnover rate[1] was 67% in 2012, twice the OECD average (OECD, 2013c).
- *Less access to training:* Shorter tenure reduces the incentive for firms to invest in training non-regular workers. Indeed, the share of non-regular workers in training is smaller than that of regular workers in all age groups, thus slowing human capital accumulation (OECD, 2013c).
- *Gender inequality:* Women's share of non-regular employment (53%) is much higher than their share of total dependent employment (43%), contributing to the large gender wage gap.

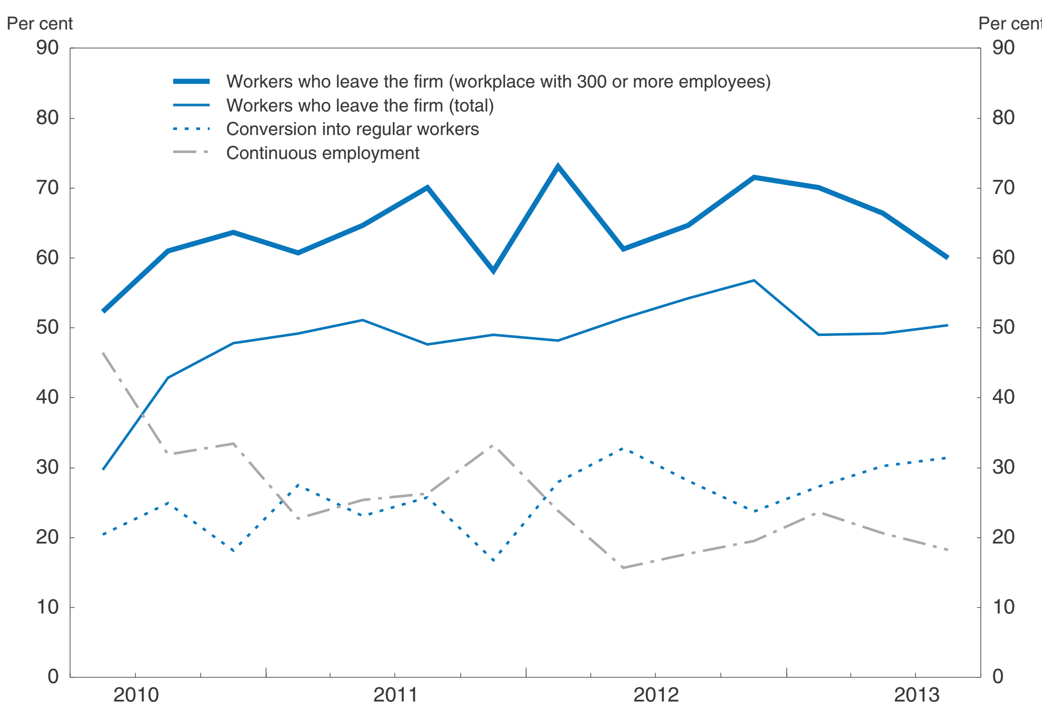
The limited mobility between regular and non-regular employment exacerbates the negative equity consequences of dualism. Non-regular employment is not a pathway to regular employment in Korea. The probability of moving from temporary (defined as fixed term and dispatched workers) to permanent employment over a one-year period was only 11.1% in Korea, compared to more than 50% in a number of European countries (OECD, 2013c). However, there is more mobility in the other direction; over a ten-year period, 70% of workers who shifted from non-regular to regular status lost their regular status within four years, suggesting that even those who move to regular status do not enjoy a stable situation (Kim and Lee, 2013).

Labour market dualism thus creates serious equity problems as a significant share of employees work in precarious jobs at relatively low wages and with less protection from social insurance. Firms hire non-regular workers to reduce labour costs and to achieve greater employment flexibility, given the difficulty and cost of laying off regular workers, who receive relatively high employment protection as a result of government policies, business practices, social customs and labour unions (Koh et al., 2010). International evidence suggests that the creation of temporary jobs is a common response of firms to high costs of reducing permanent jobs (Kahn, 2010). According to a 2012 government survey, more than half of non-regular workers are involuntarily employed as non-regular workers, indicating that dualism is driven primarily by firms' preferences. Dualism thus acts as a restraint on employment. Indeed, the government aims to achieve a 70% employment rate (see below) in part by creating "high-quality" part-time jobs.

Various measures have been taken to address labour market dualism. In particular, the 2007 labour law limited non-regular workers' employment to a maximum of two years, with some exceptions, while supporting their transition to regular status. However, according to government statistics for 2010-13 on fixed-term workers who have worked 18 months or more and whose employment contract had expired, around one-half leave their firm when their contract ends (Figure 2.3). The proportion is 66% at firms with more than 300 employees. Meanwhile, less than one-third of workers are converted to regular status as intended. In short, the 2007 reform appears to have increased job precariousness, compared to the past when many fixed-term workers had their contracts rolled over. In addition, there has been a diversification in the types of non-regular workers. The 2007

Figure 2.3. **The probability of workers making the transition from fixed-term to regular status is low**

A government survey of fixed-term workers who had worked more than 18 months when their contract ended




*Source:* Ministry of Employment and Labour.

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labour law also prohibited "unreasonable discrimination", in terms of wages and working conditions, between non-regular and regular workers who work in the same or similar jobs in the same firm. However, only 2 529 cases were filed over 2007-12.

In 2011, the government launched the "Comprehensive Non-regular Workers Initiative" to address dualism by: *i)* introducing subsidies for small and medium-sized enterprises' (SMEs) contributions to social insurance systems to expand the coverage of their employees, including non-regular workers; *ii)* broadening the coverage of social insurance to include special types of employment, such as delivery vehicle drivers; *iii)* improving enforcement of the minimum wage law; *iv)* expanding vocational training opportunities for non-regular workers; and *v)* reducing discrimination against non-regular workers. In addition, the government announced a plan in 2013 to convert around 26% of fixed-term workers in the public sector to regular status by 2015. However, the impact is limited by the fact that the public sector accounts for only 6% of non-regular workers. Private firms are encouraged, in part through tax incentives, to grant regular status to their non-regular workers.

The government has addressed dualism primarily by limiting the use of non-regular workers, as well as by strengthening the social safety net and encouraging equal treatment for non-regular workers. Better coverage by the safety net and reduced discrimination would improve conditions for non-regular workers and help achieve the goal of boosting the employment ratio to 70%. However, the regulations restricting the use of non-regular workers may tend to increase the cost of employment flexibility and lower overall employment, without addressing the fundamental causes of dualism. Breaking down dualism requires a comprehensive strategy to reduce the factors that encourage firms to hire non-regular workers, notably by relaxing effective employment protection for regular workers and increasing social insurance coverage to narrow the wage gap, while upgrading training programmes for non-regular workers. In addition, given that 70% of non-regular workers are in firms with less than 30 workers, where productivity tends to be low, measures to reduce dualism should be co-ordinated with SME policies (Chapter 1).

### *The roadmap to boost the employment rate to 70%*

In June 2013, Korea announced a roadmap to boost employment to 70% of the working-age population by 2017 (Table 2.1). This target was reinforced in the January 2014 "4-7-4 vision" of a 4% growth rate, 70% employment rate, and a per capita income of $40 thousand (from $26 thousand in 2013). Korea's employment rate, which has been steady at around 64% since 2003, edged up from 64.2% in 2012 to 64.6% in 2013 and the roadmap targets a 65.6% rate in 2014. Employment is to be increased by fostering a "creative economy" (Chapter 1) and by changing the way of working by reducing working hours, encouraging flexible work schedules and boosting the number of part-time jobs from 1.5 million in 2012 to 2.4 million in 2017, in part by creating such jobs in the government. Although working hours have been declining, they are still more than one-fifth above the OECD average of 1 769 hours per year.

Boosting employment to 70% – a level achieved by 13 OECD countries – would provide numerous social and economic benefits. Breaking down barriers to women in employment and entrepreneurship would enhance equity and help mitigate the impact of rapid population ageing. Moreover, job creation that is accompanied by a decline in working hours, as planned in the roadmap, would create more family-friendly workplaces, thus

Table 2.1. **The employment rate targets set by the roadmap**

As a per cent of the working-age population

| | 2012 | 2017 |
|---|---|---|
| **Total** | **64.2** | **70.0** |
| Women | 53.5 | 61.9 |
| Men | 74.9 | 78.1 |
| Youth (15 to 29) | 40.4 | 47.7 |
| Adults (30 to 54) | 75.6 | 81.0 |
| Older persons (55 to 64) | 63.1 | 67.8 |

*Source:* Government of Korea.

enhancing the well-being of society. About 85% of men and 75% of women in Korea work more than 40 hours per week, with adverse implications for the quality of life, as well as the fertility rate, which is the lowest in the OECD area (Yamaguchi and Youm, 2012).

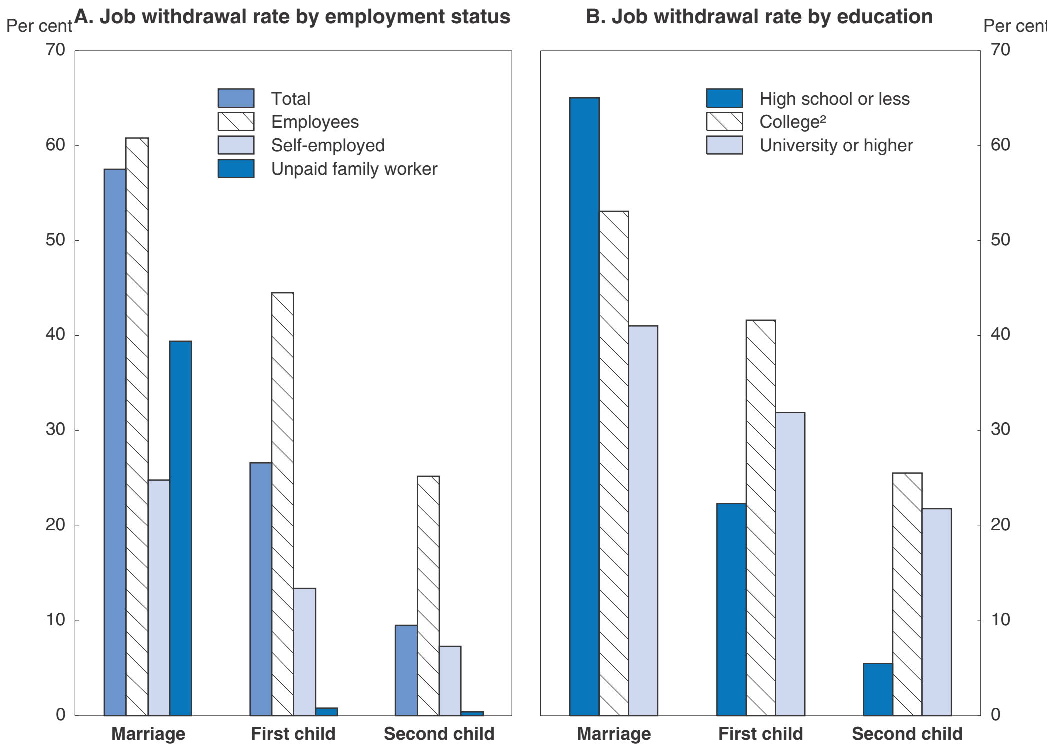
However, the roadmap will be difficult to achieve, given the reluctance of regular workers to accept more leisure in exchange for less pay. In addition, part-time jobs are treated as non-regular work, as noted above, with much lower hourly pay and benefits. Firms prefer to meet increased demand by lengthening working time rather than by expanding the number of workers, given the fixed costs of hiring and the employment protection that makes it expensive to dismiss unnecessary workers. Overcoming these obstacles requires an agreement among the social partners.

The 70% target includes large increases in the employment rates of women, youth and older persons. The female participation rate was 53.5% of the working-age population in 2012, well below the OECD average of 62%. If participation rates were to remain at their current levels for each age group and gender, the total labour force would peak at 27.2 million in 2022 and then fall to 21.5 million by 2050. However, if the female participation rate were to reach the current level for males for each age group by 2050, the labour force in that year would be nearly 25.6 million.

The low female participation rate reflects the withdrawal of most women from the labour force at the time of marriage or childbirth, although most eventually return, resulting in an M-shaped pattern across their lifetime. In 2007, 58% of women in the labour force withdrew when they marry, with the figure much higher for employees than for the self-employed or family workers (Figure 2.4). Another 27% leave at the time of the birth of their first child and 10% when a second child is born. Women with higher educational attainment were less likely to withdraw following marriage than those with less educational attainment, but more likely to withdraw following the birth of a child than women with a high school education or less (Panel B). Of Korea's 9.7 million married women between the ages of 15 and 54 in 2013, 4.1 million were not in the labour force. Of those women, about half – nearly 2 million – were "career-break" women who left jobs due to family responsibilities; 45.9% cited marriage as the reason for leaving the labour force, followed by childcare (29.2%), pregnancy and childbirth (21.2%) and their children's education (3.7%) (Statistics Korea, 2013).

Following maternity leave, parents can have one year of parental leave or reduced working hours. Under the roadmap, the government has proposed that parents be allowed to choose up to two years of reduced working hours instead of one year of parental leave. Such measures will help parents combine work with family responsibilities. However, lengthy childcare leave and shortened working time, combined with increased part-time employment, might drive women to the periphery in workplaces and leave them more

Figure 2.4. **Responses of women in the labour force to marriage and childbirth**[1]




1. The 2007 survey samples for marriage, birth of a first child and a second child are not necessarily identical.
2. Two-year tertiary educational institutions.

*Source:* Kim (2011).

StatLink http://dx.doi.org/10.1787/888933040870

focused on already heavy family responsibilities. The withdrawal of women from employment reflects the challenge of combining jobs with family responsibilities. In the OECD area, women spend two hours more per day on average than men on unpaid household work, but in Korea the gap is three hours. Greater gender equity in unpaid work would facilitate female employment.

Another factor discouraging female employment is the gender gap in earnings. In 2012, women employees were paid only 65% as much as men, the largest gap in the OECD. This gap, which has been virtually unchanged since the mid-1990s, reflects the high share of women engaged in non-regular employment with low wages and the low proportion in management positions. Indeed, although the share of women in management increased from only 9% during 2007-09, to 17% in 2012, it remains well below the OECD average of 29%. It is necessary to attract women to the labour market by reducing dualism and expanding the weight of performance in setting wages, thereby narrowing the gender wage gap. In short, reforms are needed to offer women the hours, jobs, wages and careers that would encourage them to work.

Korea's youth employment rate is also low by international comparison, due in part to high enrolment in tertiary education, although it has fallen somewhat since the 2008 crisis. Nevertheless, the participation rate for the 15-to-29 age group declined from 44.8% in 2008 to 43.7% in 2012, the lowest on record in Korea. The low and declining rate reflects a mismatch problem, as a large share of youth with tertiary education have difficulty finding suitable employment. At the same time, SMEs, which account for 87% of employment, face a chronic workforce shortage (Chapter 1). To achieve the target of a 47.7% employment rate by 2017 (Table 2.1), it is essential to resolve the mismatch problem by reducing the overemphasis on higher education, by improving vocational education and providing effective training courses that meet labour market needs (see the 2012 *OECD Economic Survey of Korea*).

The departure of workers from firms at a relatively young age in Korea is a waste of human capital. The mandatory retirement age set by firms in 2010 averaged 57 years and many workers leave well before that. Many become unemployed or self-employed in low-productivity activities. The young retirement age reflects the strong link between tenure and wage, which makes older workers expensive. Achieving the 67.8% employment target for the 55-to-64 age group (Table 2.1) requires flexible employment and wage systems based on ability rather than age to ensure that older workers remain attractive to firms. The recent decision to require firms with more than 300 workers to set a mandatory retirement age at age 60 or above beginning in 2016 is a step in the right direction. The ultimate aim should be to abolish the right of firms to set mandatory retirement ages, as has been done in a number of OECD countries, which may help break down the link between seniority and wages.[2]

### *The impact of social welfare programmes is limited*

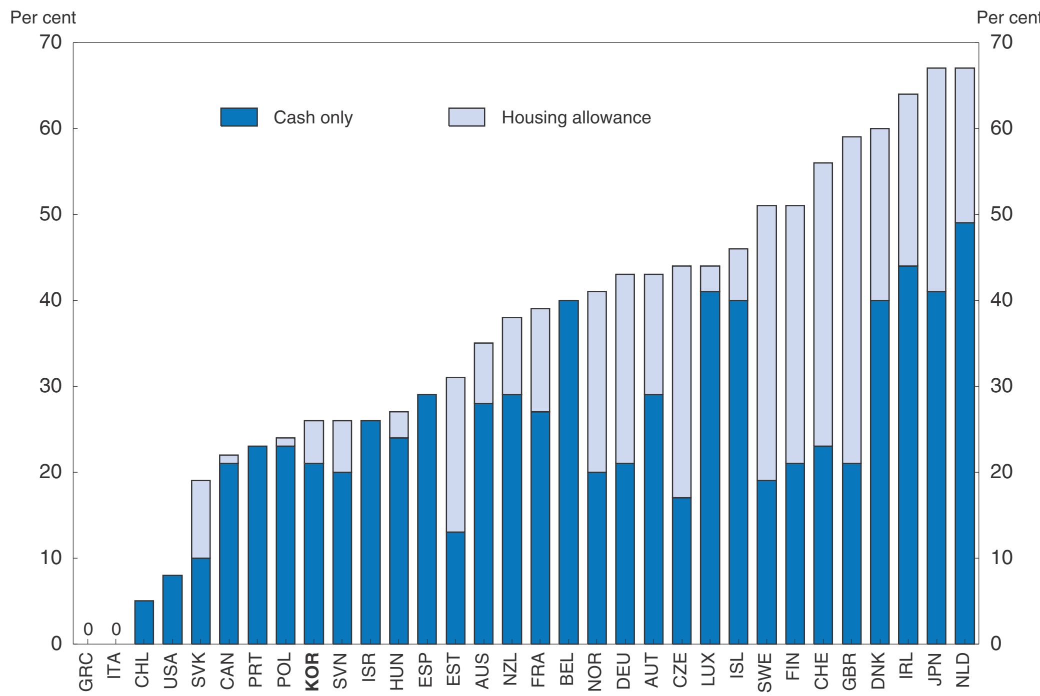
Korea's social safety net has a number of weaknesses:

- Korea's system of cash benefits and direct taxes is the least redistributive in the OECD in terms of reducing relative poverty and the third weakest in terms of income inequality (OECD, 2013c). This reflects low public social spending, at 9.3% of GDP in 2012,[3] less than half of the OECD average of 22%, and the limited progressivity of taxes and benefits, although it has improved over the past decade.
- Korea's basic social assistance programme, the Basic Livelihood Security Programme (BLSP), ranks well below the OECD average in terms of generosity. Moreover, its impact is limited by gaps in coverage, which is also a problem for the other pillars of the safety net for the working-age population, namely employment insurance and the in-work earned income tax credit (EITC).
- The tax and benefit system provides weak work incentives for those with low skills, reflecting the simultaneous withdrawal of cash and in-kind benefits at certain earnings levels, thereby encouraging dependency and creating poverty traps (OECD, 2013c).

The BLSP, introduced in 2000, provides cash and a package of in-kind benefits, such as education and health care, to eligible persons living in absolute poverty, defined as an income below the minimum cost of living (MCL) set each year by the government. The MCL is 40% of the national median income. BLSP benefits, which are intended to boost recipients' income to the MCL, are provided to 3% of the population. However, 7-8% of the population has an income below the MCL. The limited coverage reflects the BLSP's strict eligibility criteria on income and asset ownership, which is converted into property income. In addition, those with the possibility of assistance from family members are not eligible for benefits under the "family support obligation rule". The number of recipients has fallen since 2011 due to better enforcement of the eligibility criteria through the Social Security Information System, which has increased transparency about income. BLSP outlays, which amounted to 0.6% of GDP in 2011, provide a maximum cash transfer (including the housing allowance) equivalent to 26% of the average income (Figure 2.5), putting it in the bottom third of OECD countries.

Figure 2.5. **Income levels provided by cash minimum-income benefits**

Net income value of benefits to a single person as a per cent of average income in 2011




*Source:* OECD (2013c).

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Eligibility criteria for the BLSP were relaxed by easing the family support obligation rule in 2012 and by changing the treatment of housing assets in 2013.[4] In October 2014, the income criterion for the in-kind benefits, such as for health care and education, will be increased from 40% to between 40% and 50% of the national median income. However, the subsistence cash benefit will still be limited to those with an income below the minimum cost of living. Together, these changes are expected to boost the number of BLSP recipients to 1.8 million, while the phased-in withdrawal of benefits will reduce poverty traps. Further extending the BLSP to cover all persons with an income below the MCL would greatly strengthen the safety net.

Beneficiaries who are able to work are required in principle to participate in training programmes run by central and local governments. In practice, 38% of able-bodied recipients were granted waivers for various reasons in 2009, suggesting a need to strengthen the training requirements. For those who do participate, the results are poor. Only 6% of those in the local governments' Self-Reliance Programme were able to escape poverty (Koh, 2011). In general, activation policies have played a small role in Korea, reflecting the low level of spending on active labour market policies at only 0.1% of GDP, well below the OECD average of 0.5%. In addition, the participation of BLSP recipients has been discouraged by the withdrawal of all benefits once their income reaches the MCL. The 2014 reform to gradually raise the income thresholds for in-kind benefits should help reduce such disincentives.

The impact of the EITC in encouraging work and reducing poverty is limited by its low benefit level and tight targeting compared to other OECD countries (OECD, 2013c). The EITC was initially restricted to couples with children, limiting its coverage to only around 4% of households. Coverage was extended in 2012 to childless households and some self-employed workers, and in 2014 to single persons. Relaxing the asset test, as for the BLSP, and extending coverage to more self-employed, as transparency about their income improves, would make the EITC more effective. In addition, individuals should be able to receive both the EITC and the BLSP. Finally, a moderate extension of the phase-out range of EITC payments would strengthen work incentives for families with low earning capacities.

Given Korea's rapid population ageing and the potential cost of rapprochement with North Korea, it is important to be cautious in increasing social spending. Indeed, population ageing alone is projected to boost public social spending from less than 10% of GDP in 2012 to 29% by 2060 under the current framework, according to the government. Revenue to finance any additional spending should be raised by pro-growth tax reform (Jones, 2008).

### *Enhancing the contribution of education to social cohesion*

#### *Ensuring access to high-quality early childhood education and care (ECEC)*

ECEC plays an essential role in improving the educational development of children as well as promoting social mobility and income equality. Empirical work has established that fundamental cognitive and non-cognitive abilities are created well before the age of five. Investment in pre-primary education thus provides high rates of return by enhancing later school achievement. Korea has gradually increased public spending on ECEC from a low level in recent years. In March 2013, it introduced a universal childcare subsidy to all parents with children aged five and under, regardless of their financial conditions.[5]

For children between ages three and five, 88% are enrolled in ECEC, equally split between childcare and kindergarten. The two systems have been segmented, with separate facilities and different objectives and curricula (Jones, 2013). The educational quality of kindergarten, under the Ministry of Education, is considered by parents to be superior to that of childcare, which is administered by the Ministry of Health and Welfare and has more of a social-welfare orientation. Private childcare is subject to price controls, in contrast to kindergartens, which are thus more expensive than childcare. In addition, a large number of children, particularly in higher-income families attend private institutions, known as *hagwons*, instead of or in addition to childcare and kindergarten. *Hagwons* are primarily focused on academic subjects, particularly foreign languages and mathematics. To promote social cohesion, it is important to ensure that the lower-cost childcare centres also provide high-quality instruction by:

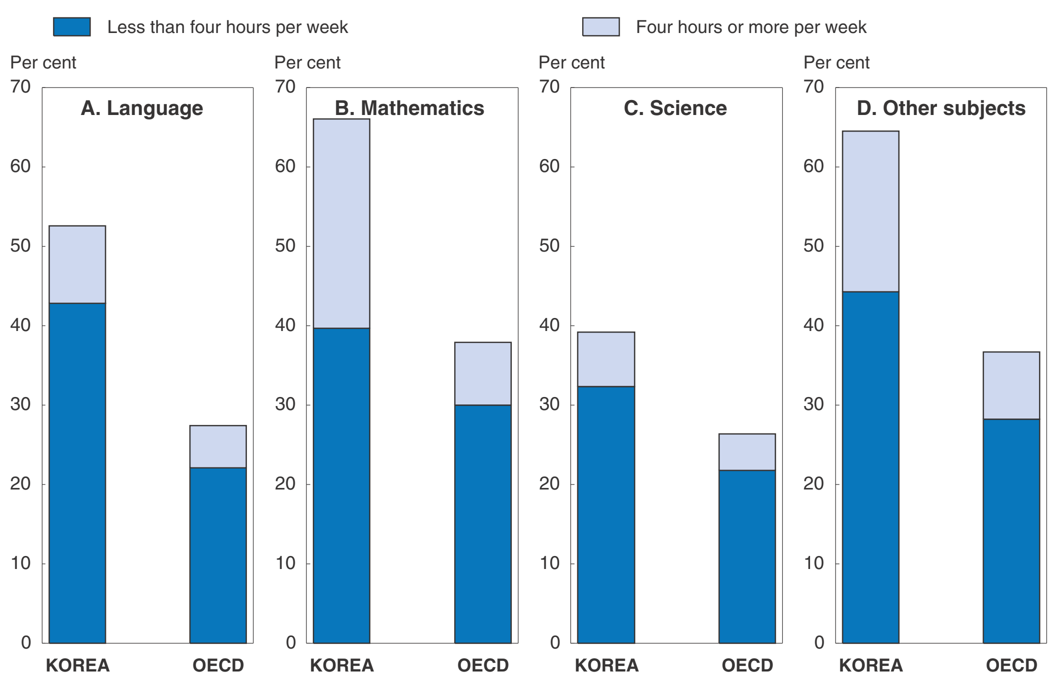
- Relaxing price ceilings and entry barriers for childcare to promote quality through competition, while ensuring its affordability by increasing subsidies on a means-tested basis.
- Setting up an integrated system for accreditation, monitoring and information common to both kindergartens and childcare services so that parents can make informed decisions about ECEC.
- Ensuring effective implementation of the common curriculum for five-year-olds in childcare and kindergarten that began in 2012 and continuing the harmonisation for three and four-year-olds.
- Establishing common regulations and standards, including for staff qualifications and staff-child ratios, for all children ages three to five, regardless of whether they attend kindergarten or childcare. The goal should be to raise the qualifications and pay of childcare staff. One option is the gradual integration of kindergarten and childcare.

### *Reducing the reliance on after-school tutoring*

Reliance on *hagwons* is also important for secondary students. Indeed, the share of students participating in after-school tutoring was the second highest among OECD countries in every subject except science in 2012 (Figure 2.6). Total spending on private tutoring increased from 1.2% of GDP in 1999 to 1.8% in 2010, representing 7.9% of average household disposable income (2012 *OECD Economic Survey of Korea*). A government survey that asked parents why they send their children to *hagwons* found that the most important reason was to gain entry to prestigious universities, which select students primarily based on entrance exam scores (Ministry of Education, 2011). Academic credentialism – the emphasis on where a person studied rather than on their abilities, accomplishments and potential – is strong in Korea, based on a well-known ranking of universities (Chang, 2009). The weakness of schools was also cited by parents, making private tutoring important to compensate for schools' shortcomings and to provide services tailored to students' individual needs. Given the high competition to enter top universities, though, private tutoring would likely play an important role regardless of the quality of schools.

Figure 2.6. **The percentage of students attending after-school lessons in Korea is exceptionally high**

Percentage of students by hours per week in 2012




*Source:* OECD (2013b).

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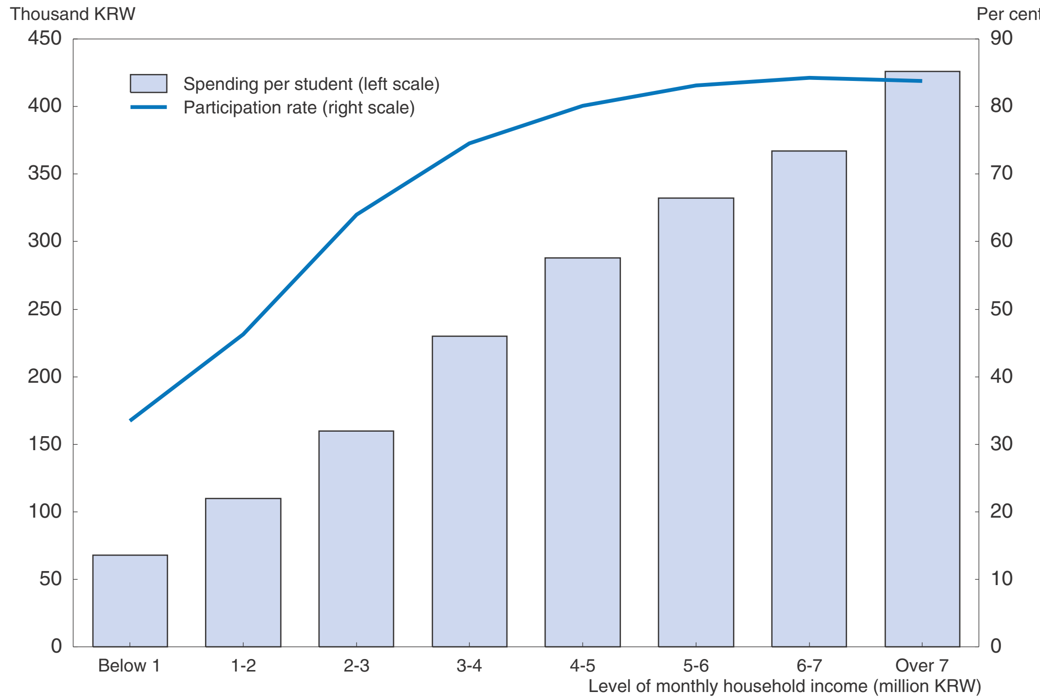
Participation in and spending on private tutoring are highly correlated with family income and in turn with admittance to high-ranking universities, which are a key determinant of career prospects and income. Only 34% of students from families with a monthly income below 1 million KRW ($963) participated in private tutoring in 2010, compared to 80% for those from families earning 4 to 5 million KRW (Figure 2.7). Similarly,

Figure 2.7. **Household income is closely linked with outlays and participation in private tutoring**

In 2011




*Source:* OECD (2014).

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the amount of outlays per student in private tutoring is four times higher for the middle-income group than for the lowest-income group. For households with income over 6 million KRW per month, enrolment rates rise to 84%, while outlays per month reach around 430 thousand KRW.

Equal opportunity is thus undermined by the heavy reliance on private tutoring, prompting the government to take measures to reduce its role. *First,* the government introduced in 2007 "the admissions officer" system, which gives greater weight to criteria other than the university entrance exam, such as school grades, essays and extra-curricular activities, to improve the university admission process. The new approach, which is now called the "school records" system, covered 13.5% students admitted to four-year universities in 2013. There is a need for caution, though, as reliance on more subjective criteria opens up opportunities for favouritism, given the importance of social connections. The reliance on multiple-choice exams has provided legitimacy to the university entrance process. *Second,* the government has made public after-school tutoring more accessible to low-income students by further expanding Internet and broadcast teaching systems and increasing after-school programmes in schools. *Third,* the government regulates the operating hours and fees charged by *hagwons*.[6]

While the school records system and the increased access to public after-school education are steps in the right direction, it is important to address the fundamental causes driving private tutoring. Parents' responses to the 2011 government survey focused on three issues. *First,* improving the quality of schools would enable students to acquire sufficient education without private tutoring. *Second,* creating more diverse schools, an objective the government is pursuing through its plan to establish 300 "autonomous" high schools, would help meet students' needs. *Third,* strengthening vocational education would reduce the over-emphasis on higher education and the need for private tutoring. Meister schools, based on the German model of training master craftsmen, have been successful since their introduction in 2008 and should help address the labour market mismatch discussed above. Finally, given that university tuition is the third highest in the OECD area, it is important to expand the availability of public loans for tertiary education, with repayment contingent on income after graduation. Loans, scholarships and grants to students amounted to only 9% of public spending on tertiary education in 2010, far below the 22% OECD average.

## Reducing the high rate of poverty among the elderly

Poverty in Korea is concentrated among the elderly. While the relative poverty rate – defined as an income below half of the national median – for the working-age population was below the OECD average in 2011, 49% of the population aged 65 and over lived in relative poverty. This is the highest proportion among OECD countries and far above the OECD average of 13%. The government has no data on the share of elderly in absolute poverty (an income below the minimum cost of living, which is 40% of the national median income). It is likely to be significant, as the share of Korea's total population in absolute poverty, at 7-8%, is about half of that in relative poverty. In 2012, 26% of the elderly had an income below 450 thousand KRW, well below the minimum cost of living of 553 thousand KRW (MHW, 2013), which would place them in absolute poverty. In sum, the generation responsible for Korea's economic miracle has been poorly rewarded. Addressing the high elderly poverty rate is essential to promote social cohesion in Korea. While the suicide rate of youth is close to the OECD average, rising poverty among the elderly contributed to an increase in their suicide rate from 34 (per 100 thousand persons) in 2000 to 72 in 2010, far above the OECD average of 22.

The high elderly poverty rate reflects a decline in family support before other private and public sources of old-age income have matured. The number of elderly living alone, who face a particularly high poverty rate of 71% (OECD, 2011), rose from 0.5 million in 2000 to 1.25 million (a quarter of the elderly) in 2010. In contrast to many OECD countries, where population ageing and development of public pensions occurred over a long time span, rapid population ageing in Korea has left it less prepared. Many elderly have failed to prepare financially, assuming that their children would care for them.

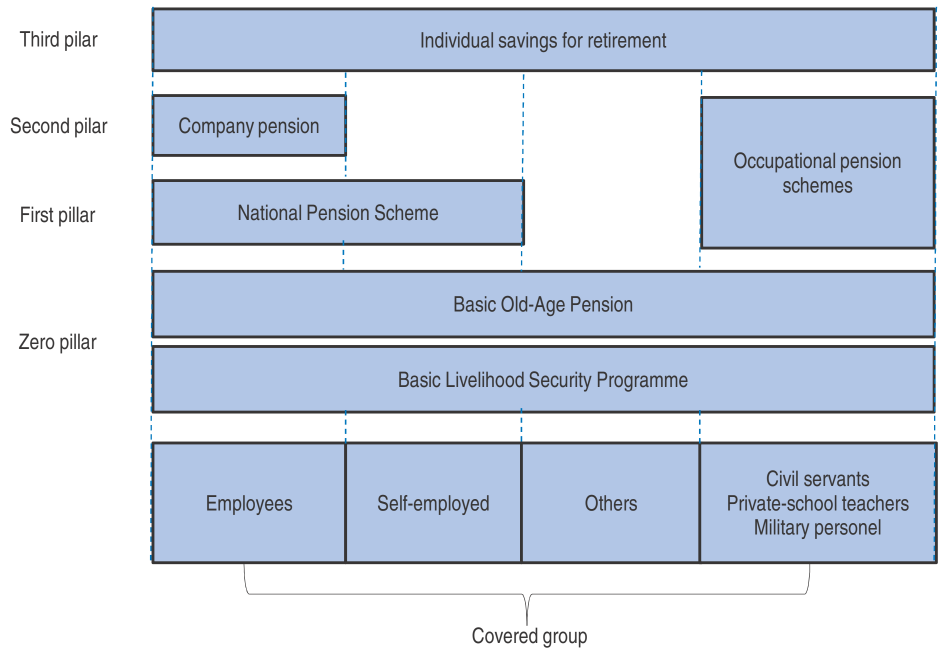
### *Overview of the income support system for Korea's elderly*

Korea has created a multi-pillar system to support its elderly population (Figure 2.8).[7] However, it is insufficient at present to prevent a high poverty rate among the elderly, reflecting its early stage of development and vigorous competition among diverse programmes to expand their coverage without an overall systemic plan (Kim, 2013).

#### *The zero pillar: Social welfare programmes*

The elderly can receive benefits from the Basic Livelihood Security Programme (BLSP, discussed above) and the Basic Old-Age Pension (BOAP). The share of the elderly receiving BLSP benefits is 6%, which is likely to be far below the share living in absolute poverty, as noted above. The low share of recipients reflects the income criterion that includes assets and the "family support obligation rule", which excludes elderly with the possibility of

Figure 2.8. **Korea's elderly income support system has multiple pillars**




*Source:* Kim (2013).

assistance from family members. However, the tradition of family support has weakened in recent years. Nevertheless, the government prefers to keep the rule in order to encourage families to care for their elderly relatives.

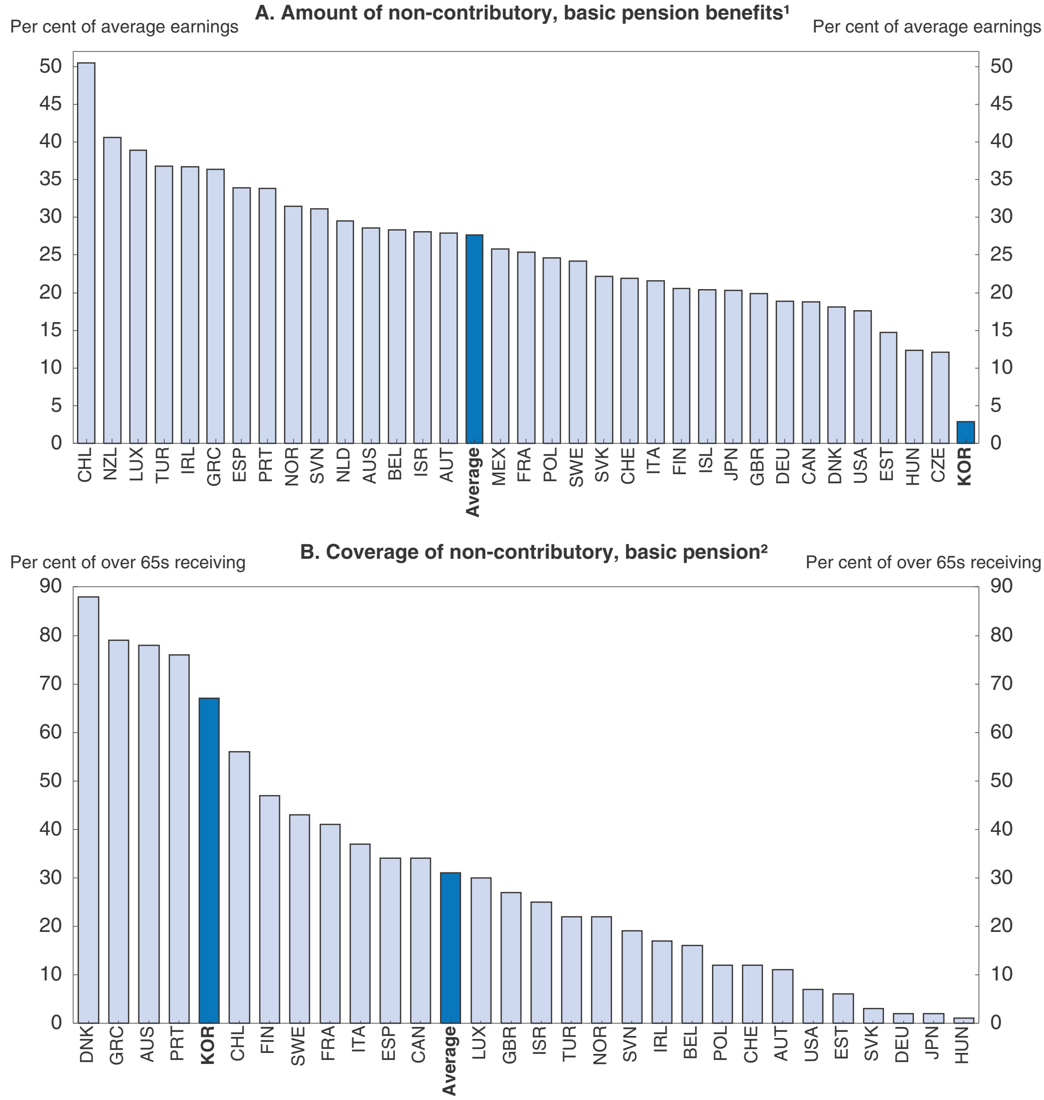
The BOAP, which was introduced in 2008, covers nearly 70% of the elderly, with a benefit that reached 97 thousand KRW (around $93 or 16% of the minimum cost of living) in 2014. The BOAP thus spreads resources very thinly over a large segment of the older population, compared to similar programmes in other OECD countries. In 2011, 31 OECD countries, including Korea, had non-contributory benefits that were means-tested, with an average benefit equal to 31% of economy-wide average earnings (Figure 2.9). Korea's BOAP benefit was the least generous, while its coverage was exceptionally large at 67% of the elderly, compared to an OECD average of 28% (Panel B). The BOAP has been unable to prevent a significant rise in the elderly poverty rate and Gini coefficient since 2007.

### *The first pillar: The National Pension Scheme (NPS) and occupational pension schemes*

In 2013, 29% of the elderly received old-age pensions from the NPS (Table 2.2). The average pension benefit was small at 310 thousand KRW per month (about $298), a little over half of the minimum cost of living. Moreover, the gender gap in NPS coverage and benefits is large; 40% of men received benefits in 2011 compared to only 15% of women. The limited role of the NPS reflects its relatively recent introduction in 1989 and the large share of the population that does not participate in the Scheme. In 2012, 15.7 million persons paid contributions (NPS, 2012a), only 43% of the working-age population and far below the 80-100% in other advanced countries (Lee, 2012). The low share reflects a lack of trust in the pension system, as well as the large number of self-employed, non-regular workers and employees at SMEs, who can evade contributions. In 2011, only 38% of non-regular workers were covered in their workplaces compared to 79% of regular workers. Participation has also

Figure 2.9. **Basic, non-contributory pensions in OECD countries**

In 2012




1. As a per cent of economy-wide average earnings.
2. As a per cent of the population aged 65 and over.

*Source:* OECD (2013a).

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been discouraged by the cut in the targeted replacement rate from an initial 70% to 50% for a worker with 40 years of contributions, and the rate is set to decline further to 40% by 2028.

Apart from the NPS, three stand-alone public-sector pension schemes – for civil servants, the military and private-school teachers – cover 1.5 million public-sector workers (4% of the working-age population). The occupational schemes rely increasingly on government funding because of the relative generosity of their pension benefits compared to the NPS and the rising number of retired public-sector officials and their increasing life expectancy (Kim and Moon, 2011). In 2009, government spending for the civil service scheme amounted to 0.6% of GDP and, despite reforms enacted that year, it is expected to reach 1.1% in 2030.

Table 2.2. **Long-term projections of the coverage of the National Pension Scheme**

In thousand people

| | Population | | Insured persons | | Pension recipients (over 65) | | | |
|---|---|---|---|---|---|---|---|---|
| | 18-59 | Over 65 | | | Old age | | Disability or survivor | |
| | (A) | (B) | (C) | C/A | (D) | D/B | (E) | E/B |
| 2013 | 32 316 | 6 138 | 20 396 | 63.1 | 1 782 | 29.0 | 233 | 3.8 |
| 2020 | 31 395 | 8 084 | 20 367 | 64.9 | 2 764 | 34.2 | 547 | 6.8 |
| 2030 | 27 415 | 12 691 | 18 627 | 67.9 | 5 194 | 40.9 | 1 173 | 9.2 |
| 2040 | 23 792 | 16 501 | 16 823 | 70.7 | 8 972 | 54.4 | 1 774 | 10.8 |
| 2050 | 21 045 | 17 991 | 15 479 | 73.6 | 12 310 | 68.4 | 2 187 | 12.2 |
| 2060 | 17 730 | 17 622 | 13 573 | 76.6 | 13 857 | 78.6 | 2 230 | 12.7 |

*Source:* National Pension Research Institute (2013).

### *The second pillar: The retirement allowance and the company pension system*

The weakness of the NPS and the decline in family support has left a void that is to be filled in part by company pensions, which were launched in 2005. Company pensions are intended to replace the so-called retirement allowance, which requires firms to pay departing employees a lump-sum equivalent to at least one month of wages per year of work. The retirement allowance, which became mandatory in 1961, was intended to support the unemployed and retirees in the absence of unemployment insurance and pensions. However, it is not a secure source of retirement income, as it is partially unfunded. Moreover, given average job tenure of only six years in Korea, most workers receive the retirement allowance numerous times during their working life. About 70% of workplaces with a retirement allowance have paid the allowance to workers at least once prior to their retirement, which encourages its use for purposes other than retirement income.

The retirement allowance also has negative side effects on the labour market. *First,* it encourages the hiring of non-regular workers, as less than half are eligible for the allowance (OECD, 2013c). *Second,* it discourages firms from keeping older workers, given that the allowance is linked to the final salary, which rises with age in Korea's seniority-based wage system. Nevertheless, the retirement allowance remains popular with workers, slowing the spread of company pensions. Its popularity is due in part to favourable tax treatment, which allows the lump sum to be taxed over a number of years at low rates.

The company pension system allows firms to transform the retirement allowance into a defined benefit (DB) or a defined contribution scheme (DC), based on an agreement between management and employees. Companies that introduce a pension system are exempt from paying the retirement allowance, although many still do. The replacement rate of company pensions is estimated to be 12.5% (Chung, 2010). By 2012, only 13.4% of firms had established company pensions (Table 2.3). As the share is highest among large firms, 24.7% of employees were enrolled in company pensions (46% of workers who have been employed for at least one year), with two-thirds in DB schemes. Regular workers account for the vast majority of those enrolled in company pensions. The business sector's resistance to the company pension system reflects in part the requirement that firms must entrust at least 60% of the funds to financial institutions in the case of DB schemes and 100% in the case of DC schemes, in contrast to the retirement allowance, which does not have to be funded outside the firm. Moreover, contributions to company pensions can be as large as those for the retirement allowance.

Table 2.3. **Enrolment in the company pension system**

| | Share of firms with company pensions | Employees enrolled in company pensions | Share of total employees | Share of employees employed at least one year[1] | Enrolled employees by type of plan | | |
|---|---|---|---|---|---|---|---|
| | | | | | DB plan | DC plan | IRP[2] |
| | Per cent | Thousand employees | Per cent | Per cent | Per cent | Per cent | Per cent |
| 2006 | 1.2 | 213 | 1.4 | 3.1 | 39.2 | 43.6 | 17.2 |
| 2008 | 3.6 | 1 115 | 6.9 | 15.2 | 63.3 | 31.1 | 5.6 |
| 2010 | 6.4 | 2 394 | 14.1 | 27.0 | 68.8 | 28.2 | 3.0 |
| 2012 | 13.4 | 4 377 | 24.7 | 46.0 | 63.3 | 34.7 | 2.0 |

1. Workers who have worked one year or longer at a company are eligible for company pensions.
2. Individual Retirement Pension.
*Source:* Ministry of Employment and Labour.

### *The third pillar: Individual pension accounts*

Voluntary individual pension accounts, which were introduced in 1994, allow individuals to choose personal pension products offered by insurance companies, banks and asset management companies. They are allowed a tax credit of up to 12% of the amount placed in the accounts up to a ceiling of 4 million KRW ($3 850) a year and taxation is deferred until they start receiving benefits at age 55. The replacement rate of the individual accounts has been estimated at 7.5% (Chung, 2010). The total amount of assets in individual accounts increased from 4.5% of GDP in 2008 to 6.5% in 2013, while the number of contracts rose by 55% to 6.3 million. However, assuming one contract per person, the number of voluntary individual retirement accounts would cover only 17% of the working-age population. Moreover, a substantial number of individuals withdraw their funds before reaching age 55. The share of investors closing their account rises from 28% after five years to 48% after ten years.

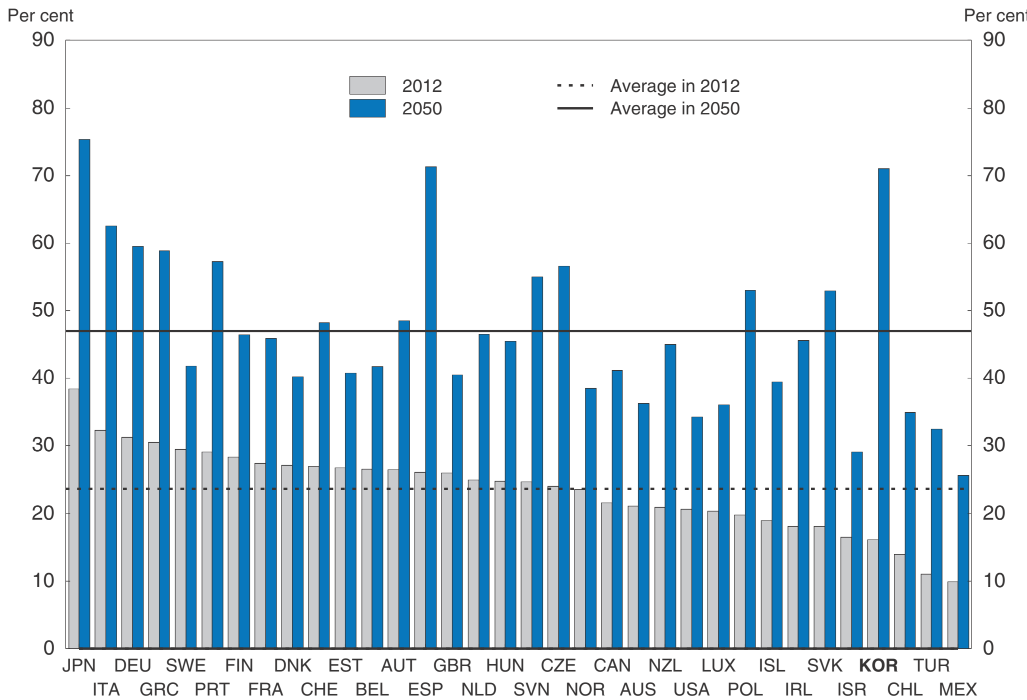
### *Longer-term challenges to reducing elderly poverty*

Longer-term concerns include demographic change, the limited impact of the NPS and its financial sustainability. Elderly poverty is likely to be exacerbated during the coming decades by population ageing. The fertility rate fell from 4.5 in 1970 to 1.2 in 2002 and remains close to that level, the lowest in the OECD, while life expectancy has risen to the OECD average. As a result, Korea is projected to face the most rapid population ageing in the OECD, transforming its population from the fourth youngest in 2012 to the third oldest in 2050 (Figure 2.10). The number of working-age persons is projected to fall from 6.0 per elderly in 2010 to 1.3 in 2050, which may tend to further reduce family support for the elderly.

The NPS will be insufficient to significantly reduce poverty among the elderly given its low coverage, the limited contribution history of pension recipients and the low targeted replacement rate. According to the government's 2013 projection, only 40.9% of the elderly in 2030 will receive old-age pensions (Table 2.2). Moreover, their average contribution period is projected to be less than 20 years, less than half of the 40 years on which the 40% replacement rate is based. In addition to the gaps in coverage, this reflects early departure from firms even before the mandatory retirement age, which firms set at an average age of 57 in 2010. With a contribution period of less than 20 years, the average replacement rate would be less than 20%. In addition to the low average level, pension benefits will vary widely, reflecting high wage inequality, as noted above.

Figure 2.10. **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 15 to 64




*Source:* *OECD Demography and Population Database.*

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The NPS is not financially sustainable according to the government's 2013 projection, despite large social security surpluses at present that are projected to boost the National Pension Fund to 50% of GDP by 2035 (NPRI, 2013).[8] Under the current parameters (a 9% contribution rate, a hike in the pension eligibility age from 61 to 65 by 2033 and a 40% replacement rate), outlays would surpass revenues in 2044 (Table 2.4). The Fund would be exhausted by 2060, when its annual deficit would reach 4.1% of GDP.

Table 2.4. **Long-term projections of the National Pension Scheme's financial balance**

| | National Pension Fund | | Income | | Expenditure | | Balance | |
|---|---|---|---|---|---|---|---|---|
| | Trillion KRW | Per cent of GDP | Trillion KRW | Per cent of GDP | Trillion KRW | Per cent of GDP | Trillion KRW | Per cent of GDP |
| 2013 | 417.7 | 31.1 | 52.2 | 3.9 | 14.6 | 1.1 | 37.7 | 2.8 |
| 2020 | 847.2 | 39.3 | 109.1 | 5.1 | 33.9 | 1.6 | 75.2 | 3.5 |
| 2030 | 1 732.4 | 47.8 | 186.9 | 5.2 | 90.0 | 2.5 | 97.0 | 2.7 |
| 2040 | 2 494.5 | 47.4 | 258.4 | 4.9 | 213.8 | 4.1 | 44.7 | 0.9 |
| 2043 | 2 561.5 | 44.2 | 277.6 | 4.8 | 267.3 | 4.6 | 10.3 | 0.2 |
| 2044 | 2 558.7 | 42.7 | 283.7 | 4.7 | 286.5 | 4.8 | -2.8 | 0.0 |
| 2045 | 2 541.4 | 41.1 | 289.4 | 4.7 | 306.8 | 5.0 | -17.4 | -0.3 |
| 2050 | 2 200.5 | 30.5 | 309.8 | 4.3 | 414.1 | 5.7 | -104.3 | -1.4 |
| 2060 | -280.7 | -2.9 | 263.4 | 2.8 | 657.8 | 6.9 | -394.4 | -4.1 |

*Source:* National Pension Research Institute (2013).

### *Addressing elderly poverty, while ensuring the long-run sustainability of the NPS*

A well-designed multi-pillar approach based on a social consensus is needed to ensure adequate retirement income and reduce elderly poverty. This should include carefully-targeted social spending, reforms to public pension systems, and measures to boost private savings for old age by developing the company pension system and individual pension savings. Together, the pillars should aim at an overall replacement rate of around 70% (Antolin, 2009). All of the components of a multi-pillar system have been established in Korea during the past 25 years but are still at an early stage of development. Moreover, it is essential that the pillars function smoothly together (Kim, 2013).

#### *Immediate priorities to reduce elderly poverty*

The top priority in the short run is to improve social welfare programmes to ensure an adequate minimum level of income for the elderly. The 2014 legislation to double the BOAP to 200 thousand KRW (about $193) per month, while keeping the coverage virtually unchanged,[9] would raise government outlays by around 1% of 2012 GDP over 2014-17. Although there is no estimate of the impact of the expansion of the BOAP on the relative poverty rate of the elderly, which is 49%, it is likely to be limited, leaving the poverty rate far above the 13% OECD average. Moreover, it is uncertain what impact it would have on the share of elderly in absolute poverty.

Inasmuch as the BLSP has not achieved the goal of ensuring that all poor have an income that at least matches the minimum cost of living, the BOAP could play that role for the elderly. Given the budget constraint, this would require narrowing the coverage of the BOAP to provide larger benefits to the elderly below the minimum cost of living, in line with its stated goal of aiding the "financially distressed" (Yun, 2013), so that they can escape absolute poverty. As poverty and income inequality are much higher among the elderly than the working age population, narrowing the BOAP's coverage and increasing its benefits is appropriate.

With the 2014 reform increasing the threshold for in-kind benefits from 40% to 40%-50% of median income, the BLSP should be used to top up the income of poor elderly. The proportion of elderly receiving the BLSP should be increased from the current 6% by further relaxing the treatment of home ownership by the BLSP and the "family support obligation rule". Finally, the government should ensure that all the elderly who are eligible for the BLSP actually receive it (OECD, 2013c). Measures to enhance the employability of older workers, as part of the 70% roadmap, would also help reduce poverty.

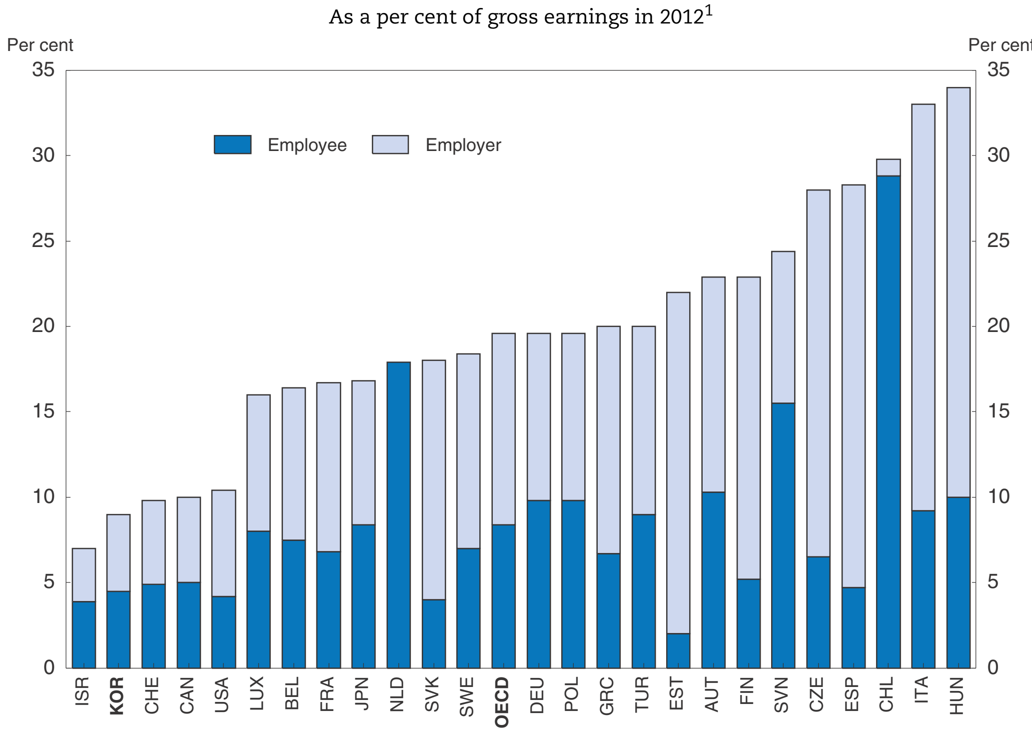
#### *Ensuring the sustainability of the public pensions*

The NPS faces the challenge of expanding its coverage to alleviate poverty while ensuring its long-term solvency. There are three options to achieve sustainability – cutting pension benefits, raising the pension eligibility age and hiking the contribution rate. With the replacement rate set to fall to 40%, further cuts in pension benefits might increase the share of elderly in poverty. As for the pension eligibility age, it is already set to rise from 61 to 65 by 2033, which will offset gains in life expectancy, although a number of OECD countries will have higher eligibility ages by that point. However, under current labour practices, a more rapid hike in the pension eligibility age would lengthen the gap between when workers leave firms and when they can receive a public pension.

The best option, therefore, is to raise more revenue. Although some countries rely on general tax revenue to finance pensions, this would not be appropriate in Korea, where only 41% of the elderly will receive an NPS pension in 2030. Relying on general tax revenue to fund the NPS would, in effect, transfer income from low-income persons, such as non-regular workers and those in SMEs, who are less likely to participate in the NPS, to higher-income persons. Instead, the priority is to raise the contribution rate, which has been set at 9% since 1998, the second lowest in the OECD area and well below the OECD average of 19.6% (Figure 2.11). This has helped limit Korea's marginal tax wedge on labour, which is the third lowest in the OECD area. The 2013 government projection estimated that balancing the NPS budget through 2083 would require boosting the contribution rate to 14.1% by 2015. However, previous attempts to raise it have been rejected by the National Assembly and the current government has ruled out a hike in the rate during its term, which ends in 2018. Given the speed of population ageing, the contribution rate should start to be raised as soon as possible. Reforms are also needed to contain the cost of the three public-sector occupational pensions. The priority is to scale back the generosity of pension benefits, which have been maintained at high levels while the NPS was cut (Kim and Moon, 2011).

Figure 2.11. **International comparison of pension contribution rates**

As a per cent of gross earnings in 2012[1]




1. For 25 countries as some OECD countries have no separate pension contributions or private pensions only.

*Source:* OECD (2013a).

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### *Enhancing the effectiveness of the NPS against elderly poverty*

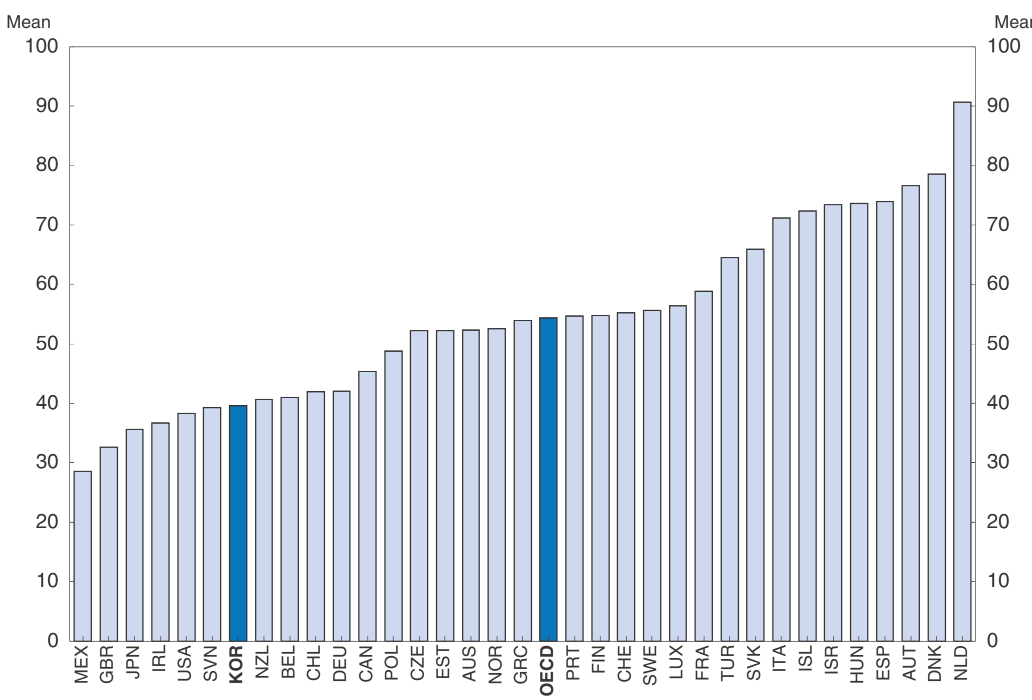
Ensuring adequate financing of the NPS would strengthen confidence in it, thereby increasing participation and the share of the population that will receive NPS pensions. The low participation also reflects the preference of workers and firms to avoid the burdens of paying contributions, pointing to the need for better enforcement (Lee, 2012), in particular to increase the compliance of the self-employed and to enhance transparency about their income. Combining the collection of taxes and social contributions would improve transparency about the income of the self-employed. Raising the share of non-regular workers who contribute to the NPS at their workplace from the current 38% is another priority.

To achieve a 70% overall replacement rate from all pillars combined will be difficult in Korea given the low NPS benefits. The gross replacement rate is 40%, the sixth lowest in the OECD and well below the 54% OECD average for mandatory pension schemes (Figure 2.12). As noted above, the government's long-term projections (Tables 2.2 and 2.4) are based on a contribution period of less than 20 years over 2030-40, implying that the average replacement rate will be less than 20% even after the NPS matures in 2028. Not surprisingly, nearly one-half of those surveyed in 2012 expect that the NPS pension benefit will be insufficient to cover their basic living expenses when they are old (Seok et al., 2012). The company pension system, which is concentrated among larger firms where wages are significantly higher, and individual pension saving accounts, are estimated to have a combined replacement rate of only 20% (Chung, 2010). Consequently, achieving the 70% replacement would likely require a large rise in social welfare spending.

Reaching the 70% target through pension savings will likely require larger benefits from the NPS based on a three-pronged approach. *First,* the share of the working-age population contributing to the NPS should be increased from its current level of 43%. *Second,* the average contribution period should be lengthened to provide higher pension benefits. *Third,* the

Figure 2.12. **Korea's pension replacement rate is one of the lowest in the OECD**

Gross pension benefits in 2012 as a share of gross labour earnings for men with average earnings[1]




1. For mandatory pension schemes, public and private.

*Source:* OECD (2013a).

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replacement rate should be maintained around 50%. Of course, such a higher replacement rate would require more revenue. If it were raised through contributions, the rate would have to rise to 16.7% to prevent a deficit in the NPS through 2083.

### *Encouraging private-sector saving for retirement*

A financially sustainable and more generous NPS should be supplemented by greater private savings. It is thus important to accelerate the introduction of company pensions; at the current rate, it would take until 2019 to cover just one-half of all employees. It is important therefore to accelerate the shift away from the retirement allowance, given its weaknesses discussed above, and toward company pensions. In 2012, the government limited the payment of the retirement allowance before the worker leaves the company (including for retirement) to specific purposes. The government has recently reduced the favourable personal income tax preferences that allow the retirement allowance to be taxed over a number of years at a low rate. It is important to assess the effectiveness of this measure in promoting the adoption of company pensions. Another key aspect of the 2012 reforms was to require new firms to set up a company pension, based on preliminary consultations with employee representatives, without requiring a formal agreement, which has blocked the introduction of company pensions in some existing firms.

It is essential to expand the third pillar – Individual Pension Accounts, in part by increasing the penalties for early withdrawal of funds from the accounts to make them a more secure source of retirement income. In addition, more favourable treatment should be provided for existing contracts. Given that tangible assets, primarily real estate, accounted for 75% of total household assets in Korea in 2012, reverse mortgages – in which elderly homeowners take out loans that provide a monthly payment using their property as collateral – are an attractive option to deal with elderly poverty. The loans are only repaid when the contract expires or the homeowner dies. Reverse mortgages were introduced in 2007 for persons over the age of 60 who have one house and have paid off their mortgages. By the end of 2013, 17 595 had been extended through a public financial institution. Private financial institution's participation is limited due to the risk related to housing prices and less favourable tax treatment in the past (Choi, 2013). The participation of private financial institutions should be encouraged.

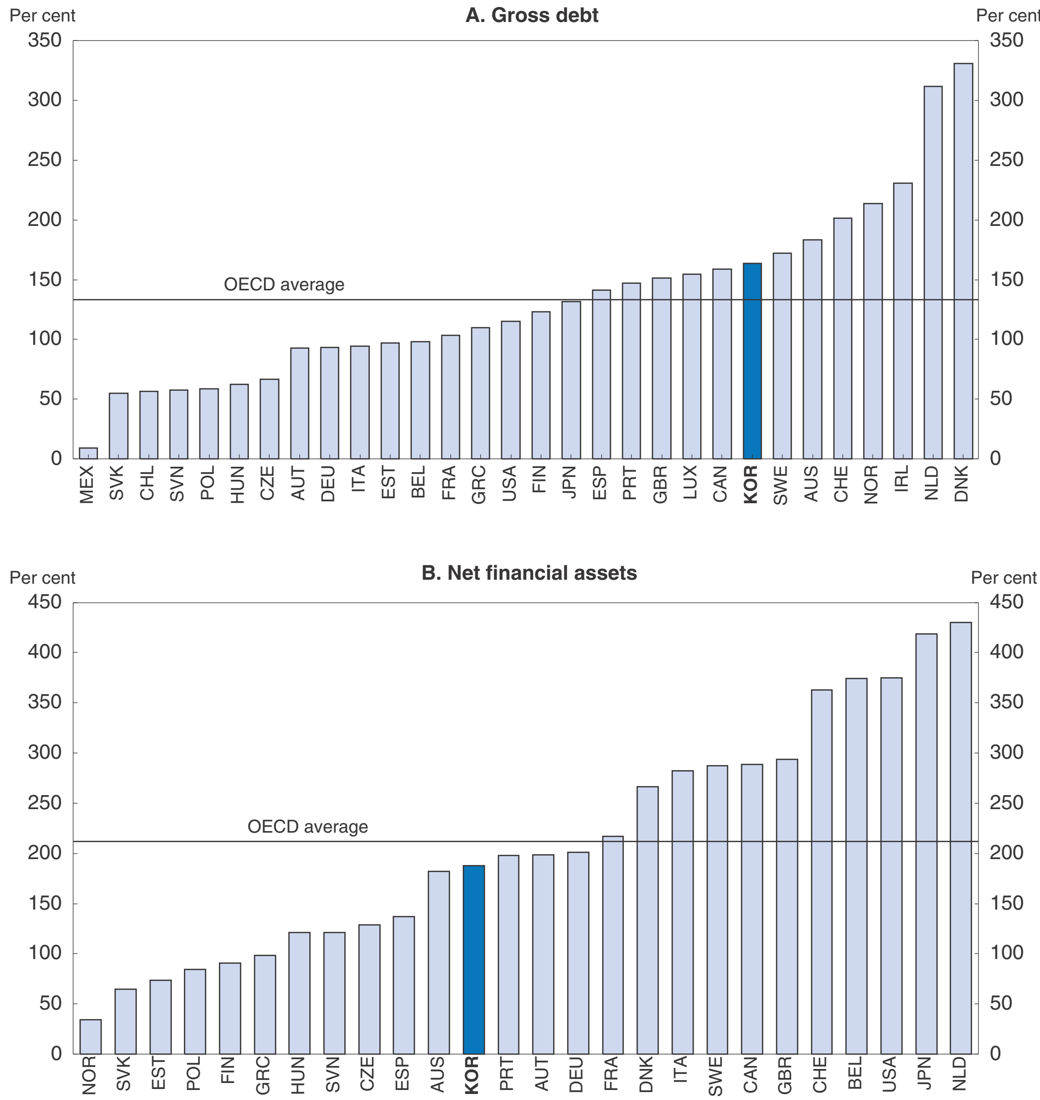
## Household debt: Implications for social cohesion

Household debt has become a major policy concern in Korea. By the end of 2007, it had reached 146% of household disposable income, matching that in the United States. While the household debt ratio in many countries fell in the wake of the 2008 financial crisis, it continued to rise in Korea, reaching 164% of disposable income by the end of 2012, well above the OECD average of 133% (Figure 2.13). As debt rises, the household sector becomes increasingly sensitive to changes in income and interest rates, thus amplifying the impact of such shocks (Debelle, 2004). Higher debt also forces households to modify their consumption and investment, thus increasing the risk of a significant economic downturn (OECD, 2012a). The collapse of Korea's credit card bubble in 2003 illustrates the impact of household debt on economic growth. High levels of household debt, which are often linked to housing price bubbles, can also threaten financial-sector stability.

Addressing the household debt problem is also critical for social cohesion in Korea. The run-up in debt has made financial institutions increasingly reluctant to lend to households, particularly those with low incomes and poor credit ratings, at the same time

Figure 2.13. **An international comparison of household debt**

As a per cent of net household disposable income in 2012




*Source:* *OECD National Accounts at a Glance Database.*

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as the financial needs of such households have been rising due to weak income growth. In addition, many delinquent borrowers have lost access to financial markets. If as a result, these individuals are excluded from financial markets, they would lose opportunities to improve their economic condition, thereby widening inequality.

### *The government's response to high and rising household debt*

In 2011, the government announced a plan to "induce the soft-landing of household debt" (FSC and FSS, 2011), warning that it threatened economic and financial stability. The objective is to gradually reduce the household debt ratio, while avoiding a sharp deleveraging. In addition to reducing the level, the plan aims to address the multiple dimensions of household debt, based on a two-track approach: *i)* enhancing the soundness of financial markets by containing the risk caused by high household debt; and *ii)* expanding support for people with low income and credit ratings, the group most vulnerable to the weak economic conditions following the 2008 crisis.

The authorities have also acted to reduce the risk associated with household debt, in particular by strengthening prudential measures on financial institutions. For example, a higher risk weight was applied to loans that have higher rates of default, such as those to persons with three or more loans. Leverage regulations were tightened by requiring banks to lower their loan-to-deposit ratio and similar measures were introduced for non-bank financial institutions, including credit card companies. Special emphasis has been placed on reducing the risks associated with mortgage lending, which accounts for half of household debt. Given the higher risk of floating-rate and "bullet repayment" loans,[10] financial supervisors are requiring lenders to raise the share of fixed-rate and instalment payment mortgages. With housing prices falling gradually in real terms since 2008, the government has reversed some of the measures, such as the hike in capital gains taxes, which were implemented in the mid-2000s to stabilise housing prices. The sluggish housing market is reversing the expectations that real estate prices will always rise, opening the door to structural changes in the housing market, including the traditional *chonsei* system.[11]

The social cohesion aspect of household debt is linked to Korea's underdeveloped social safety net. Low-income households suffering from spells of unemployment, high health care costs or other financial losses have to rely on loans for basic necessities. According to a 2012 Bank of Korea survey of indebted households, 25% borrow money to pay for living costs. Government measures to promote social cohesion in the face of such problems have focused on providing sufficient credit to households with low income and credit ratings at an affordable price and restoring the credit of delinquent borrowers who are excluded from the regular financial market.

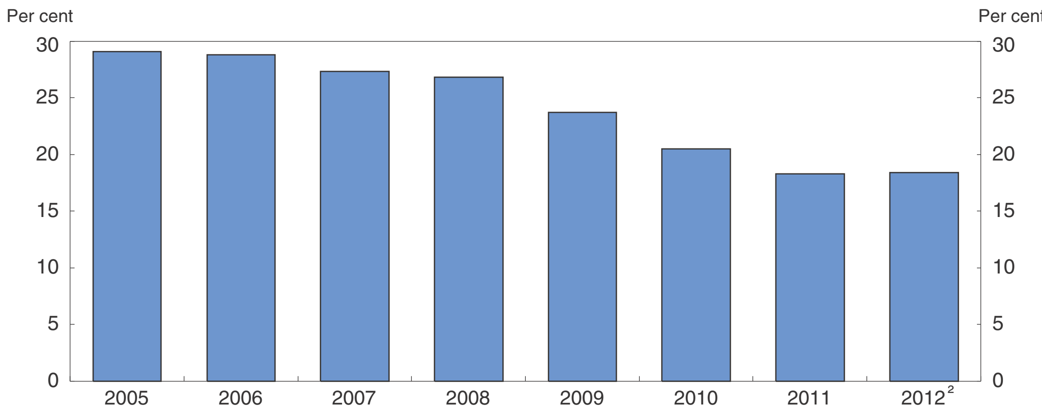
### *Providing credit to households with low income and credit ratings at an affordable price*

Due to the high risk of default and the lack of sufficient collateral, financial institutions limit their lending to people with low income and credit ratings. Indeed, the share of loans to individuals with low credit ratings fell from 29% in 2006 to 24% in 2009 and further to 18% in 2011-12 (Figure 2.14).[12]

In addition, 80% of individuals with low credit ratings depend on non-bank financial institutions and consumer finance companies for their borrowing, while banks focus on medium and high credit-rating borrowers (Table 2.5). This stratification of lending raises borrowing costs for disadvantaged borrowers, as the annualised interest rate on household loans charged by banks ranges from 5% to 14%, well below the 25% to 40% of mutual saving banks, which are major players in lending to households (Table 2.6). The highest rates are charged by consumer finance companies. A 2013 government survey found that unregistered companies charge 53% for household loans on average, and over 100% for around one-fifth of borrowers (FSS, 2013).[13] Such rates far exceed the interest rate ceiling on loans to individuals and small enterprises, which was lowered from 49% to 44% in 2010, to 39% in 2011 and further to 34.9% in 2014, raising doubts as to whether this regulation actually helps disadvantaged borrowers. The survey also found that 44% of those with loans from consumer finance companies, including unregistered institutions, borrowed to pay for living costs.

Figure 2.14. **The share of loans to individuals with low credit ratings is falling**

As a percentage of the outstanding loans of financial institutions[1]




1. Defined as a credit rating of between 7 and 10 according to the Korea Credit Bureau. About 6 million persons (14% of those with credit ratings) fell into that category as of June 2013.
2. October 2012.

*Source:* Nam (2013).

StatLink http://dx.doi.org/10.1787/888933041022

High interest rates increase the probability that borrowers with low credit ratings will default, creating a vicious circle that further reduces lending to such people and pushes up the interest rate. If a high interest rate is charged, only borrowers whose probability of default is high will agree to the loan, increasing the risk of default. To break this vicious circle, the government has introduced a number of programmes to provide loans to disadvantaged borrowers at preferential rates (Table 2.7).

Table 2.5. **The share of household lending by type of financial institution varies based on credit ratings**

In per cent[1]

| Lender | Medium and high-rated borrowers[2] | | Poorly-rated borrowers[3] | |
|---|---|---|---|---|
| | 2010 | 2012 | 2010 | 2012 |
| Banks | 50.0 | 46.3 | 20.0 | 18.1 |
| Non-bank financial institutions | 49.0 | 52.0 | 65.4 | 61.6 |
| Consumer finance companies | 1.0 | 1.7 | 14.6 | 20.2 |

1. Covers non-secured lending to each credit-rating category as a share of total non-secured lending.
2. Borrowers ranked 1 to 6 on the ten-point scale used by Korean credit-rating agencies.
3. Borrowers ranked 7 to 10 on the ten-point scale used by Korean credit-rating agencies.

*Source:* Bank of Korea (2013).

Table 2.6. **Interest rates on loans to households vary widely by type of lender**

| Lender | Credit rating of main borrowers[1] | Interest rate (%) |
|---|---|---|
| Banks | 1-3 | 5-14 |
| Mutual co-operation financial institutions | 2-6 | 10-25 |
| Financial institutions specialised in lending | 4-7 | 20-35 |
| Mutual saving banks | 5-9 | 25-40 |
| Consumer finance companies | 7-10 | 35-44 |

1. Based on the ten-point scale used by Korean credit-rating agencies.

*Source:* FSC (2011).

Table 2.7. **Preferential loans to people with low income and poor credit ratings**

| Programme | Channel | Financing | Rating to be eligible[1] | Interest rate |
|---|---|---|---|---|
| Miso Finance (2008) | Branches of Miso Finance | Dormant savings accounts<br>Financial institutions and large companies | 7-10 | 2-4.5% |
| Sunshine Loans (2010) | Mutual saving banks<br>Mutual credit institutions | Financial institutions' own resources, with publicly-funded credit guarantees | 6-10 | 11-14% |
| New Hope Seed Loans (2010) | Banks | Banks' own resources | 5-10 | 6-14% |
| Switch-over Dream Loan (2008)[2] | Banks | Financial institutions own resources with credit guarantees from the National Happiness Fund | 6-10 | Around 10% |

1. Based on the Korean credit rating system where 1 is the best and 10 is the worst.
2. This programme restructures existing loans with interest rates above 20%.
*Source:* FSC (2011) and FSC (2012).

### *Restoring the credit of people who are already delinquent*

Assisting households currently excluded from the regular financial market due to their failure to service their debts is another challenge to social cohesion. Information on delinquent borrowers is reported by the financial institution concerned to the Korea Federation of Banks and shared among financial institutions, making it nearly impossible for delinquent borrowers to receive loans from regular financial institutions. Therefore, they need to turn to the unregistered market where borrowers must pay extremely high interest rates, as noted above. At such high interest rates, it is nearly impossible to escape their debt and many lives are ruined by predatory lenders.

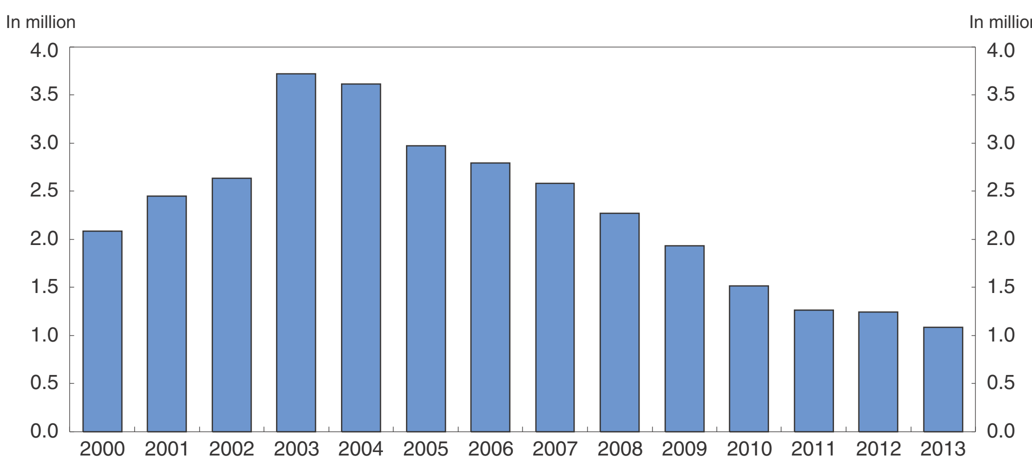
To promote the restructuring of delinquent debt, the government has supplemented the court-based procedures with out-of-court workouts. Under court-based procedures, delinquent borrowers can be absolved of their debt through the Individual Rehabilitation Programme, which requires them to pay the restructured debt for five years. Alternatively, they can file for bankruptcy and let the court settle the debt. In the wake of the collapse of the credit card bubble, the Credit Counselling and Recovery Service has arranged individual workouts based on agreements with financial institutions to extend maturity and lower interest rates in order to reduce the burden on debtors. As financial difficulties intensified after the 2008 crisis, the government created the pre-workout programme, which provides individual workouts to borrowers who have failed to service their debt for between 30 and 90 days to prevent them from falling into long-term delinquency. However, in principle, the individual workouts did not allow the reduction of principal in order to prevent debtors' moral hazard (FSC, 2012).

However, the "National Happiness Fund", introduced in March 2013, allows restructuring to reduce principal and interest by up to 70%, depending on the debtor's situation, raising concerns about moral hazard. Individuals who had borrowed less than 100 million KRW (around $96 thousand) and were overdue by six months or longer as of February 2013 are eligible for this programme. Financial institutions that signed agreements with the Fund for credit recovery assistance are obliged to sell overdue loans to the Fund if their delinquent borrowers apply for debt restructuring. By October 2013, 4 214 institutions had signed such agreements.

### *The results of policies to address the social dimensions of household debt*

The number of delinquent borrowers, which peaked at 3.7 million in 2003, declined to 1.1 million in December 2013 (Figure 2.15), thanks in large part to the government programmes discussed above. Since 2008, 12.7 trillion KRW (1.0% of 2012 GDP) has been provided to assist nearly 1.4 million people through the four major preferential loan programmes (Table 2.7). In addition, nearly one million delinquent borrowers have been assisted by the restructuring of their debt through out-of-court procedures (individual workouts, pre-workouts and the National Happiness Fund). The Fund alone accepted 214 thousand applicants during the May-October 2013 application period, resulting in a restructuring of 20.9 trillion KRW of debt.[14] Still, about 5% of borrowing households remain delinquent, making it necessary to keep up government efforts in this regard. The Three-year Plan for Economic Innovation, announced in February 2014, set a target of reducing the ratio of household debt to disposable income by 5 percentage points by 2017 through enhanced financial supervision and regulation (Annex A1).

Figure 2.15. **The number of borrowers listed as delinquent**




*Source:* Financial Supervisory Service.

StatLink http://dx.doi.org/10.1787/888933041041

One concern is the rise in the delinquency ratio of three of the preferential loan programmes (Miso Finance, Sunshine Loans and the Switch-over Dream Loan) to between 7.5% and 10%, even though they carry low interest rates. These programmes should be redesigned to enhance their sustainability and reduce moral hazard. In the case of the New Hope Seed Loan programme, which is run by banks using their own resources, the delinquency ratio is much lower at less than 4%.The preferential loans should not be regarded as free money and should be limited to those who have the ability and intention to service their debt. For debtors unable to service preferential loans, social welfare programmes would be more effective, and would prevent a further run-up in debt.

The debt restructuring programmes for delinquent borrowers can also create moral hazard problems. In particular, the large-scale write-off of existing debt through the National Happiness Fund may generate expectations that the government will intervene with such policies again in the future. It is important that the authorities maintain their pledge not to repeat such write-offs. At the same time, consumer financial education should be enhanced to help households carefully examine whether they can service their debt and to seek alternative solutions, such as social welfare assistance. Given that many low-income persons have limited financial knowledge, programmes run by the government or non-profit organisations are necessary (OECD, 2012c). While debtors are responsible for servicing their debt, financial institutions have the responsibility to avoid unsound lending. Lenders should make loans on the basis of careful credit evaluation as they also bear responsibility when debtors default.

The long-run goal should be to reduce the government's role and develop a market-based system to provide credit to households with low income and credit ratings. This calls for financial institutions to gain experience in such lending to enhance their capacity to evaluate credit risk. The role of small non-bank financial institutions, such as mutual saving banks and mutual credit institutions, in lending to credit-worthy individuals with low income and credit ratings could be encouraged, given that banks have little interest. This would reduce the role of finance companies, which tend to charge predatory interest rates.

### Summary of recommendations to promote social cohesion

**Labour market reforms**

- Break down dualism by reducing effective employment protection for regular workers, by expanding the coverage of non-regular workers through the social safety net and by increasing their access to vocational training.
- Extend the time limit on fixed-term contracts.
- Boost employment, particularly for women, youth and the elderly by breaking down dualism, reducing labour market mismatches, especially for youth through improved vocational education and training, and by extending older workers' careers in firms.

**Increase the effectiveness of social welfare programmes in reducing income inequality and poverty**

- Expand the Basic Livelihood Security Programme by further easing eligibility criteria and enforcing work requirements.
- Make the EITC more effective in reducing poverty by extending its coverage to more self-employed, as transparency about their income increases, and extending the phase-out range to avoid reducing work incentives.

**Enhance the contribution of education to social cohesion**

- Raise the quality of childcare to ensure that households at all income levels have access to high-quality pre-school education.
- Reduce reliance on private tutoring by developing the "school record system" for university admission, raising the quality and diversity of secondary schools and reducing the over-emphasis on higher education by improving vocational education.

**Reduce poverty among the elderly**

***Immediate priorities to address poverty, while ensuring the sustainability and effectiveness of the NPS***

- Target the Basic Old-Age Pension on the lowest-income elderly to ensure that all escape from absolute poverty (40% of national median income).
- Use the Basic Livelihood Security Programme to top up the income of the elderly in relative poverty (50% of the national median income) by further relaxing eligibility requirements.

**Summary of recommendations to promote social cohesion** *(cont.)*

- Make the NPS more effective in reducing elderly poverty by expanding its coverage, focusing on improved compliance among non-regular and self-employed workers, lengthening average contribution periods and maintaining the NPS replacement at around 50%, keeping it close to the OECD average.
- Begin as soon as possible to raise the NPS contribution rate to a level sufficient to ensure its long-run sustainability.

***Encouraging private-sector saving for retirement***

- Accelerate the introduction of company pensions.
- Make Individual Pension Accounts a more important source of retirement income by measures to discourage their premature termination and develop the market for reverse mortgages.

**Address the social implications of household debt**

- Promote the development of lending by local non-bank financial institutions to disadvantaged households that are credit-worthy.
- Ensure the long-run viability of preferential loan programmes by granting loans only to those who are capable and willing to service their loans. For others, replace preferential loans with an expanded social safety net.
- Avoid additional programmes offering large write-offs of principal and interest so as to avoid moral hazard.
- Discourage excessive lending to households by financial institutions through appropriate prudential supervision and promote financial education for households to prevent over-borrowing.

### *Notes*

1. The turnover rate is the sum of hirings (estimated by the number of workers in a given year with less than one year of tenure) and separations (estimated as the difference between hirings and net employment change), divided by total employment.
2. Firms accept seniority-based wages, knowing that they can force workers to leave at the retirement age that they set. Prohibiting mandatory retirement would make a strong seniority-wage link too expensive.
3. All comparisons in this chapter using GDP are based on SNA1993, which provides time series data back to 1970, rather than on SNA2008, which was released in late March 2014 for the period 2000-13.
4. The conversion rate for turning house ownership into monthly income was cut from 4.2% to 1.0% in 2013, although it remains high compared to the rates used in some other OECD countries. Around two-thirds of OECD countries disregard the value of a claimant's home in determining eligibility for social benefits. The conversion rate of other assets in Korea was not changed.
5. In March 2012, subsidies had been extended to children aged 0 to 2 and to 5-year-olds. For 3 and 4-year-olds, subsidies were given to those in the lower 70% of the income distribution.
6. Of around 17 thousand *hagwons* or tutors investigated in 2013, nearly 2 thousand were found to have violated rules regulating fees paid by parents and the 10 p.m. curfew.
7. For further information on the structure of the elderly income support system, see Jones and Urasawa (2014).
8. The government's fiscal objective is to balance the consolidated central government budget (excluding social security). The resulting surpluses have led to a rapid increase in the National Pension Fund and made the government a net creditor with net assets equal to 35.9% of GDP in 2012.
9. Of the recipients, 60% will receive the full 200 thousand KRW, while the remainder will get between 100 thousand and 200 thousand KRW depending on their income. The original campaign promise of providing universal coverage of the increased BOAP was ruled out as too expensive.

10. With a bullet repayment loan, the borrower pays only interest during the term of the loan and pays off all of the principal when the loan reaches maturity, typically at three to five years. For more information on government measures to reduce the risk of household debt, see Jones and Kim (2014).
11. Under this system, a tenant deposits a lump sum for two years, instead of paying monthly rent, and the deposit – minus the interest earned by the owner – is refunded at the end of the contract. In 2010, about 54% of households lived in owner-occupied housing, while about one quarter each lived in *chonsei* housing and rental housing. For more information, see Jones and Kim (2014).
12. Korean credit rating agencies classify people into ten grades, with 10 as the lowest. In Nam's study, a grade between 7 and 10 was classified as low. According to the Korea Credit Bureau, a credit-rating agency specialised in personal credit and whose shareholders are 18 major financial institutions, 41 million people had credit ratings at the end of June 2013. Of them, 6 million (14%) had grades of 7 to 10. The number with credit ratings exceeds the 38.5 million Koreans aged 19 and over in 2011, reflecting the inclusion of some youth and some people who have passed away, given lags in updating the database.
13. All consumer finance companies must register with the local government. Those that do not are operating illegally.
14. Following the end of the six-month application period, the National Happiness Fund purchases loans from enlisted institutions and then conducts restructuring with the consent of borrowers who meet the same criteria as applied during the application period. For more information, see Jones and Kim (2014).

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# Acronyms and abbreviations used in this survey

| | |
|---|---|
| **BLSP** | Basic Livelihood Security Programme |
| **BOAP** | Basic Old-Age Pension |
| **DB** | Defined benefits |
| **DC** | Defined contribution |
| **ECEC** | Early childhood education and care |
| **EITC** | Earned income tax credit |
| **ETS** | Emissions Trading System |
| **FDI** | Foreign direct investment |
| **GDP** | Gross domestic product |
| **GHG** | Greenhouse gas |
| **GNI** | Gross national income |
| **GRI** | Government research institute |
| **IPO** | Initial public offering |
| **IRP** | Individual retirement pension |
| **ICT** | Information and communication technologies |
| **KBC** | Knowledge-based capital |
| **KCGF** | Korea Credit Guarantee Fund |
| **KDI** | Korea Development Institute |
| **KFC** | Korea Finance Corporation |
| **KONEX** | Korea New Exchange |
| **KOSDAQ** | Korea Securities Dealers Automated Quotation |
| **KOTEC** | Korea Technology Finance Corporation |
| **KRW** | Korean won |
| **M&A** | Merger and acquisition |
| **MCL** | Minimum cost of living |
| **MOEL** | Ministry of Employment and Labor |
| **MOSF** | Ministry of Strategy and Finance |
| **NEET** | Neither in employment, nor in education or training |
| **NHI** | National Health Insurance |
| **NPS** | National Pension Scheme |
| **PMR** | Product market regulation |
| **PISA** | Programme for International Student Assessment |
| **R&D** | Research and development |
| **SMBC** | Small and Medium Business Corporation |
| **SME(s)** | Small and medium-sized enterprise(s) |
| **S&T** | Science and technology |
| **TiVA** | Trade in value-added |
| **TFP** | Total factor productivity |
| **VAT** | Value-added tax |

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