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Foreword

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

The economic situation and policies of Korea were reviewed by the Committee on 13 July 2022. The draft report was then revised in light of the discussions and given final approval as the agreed report of the whole Committee on 24 August 2022.

The Secretariat's draft report was prepared for the Committee by Jon Pareliussen, Hyunjeong Hwang, Yoonyoung Yang and Axel Purwin, under the supervision of Vincent Koen. Research assistance was provided by Axel Purwin, and editorial support by Sisse Nielsen and Michelle Ortiz.

The previous *Survey* of Korea was issued in August 2020.

Information about the latest as well as previous Surveys and more details about how *Surveys* are prepared is available at www.oecd.org/eco/surveys

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Basic statistics of Korea, 2021

(Numbers in parentheses refer to the OECD average) [1]

LAND, PEOPLE AND ELECTORAL CYCLE					
Population (million, 2020)	51.8		Population density per km² (2020)	531.0	(38.7)
Under 15 (%, 2020)	12.1	(17.8)	Life expectancy at birth (years, 2020)	83.5	(79.7)
Over 65 (%, 2020)	16.0	(17.4)	Men (2020)	80.5	(77.0)
International migrant stock (% of the population, 2020)	3.3	(13.2)	Women (2020)	86.5	(82.5)
Latest 5-year average growth (%)	0.3	(0.6)	Latest general election	March 2022	
ECONOMY					
Gross domestic product (GDP)			Value added shares (%, 2020)		
In current prices (billion USD)	1798.0		Agriculture, forestry and fishing	2.0	(2.7)
In current prices (trillion KRW)	2056.5		Industry including construction	35.6	(26.2)
Latest 5-year average real growth (%)	2.3	(1.5)	Services	62.4	(71.1)
Per capita (000 USD PPP, 2020)	45.3	(46.1)			
GENERAL GOVERNMENT (Per cent of GDP)					
Expenditure (2020)	37.6	(48.5)	Gross financial debt (2019, OECD: 2020)	44.2	(133.5)
Revenue (2020)	35.3	(38.1)	Net financial debt (2019, OECD: 2020)	11.7	(81.2)
EXTERNAL ACCOUNTS					
Exchange rate (KRW per USD)	1143.76		Main exports (% of total merchandise exports, 2020)		
PPP exchange rate (USA = 1)	808.46		Machinery and transport equipment	59.1	
In per cent of GDP			Chemicals and related products, n.e.s.	14.6	
Exports of goods and services	41.6	(54.6)	Manufactured goods	12.1	
Imports of goods and services	38.1	(51.1)	Main imports (% of total merchandise imports, 2020)		
Current account balance	4.8	(0.1)	Machinery and transport equipment	37.4	
Net international investment position	35.5		Mineral fuels, lubricants and related materials	18.3	
			Chemicals and related products, n.e.s.	10.9	
LABOUR MARKET, SKILLS AND INNOVATION					
Employment rate (aged 15 and over, %, OECD: 2020)	60.5	(55.1)	Unemployment rate, Labour Force Survey (aged 15 and over, %, OECD: 2020)	3.7	(7.1)
Men (OECD: 2020)	70.0	(63.0)	Youth (aged 15-24, %)	8.5	(12.8)
Women (OECD: 2020)	51.2	(47.7)	Long-term unemployed (1 year and over, %)	0.0	(1.3)
Participation rate (aged 15 and over, %, OECD: 2020)	62.8	(59.5)	Tertiary educational attainment (aged 25-64, %, 2020)	50.7	(39.0)
Average hours worked per year (2020)	1,908	(1,687)	Gross domestic expenditure on R&D (% of GDP, 2018)	4.5	(2.6)
ENVIRONMENT					
Total primary energy supply per capita (toe, 2020)	5.3	(3.7)	CO2 emissions from fuel combustion per capita (tonnes, 2019)	11.3	(8.3)
Renewables (%, 2020)	2.3	(11.9)	Water abstractions per capita (1 000 m³, 2018)	0.4	
Exposure to air pollution (more than 10 µg/m³ of PM 2.5, % of population, 2019)	99.4	(61.7)	Municipal waste per capita (tonnes, 2020)	0.4	(0.5)
SOCIETY					
Income inequality (Gini coefficient, Korea: 2020, OECD: 2018)	0.331	(0.317)	Education outcomes (PISA score, 2018)		
Relative poverty rate (%, Korea: 2020, OECD: 2018)	15.3	(11.7)	Reading	514	(485)
Median disposable household income (000 USD PPP, 2016)	28.1	(25.4)	Mathematics	526	(487)
Public and private spending (% of GDP)			Science	519	(487)
Health care (2020, OECD: 2019)	8.4	(8.8)	Share of women in parliament (%, 2020)	19.0	(31.5)
Pensions (2018, OECD: 2017)	3.9	(8.6)	Net official development assistance (% of GNI, 2017)	0.1	(0.4)
Education (% of GNI, 2019)	4.6	(4.4)			

1. The year is indicated in parenthesis if it deviates from the year in the main title of this table.
Where the OECD aggregate is not provided in the source database, a simple OECD average of the latest available data is calculated where data exist for at least 80% of member countries.
Source: Calculations based on data extracted from databases of the following organisations: OECD, IAE, ILO, IMF, United Nations, World Bank.

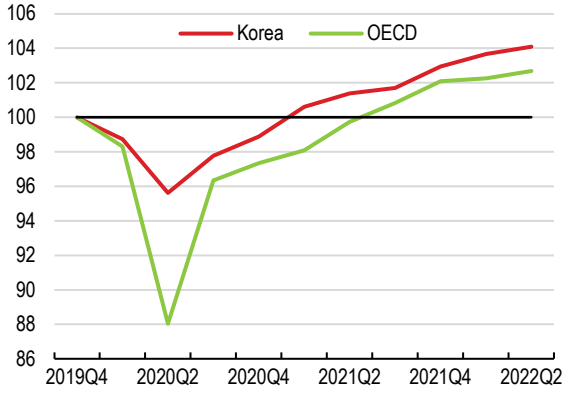
Executive summary

The economy is recovering

Korea's skilful management of the COVID-19 pandemic protected its people and economy. GDP per capita surpassed the OECD average for the first time in 2020 on the back of one of the smallest GDP contractions among OECD countries, followed by a strong export-led rebound in 2021 and early 2022 (Figure 1).

Figure 1. The economy has rebounded

Real GDP, 2019 Q4 = 100



Source: OECD Economic Outlook (database).

StatLink https://stat.link/10y4mn

The labour market is recovering. Employment has surpassed pre-crisis levels, led by health and public services jobs and job creation programmes. Manufacturing jobs have recovered to pre-crisis levels, while contact-intensive services lag behind.

Russia's invasion of Ukraine is weighing on economic activity and exposes supply chain dependencies. Korea's direct trade and financial links with Ukraine and Russia are limited, and stockpiles of oil and gas are considerable. However, a dependence on the two countries for raw materials to produce semiconductors highlights the need for resilience and diversification in the sourcing of key inputs for industry.

The recovery will continue, albeit at a slower pace. Real GDP is projected to grow by 2.8% in 2022, helped by additional fiscal stimulus from the Yoon government, and 2.2% in 2023. The Omicron wave and supply disruptions weighed on economic activity in early 2022, while the lifting of practically all restrictions set the stage for consumption in contact-intensive services to recover from late spring, although with a drag from inflation (Table 1).

Table 1. The recovery continues

(Annual growth rates, %, unless specified)

	2021	2022	2023
Gross domestic product	4.1	2.8	2.2
Private consumption	3.7	3.7	2.4
Government consumption	5.6	3.8	3.0
Gross fixed capital formation	2.8	-1.5	2.8
Exports	10.8	4.7	3.2
Imports	10.1	2.6	4.2
Unemployment rate (% of the labour force)	3.6	2.9	2.6
Consumer price index	2.5	5.2	3.9
Current account balance[1]	4.9	4.3	4.0
General government fiscal balance[1]	-0.8	-0.1	0.6
General government gross debt[1]	46.4	46.8	46.1

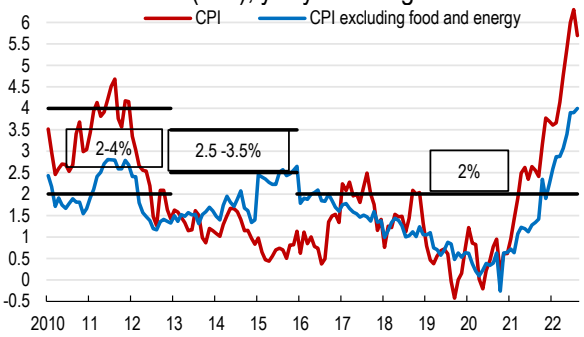
1. As a percentage of GDP.

Source: OECD Economic Outlook 111, projections revised as of 12 September 2022.

Monetary policy has been normalising on the back of high inflation pressures (Figure 2). Despite a tick-down, headline consumer price inflation remained almost triple the 2% inflation target in August 2022. Core inflation reached 4%. Wage increases remain modest. In a timely response, the Bank of Korea initiated normalisation in August 2021. So far, it has raised the key policy rate in seven steps from 0.5% to 2.5%, helping to keep inflation expectations anchored.

Figure 2. Inflation has risen fast

Headline inflation (CPI), y-o-y % changes



Note: In boxes, the medium-term consumer price inflation target.

Source: OECD Economic Outlook (database).

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Public debt remains low in international comparison despite large pandemic-related fiscal deficits. As consumption finds its new normal, continued pandemic support to businesses would hinder necessary structural change. Future ageing-related expenditure increases also call for a rebalancing of support going forward.

Emission targets require additional policy efforts

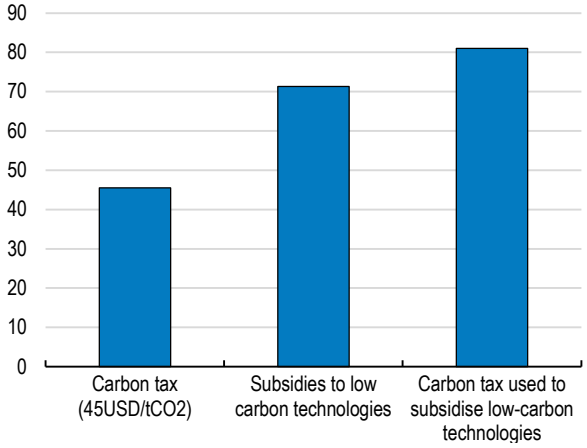
Korea is among the OECD's largest greenhouse gas emitters. It has committed to reducing emissions by 40% from the 2018 level by 2030, and to net zero by 2050. High emission intensity leaves room for emission reductions with considerable co-benefits from cleaner air. A renewed emphasis on nuclear will help, but investments need to be stepped up for renewables, transmission infrastructure and energy efficiency.

Korea's emission trading scheme (K-ETS), the first in East Asia, covers about three-quarters of domestic emissions, but is not yet aligned with the new and more ambitious emissions reduction targets. Improving the institutional framework for electricity supply would allow the marginal carbon cost to pass through, improving the effectiveness of the K-ETS for electricity generation, a major and systemically important emitting sector.

A large majority of Koreans support efficient climate policies, provided that an explicit price on carbon is combined with funding for low-carbon technologies and infrastructure (Figure 3).

Figure 3. Koreans support emission curbs

Proportion of people supporting measures (in %)



Source: Dechezleprêtre et al. (2022[11]).

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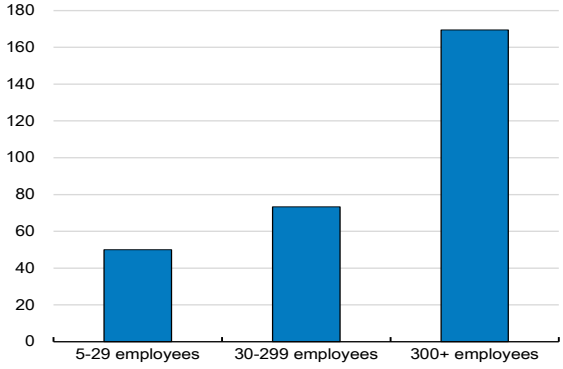
Productivity gaps trigger inequalities

Sizeable productivity gaps between large and small firms raise concerns about insufficient competition. Regulations are stringent, notably in services. Large companies are highly productive and have considerable economic power. Small and medium-sized enterprises (SMEs) with chronically low productivity receive numerous forms of support and special treatment allowing them to stay afloat. Compliance with worker rights to social insurance and minimum wages has room for improvement.

The productivity gaps lead to important income inequalities, which are compounded by labour market dualism. The incidence of non-regular workers is high in small companies relative to larger ones. Regular workers in large companies receive high wages (Figure 4), social insurance coverage and strong employment protection, while non-regular workers receive lower wages, are less likely to receive social insurance payments when they need it, and more likely to work in precarious jobs.

Figure 4. Large firms pay a premium

Per cent difference in wages compared to firms with less than five employees, 2020



Source: Statistics Korea.

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Women tend to end up on the wrong side of labour market dualism after childbirth, with a vastly negative impact on future earnings and social security. This stark choice between career and family largely stems from social norms and unforgiving work practices, but employer co-payments of maternal leave also play a role. The situation holds back female employment and leads young women to postpone family formation and have fewer children over their lifetime.

Youth struggle to end up on the winning side of social divides

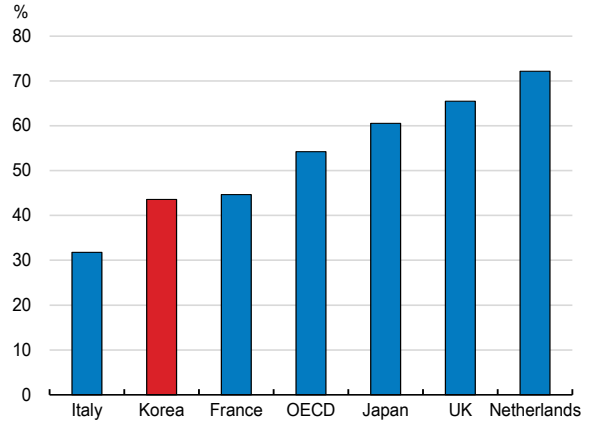
Faced with productivity gaps, labour market dualism and weaknesses in the education

system, young people compete fiercely to enter good universties and land secure and attractive careers in large firms and the public sector.

This Korean "golden ticket syndrome" leads to low youth employment (Figure 5) and family formation, reduces life satisfaction, and potentially has a long-term scarring effect.

Figure 5. Youth employment is low

Percentage of youth aged 15-29 employed in 2019



Source: OECD Labour Force Statistics (database).

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Competition to enter top universities is intense, leading to high pressure on students and large outlays on private tutoring. To gain admission, many students apply to departments that do not correspond to their interests and capabilities, resulting in sub-optimal use of talent. Universities face weak competition, in part due to admission quotas that are not flexible enough to respond to rapidly changing labour market demands.

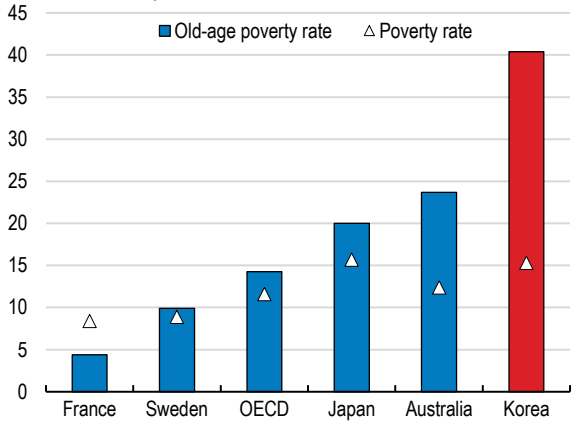
The decline in vocational secondary education has contributed to mismatch between youth's skills and labour market demand. The share of students attending vocational high schools fell from 40% in 1995 to 18% in 2021, reflecting in part a rise in vocational tertiary education. Moreover, their role has changed as the share of vocational graduates entering tertiary education has risen from 19% to 44%.

The social safety net is incomplete

Weaknesses in the social safety net contribute to persistently high income inequality and poverty, notably among the elderly (Figure 6).

Figure 6. Old-age poverty is high

Relative poverty rate[1], per cent, 2020 or latest



1. Individuals aged 66 and older. The poverty rate is the share of the number of people living with less than half of the median disposable income. Wealth, which increases consumption possibilities and is typically higher among older generations, is not reflected.
Note: OECD Income distribution (database).

StatLink https://stat.link/280r3q

Only around half of the labour force has access to unemployment benefits. Furthermore, Korea's tax-benefit system may discourage taking up or returning to low-paid work from social assistance or unemployment benefits.

Korea's pension system as a whole fails to secure adequate pension income for many seniors. The Basic Pension is poorly targeted. Beneficiaries of the National Pension Service generally receive a low level of benefits, partly reflecting short contributory periods. Both workers and employers prefer severance payments over pension annuities, and participation in the supplementary personal pension scheme is low.

Despite mandatory insurance, health and long-term care is unaffordable for many elderly. Too few poor elderly are eligible for healthcare benefits under the Basic Livelihood Support. Many recipients of long-term care are unnecessarily hospitalised, reflecting weak primary care, lack of coordination between long-term care and health care, and underdeveloped home and community-based long-term care.

MAIN FINDINGS	KEY RECOMMENDATIONS
Supporting a resilient recovery	
Inflation is high and the robust recovery has shrunk economic slack, but uncertainties are high.	Gradually consolidate the fiscal position.
The Bank of Korea has raised its policy rate in steps to 2.50%.	Continue to move towards a less accommodative monetary policy stance with a view to keep inflation expectations in check.
Rapid ageing will exert increasing fiscal pressures. The government plans to propose a new fiscal rule that is more stringent than the proposal of the previous government.	Adopt the new fiscal rule and ensure the rule is followed.
Reaching greenhouse gas emission targets	
Korea's emission trading scheme (K-ETS) covers three-quarters of domestic emissions, but its emission cap is not yet aligned with recently strengthened emission reduction targets.	Align the emission trading scheme cap with domestic emission reduction targets and expand its coverage.
Improving the institutional framework for electricity supply would allow the marginal carbon cost to pass through, enhancing the effectiveness of the K-ETS for electricity generation, a major and systemically important emitting sector.	Comprehensively review the institutional framework hindering the carbon price from passing through and holding back emission reductions in the electricity sector.
90% of emission allowances are distributed to companies free of charge. 70% of Koreans support subsidies for low-carbon technologies and environmental infrastructure, while 80% support carbon pricing if revenues are used for such support.	Auction a larger share of allowances to K-ETS entities, and link auctioning revenue to subsidies for green technologies and infrastructure.
Reducing productivity gaps and labour market dualism	
The productivity gap between large and small firms is among the largest in the OECD, reflecting stringent product market regulation. Firms with at least 300 employees pay youth 50% higher wages than those with less than ten, and the gap widens with age.	Reduce the stringency of product market regulation by shifting to a comprehensive negative-list regulatory system, expanding the use of regulatory sandboxes and generalising reforms successfully trialled.
Over 40% of the employed 15-29 year-olds are non-regular workers. The low wages and low legal and effective social insurance coverage of such jobs prompt young people to queue for regular jobs rather than accept non-regular jobs.	Break down labour market dualism by relaxing employment protection for regular workers and making it more transparent, while expanding social insurance enrolment and training for non-regular workers.
Government support for SMEs is higher than the OECD average. To enhance the effectiveness of supporting policies, the government introduced a graduation scheme for technology credit guarantees in 2018 and for policy loans in 2019. It introduced an evaluation scheme, supported by the SMEs Integrated Management System (SIMS), in 2019.	Expand the coverage of SME graduation schemes to ensure that public support for SMEs encourages the growth of innovative firms rather than the survival of non-viable ones, while supporting affected workers and providing training and employment services.
Employers in general cover the first 60 days of maternal leave (with exceptions for SMEs), giving them an incentive to discourage leave.	Move towards greater public financing of maternal, paternal and parental leave.
Strengthening the social safety net	
Around half the workforce in Korea has access to an unemployment benefit through employment insurance, mainly due to the low participation of the self-employed. Childbirth-related benefits are also linked to employment insurance.	Include the self-employed in compulsory employment insurance, accompanied by more effective enforcement measures.
Elderly poverty is high. Korea's Basic Pension distributes limited resources very thinly to a large portion of the elderly. The government will set up a committee to review the pension system.	Pursue a broad pension reform to secure adequate old-age income. In this context, conditional on the reform of the National Pension Service, consider lowering the Basic Pension income threshold and increasing the benefit level to better target those with the highest needs.
Most pensions are below the poverty line, mainly due to short contributory histories and relatively low replacement rates. The maximum age for contributions is 60 years, while the pensionable age is 62.	Raise the pension eligibility age further than currently legislated by 2035 and link it to life expectancy thereafter, and align the maximum contribution age to the pensionable age.
Most employees choose lump-sum severance payments instead of the alternative corporate pension, contributing to the incidence of low retirement incomes.	Transition severance pay into individual pension accounts by capping and gradually reducing the amount available for early lump-sum withdrawals and limiting permitted causes.
Many recipients of long-term care (LTC) are unnecessarily hospitalised, reflecting financial incentives for both users and suppliers, lower quality of LTC institutions, and lack of coordination among LTC providers.	Harmonise long-term care insurance and healthcare insurance reimbursement schemes.
Promoting youth employment	
The priority on admission to top universities leads to intense pressure on students, large outlays on private tutoring and a low employment rate for tertiary graduates, while reducing interest in vocational education.	Allow students more scope to develop their individual interests and talents, notably by reducing the emphasis on the standardised university entrance exam.

1 Key policy insights

Sound health management and supportive policies helped Korea emerge swiftly from the pandemic, with economic growth boosted by strong semiconductor exports. The recovery is set to continue as pandemic-era restrictions on contact-intensive services are shelved, despite the Russia-Ukraine war raising inflation and highlighting the need for supply chain resilience. Fiscal policy support will need to be scaled back to finance rapid population ageing. Spending should focus less on supporting firm survival in an SME sector with chronically low productivity and more on supporting people and business dynamism. The productivity gap between small and large, highly productive companies is reflected in labour market dualities of income, job quality and social protection. It spurs fierce competition among young men and women to enter prestigious universities and good jobs and slows down youth's labour market entry and family formation. Record low birth rates reflect that combining motherhood and a career is difficult, and raising children and investing in their education is expensive and time-consuming. Korea is well-placed for a green transition, with a functioning emissions trading scheme and popular support. Reforms to reduce productivity gaps and improve business dynamism would help Korea achieve ambitious cuts in greenhouse gas emissions, with a smoother and less painful structural reallocation of capital and jobs.

Korea's capable pandemic response minimised economic damage from COVID-19, resulting in one of the smallest GDP contractions among OECD countries in 2020, followed by a strong rebound in 2021 and the first half of 2022. Growth is set to continue as people resume normal consumption and Korean products remain in high global demand. However, Russia's invasion of Ukraine is weakening the outlook, even though Korea is less directly exposed than many OECD peers. High household debt is an increasing vulnerability in a period of high inflation and monetary policy tightening. Many small and medium-sized companies in contact-intensive services, still weak from the pandemic and sensitive to eroding purchasing power, continue to be propped up by government support, while inflationary pressures and rapid population ageing call for fiscal restraint.

Sizeable and widening productivity gaps between large and small companies underpin inequalities in pay, working conditions and social protection. Youth and their parents invest considerable amounts of time, money and effort to land regular employment in large companies and government that yield employment stability and a high level of income and welfare. As a result, young Koreans delay labour market entry and postpone family formation. Couples are discouraged from having children by labour market dualities, and by expensive education and housing. Some women have to give up a regular career for non-regular employment, which offers lower pay and less social protection, after childcare breaks. A share of older people end their working lives in low-productivity small-company jobs, and end up with low income due to short pension contribution histories and a societal preference for lump-sum severance pay over pre-funded company pensions.

Targets to reduce greenhouse gas emissions by 40% (from the 2018 level) by 2030 and reach net zero by 2050 are ambitious but within reach. Korea's economy is emission-intensive and has a high share of coal-fuelled electricity generation. This offers sizeable opportunities to cut emissions with large co-benefits in terms of reduced air pollution and enhanced energy security, but also considerable challenges in sectors like steel production, which will need further technological development to fully decarbonise. Korea's own emission trading scheme (K-ETS) was the first introduced in East Asia and is a potentially important tool to reach carbon neutrality. It covers three quarters of emissions, but needs to be tightened going forward. At the same time, regulations preventing the carbon price signal from passing through to electricity producers need to be loosened.

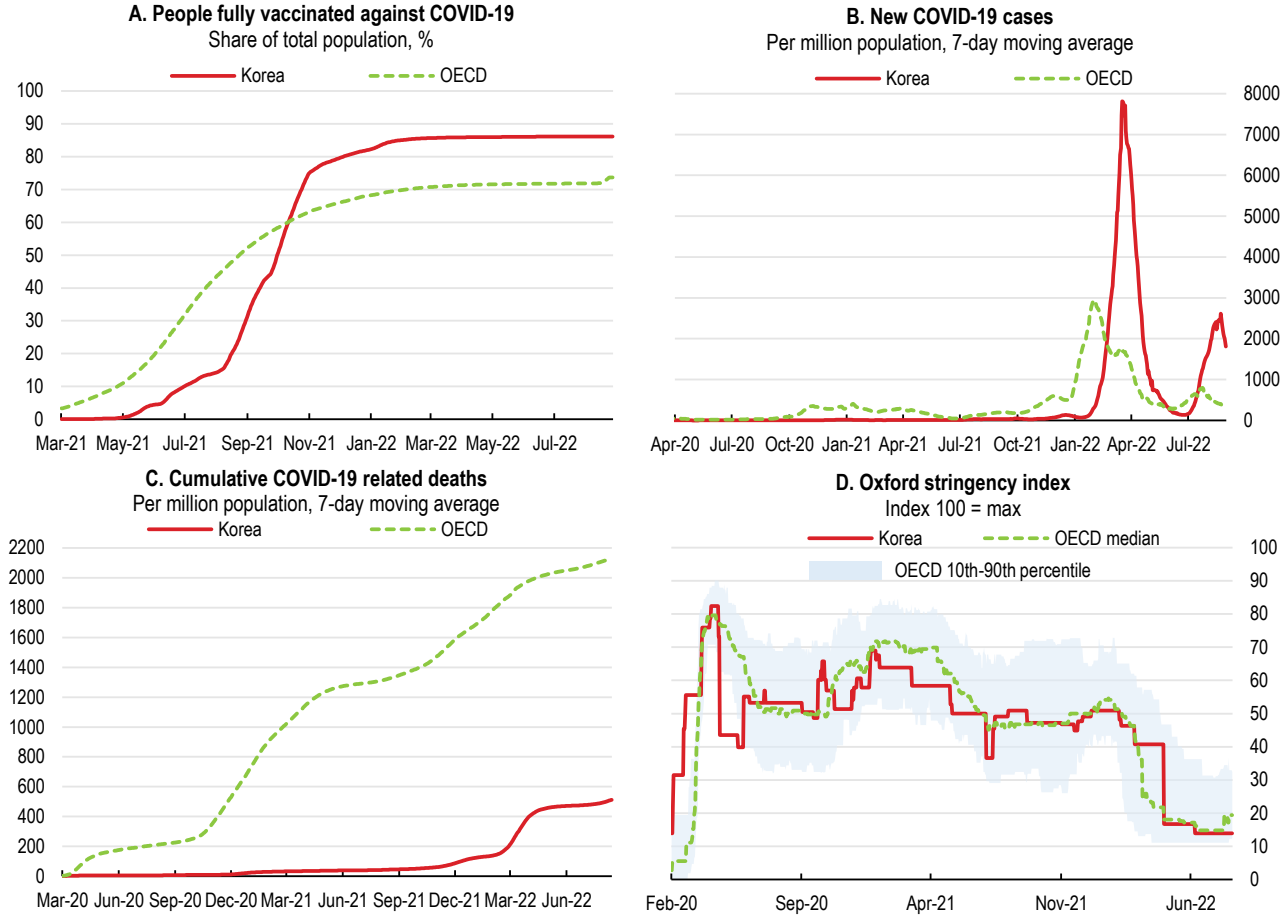
Against this background, the main messages of this Survey are:

- Monetary policy should continue to move towards a less accommodative stance with a view to keep inflation expectations in check. Inflationary pressures and rapid population ageing call for fiscal consolidation.
- Boosting competition by streamlining regulations and reducing and redesigning support that keeps low-productivity SMEs alive are key to reduce gaps in productivity and living standards. So are closing gaps in job security and social protection by relaxing employment protection for regular workers and expanding social protection for non-regular workers. Addressing these challenges would facilitate youth employment, reduce gender gaps, boost earnings for older workers and strengthen long-term growth.
- Delivering on promises to reduce greenhouse gas emissions, ultimately to net zero, requires timely policy action to ensure the K-ETS cap aligns with the targets and that the whole spectrum of industrial and energy policies and regulations support a green transition.

The economy is recovering, but faces headwinds

Korea's skilful management of the COVID-19 pandemic protected its people and economy, with GDP per capita surpassing the OECD average for the first time in 2020. The country was able to contain the pandemic without a national lockdown, thanks to a world-leading tracing system implemented early in spring 2020. Korea started its COVID-19 vaccination campaign relatively late, but achieved one of the highest vaccination rates in the OECD in a short period (Figure 1.1, Panel A). In early 2022, the number of newly confirmed cases per million soared to nearly three times the OECD average due to the spread of the Omicron variant (Panel B). Even so, the cumulative COVID-19-related death rates have remained relatively low (Panel C). Reassured by the lower severity of the new variant, the authorities gradually eased nationwide distancing measures (Panel D), and the focus shifted from preventing infection to treating seriously ill patients. By May, almost all social distancing measures had been lifted, except for mandatory mask wearing in public indoor and some outdoor places. The number of new daily COVID-19 cases started to rise again in late June, peaking in August (Panel B). In the face of this new COVID-19 wave, the authorities have strengthened advice for the elderly to receive booster shots, and are expanding the number of "one-stop" COVID-19 treatment centres, where people can take virus tests, get in-person medical care services and receive antiviral drugs.

Figure 1.1. Korea's pandemic management has been highly effective

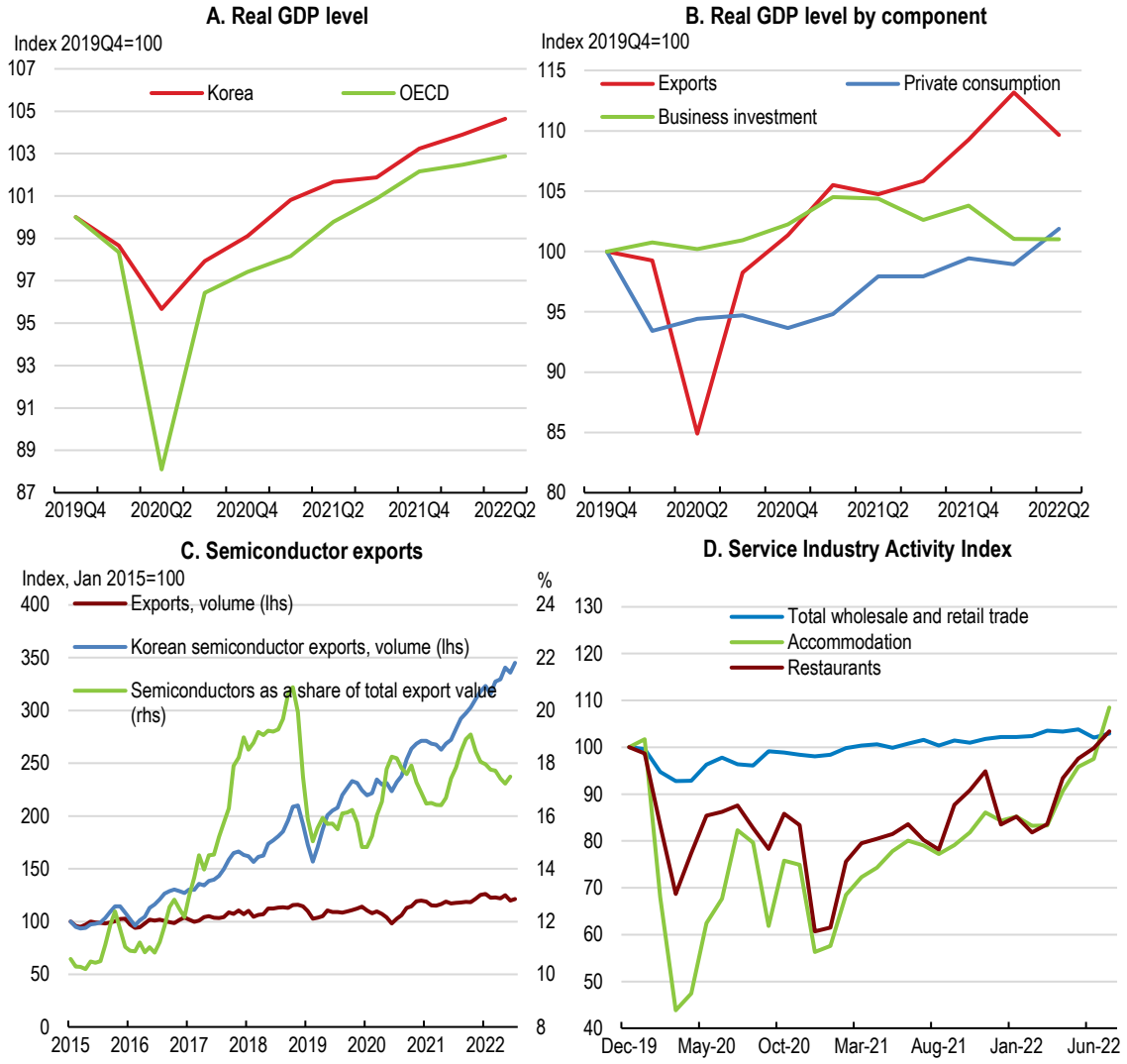


Note: In Panel D, the index is a composite measure based on nine response indicators including school closures, workplace closures, and travel bans, rescaled to a value from 0 to 100 (100 = strictest).
Unweighted averages for OECD aggregate in Panels A, B and C.
Source: Oxford Coronavirus government response tracker; OurWorldinData; and OECD calculations.

StatLink https://stat.link/nuzcvo

As a result of effective management of health measures and economic support policies, disruptions to domestic demand have been relatively limited. After contracting by less than 1% in 2020, GDP grew by 4.1% in 2021 (Figure 1.2, Panel A). The recovery continued into 2022, although at a slower pace. A key driver of the recovery has been exports (Panel B). The accelerated pace of digitalisation worldwide, together with a solid economic recovery in major export markets, has boosted demand for semiconductors, Korea's largest export (Panel C). Private consumption recovered at a slower pace as contact-intensive services faced some restrictions. As restrictions are lifted, some service activities, notably accommodation and restaurants, are recovering to their pre-crisis levels (Panel D).

Figure 1.2. Exports have driven the recovery while consumption still lags



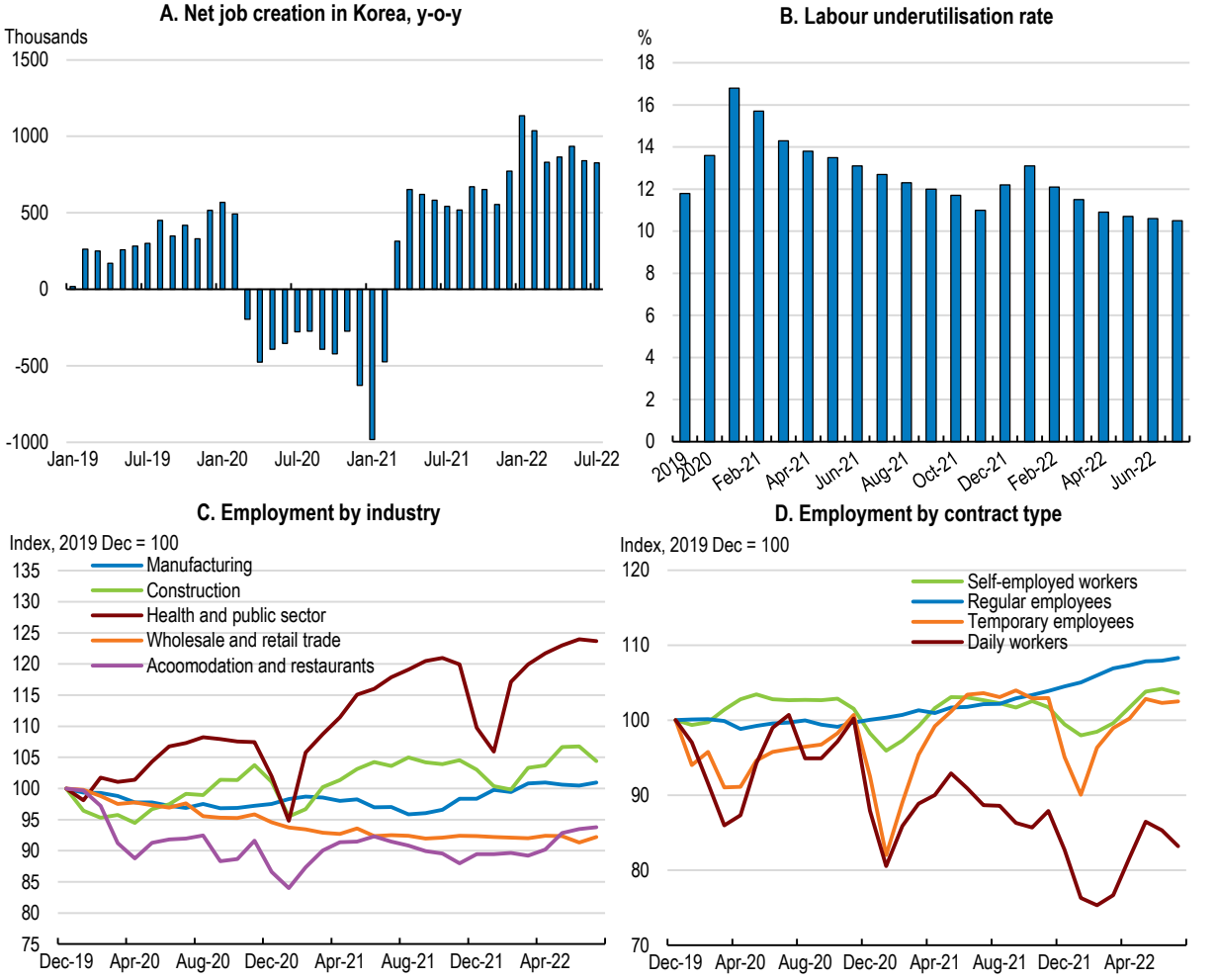
Source: OECD Economic Outlook database; and Korean Statistical Information Service.

StatLink https://stat.link/yenlfg

The labour market has been recovering, with unemployment gradually normalising and employment surpassing pre-crisis levels by late 2021 (Figure 1.3, Panel A). The labour market underutilisation rate, including both unemployment and involuntary part-time workers, has also recovered its pre-crisis level (Panel B). However, the employment recovery has been uneven. Contact-intensive services such as accommodation and food services have not yet reached their pre-crisis employment levels (Panel C). Employment in health and public services have shown the fastest recovery, driven by government-led job

creation programmes and increased demand for health workers in response to COVID-19 (Panel C). Construction and manufacturing have gradually recovered with improved business conditions. Unlike regular workers, the employment rates of non-regular workers fell sharply during the pandemic. This partially reflects the fate of non-regular workers, particularly in the face-to-face service sector (KLI, 2022). The number of daily workers has still not recovered to pre-crisis levels (Panel D). Also, the employment insurance enrolment rate among non-regular workers and self-employed is much lower than among regular workers, implying that on the whole they were less protected by the government employment retention scheme (Chapters 2 and 3).

Figure 1.3. Employment has recovered in most sectors



Note: Panel B: The labour force underutilisation rate is defined as the sum of the number of persons unemployed and time-related underemployment, expressed as a percentage of the economically active population.
Source: Bank of Korea; and Statistics Korea.

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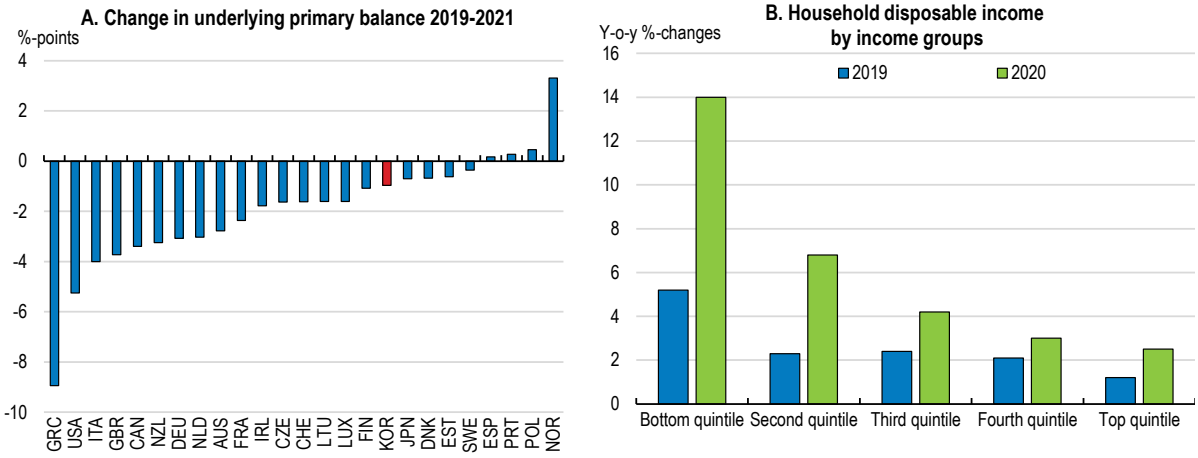
The authorities launched a swift and sizeable fiscal response during the pandemic. Relatively low public debt and deficits before the crisis provided the space for a significant fiscal expansion to support the economy. Discretionary fiscal support is estimated at 2.1% of GDP in 2020 and support continued into 2021, while strong revenue growth in 2021 offset the deterioration of the underlying primary balance (Figure 1.4, Panel A). Liquidity measures, including loan payment deferrals and loan guarantees, kept firm insolvencies low. Employment retention subsidies and cash transfers helped save jobs and limited household income losses. Despite the pandemic, the incomes of the bottom 20% of households grew by

14% in 2020 (Panel B). The first emergency cash transfer provided in April 2020 is estimated to have temporarily reduced the poverty rate by around 12 percentage points in 2020 (KIHASA, 2021). The National Assembly approved a supplementary budget of KRW 62 trillion (2.9% of GDP), which is to be financed mostly by excess tax revenue. This was the eighth supplementary budget since the start of the pandemic, and the largest in Korean history. On July 8, the government decided to earmark additional fiscal support estimated at KRW 0.8 trillion (0.04% of 2021 GDP) to help households shoulder higher living costs. This includes financial support to low-income households (KRW 480 billion) and the expansion of tariff exemptions on key foodstuffs (KRW 330 billion). The increased spending and reduced revenue is to be partly offset by budget cuts in some government programmes. The government plans to reduce spending from 2023, and recently presented a KRW 639 trillion budget for next year, 6% lower than this year's total expenditures.

Figure 1.4. Fiscal stimulus has supported household disposable income



Source: Economic Outlook database; and Statistics Korea.

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The Ukraine war is weighing on economic recovery

Even with limited direct exposure, the war is affecting the Korean economy through a number of channels. Korea is indirectly exposed to the extent that the crisis reduces foreign demand for its exports. The exports orders index has declined, reflecting the war in Ukraine and lockdowns in China. Terms of trade had fallen 4% compared to the 2021 average in the first quarter of 2022. They fell further and reached a record low in July. The impact of the war on inflation is already being felt in Korea like in many other countries. Even prior to the war, inflation had risen in Korea mainly because of soaring energy prices, together with pandemic-induced supply bottlenecks. The war in Ukraine pushed up energy prices and inflation further.

Like their peers abroad, Korean semiconductor producers source raw materials from Russia and Ukraine, notably rare gases essential in this sector. For instance, half of the krypton gas used in Korea came from Ukraine and Russia before the war. The price of neon gas already tripled in early 2022 compared to a year earlier. The impact has been limited so far thanks to raw material stockpiling, import diversification and the establishment of domestic neon gas production. The government is also investing in R&D to homeshore the production of other essential raw materials such as krypton and xenon. However, supply of raw materials falls short of demand, and a prolonged crisis could therefore increase the cost of Korean semiconductor production.

Direct economic consequences for Korea of the war in Ukraine and sanctions on Russia are relatively modest at least in the short term, given limited direct trade and financial links. Only 2% of Korea's total exports were destined for Russia and Ukraine in 2021, and Russia and Ukraine accounted for only 0.4% of Korean financial institutions' total external exposure. Russia's share of Korea's inward (outward) foreign direct investment was about 0.02% (0.8%). Dependency on Russian oil and gas is also low. Korea imported 6.4% of its oil and 6.8% of its gas from Russia in 2021. Furthermore, Korea has traditionally maintained a high level of oil and gas security (IEA, 2020), and can cover 107 days of total domestic demand from national oil reserves. In addition, stocks held under the International Joint Stockpile programme allow Korea first drawing rights to oil and gas stored in Korea by foreign oil companies in case of supply disruptions. Korea also imports one tenth of its corn and wheat from Russia and Ukraine. The government has secured grain imports from other countries in response to the crisis.

The recovery will continue at a slower pace and uncertainty is high

Real GDP is projected to grow by 2.8% in 2022 and 2.2% in 2023 (Table 1.1). The Omicron wave and supply disruptions weighed on economic activity in early 2022, while high levels of immunity and the lifting of practically all restrictions set the stage for consumption in contact-intensive services to recover from late spring. The recovery in consumption is nonetheless expected to be gradual, as inflationary pressures from commodity prices and supply chain disruptions are being passed on to consumers. Inflation is set to remain elevated, based on the assumption that global oil prices remain around current levels throughout 2023.

Table 1.1. Macroeconomic indicators and projections

Annual percentage changes unless specified, volume (2009/10 prices)

	2018	2019	2020	2021	2022	2023
	Current prices (KRW trillion)					
Gross domestic product (GDP)	**1,898**	**2.2**	**-0.9**	**4.1**	**2.8**	**2.2**
Private consumption	912	2.1	-5.0	3.7	3.7	2.4
Government consumption	305	6.4	5.0	5.6	3.8	3.0
Gross fixed capital formation	577	-2.1	2.6	2.8	-1.5	2.8
Final domestic demand	1,793	1.5	-0.8	3.6	2.0	2.7
Stockbuilding[1]	0.3	0.0	-0.6	-0.1	0.0	0.0
Total domestic demand	1,814	1.5	-1.5	3.6	2.0	2.7
Exports of goods and services	792	0.2	-1.8	10.8	4.7	3.2
Imports of goods and services	708	-1.9	-3.3	10.1	2.6	4.2
Net exports[1]	1.0	0.8	0.5	0.7	1.0	-0.4
Other indicators (growth rates, unless specified)						
Output gap (% of potential GDP)		-0.4	-3.4	-1.5	-0.7	-0.3
Unemployment rate (% of labour force)		3.8	3.9	3.6	2.9	2.6
Consumer price index		0.4	0.5	2.5	5.2	3.9
Core consumer prices (excluding food and energy)		0.7	0.4	1.4	3.5	3.2
Current account balance (% of GDP)		3.6	4.6	4.9	4.3	4.0
General government fiscal balance (% of GDP)		1.0	-2.7	-0.8	-0.1	0.6
Structural balance (% of potential GDP)		0.9	-1.2	-0.1	0.3	0.8
General government gross debt (% of GDP)[2]		44.2	46.0	46.4	46.8	46.1

1. Contribution to changes in real GDP; 2. National Accounts basis excluding unfunded liabilities of government-employee pension funds.

Note: The projections are based on the June 2022 OECD Economic Outlook, taking into account the advance national account estimates for the second quarter released in July as well as the latest high-frequency indicators.

Source: OECD (2022), Economic Outlook 111 (database), projections revised as of 12 September 2022.

Growth will continue in 2023, although at a slower pace as global growth is weakening. Business investment is set to grow, owing to continued demand for Korean products and planned business investment in key industries such as semiconductors and batteries. KRW 6.3 trillion (USD 5.3 billion) of spending is planned to support future-generation vehicles, system semiconductors and bio-health by 2024. Goods exports will remain robust on the back of strong global demand for major items. However, various downside risks cloud the outlook, in addition to the aforementioned geopolitical risks linked to the war in Ukraine. New and dangerous COVID variants could lead to stricter lockdowns in China, negatively affecting activity. In addition, elevated household debt and housing prices pose downside risks to domestic demand, as further discussed below. On the other hand, a quicker-than-expected end of the war or stronger than expected private consumption after the lifting of pandemic restrictions pose upside risks to the outlook (Table 1.4).

Table 1.2. Low-probability events that could lead to major changes in the outlook

Uncertainty	Possible outcomes
New and more dangerous COVID-19 variants emerge, triggering broad lockdowns in China.	This would have a negative impact on exports and cause additional supply chain stress.
A housing market correction in the context of elevated household debt and housing prices.	Private consumption could fall short of current forecasts.
Geo-political tension in the Korean peninsula intensifies.	Although financial markets and capital flows have proven resilient to past incidents, further escalation of tensions could increase financial market volatility.

Financial stability risks should be monitored

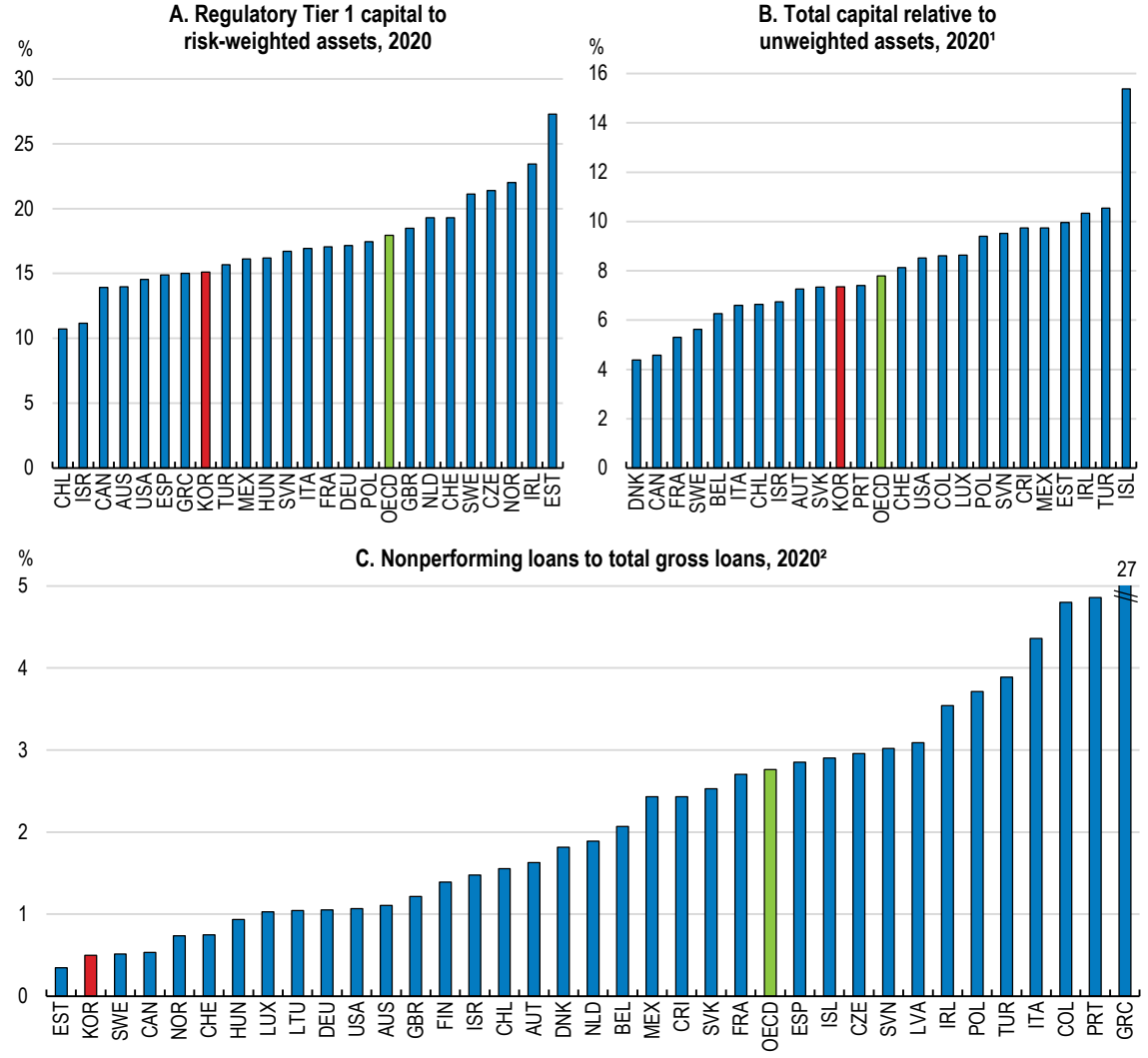
Korea's financial system has remained resilient during the pandemic, mainly thanks to corporate financial soundness backed by the economic recovery and a number of temporary measures to ensure sufficient liquidity in financial markets, support credit growth, and keep loan delinquencies low. Loans and guarantees have been provided from the government to the financial sector to secure continued funding to SMEs. Also, to ease the burden on borrowers, loan repayments for small businesses have been deferred. The share of companies with a debt-to-equity ratio exceeding 200% decreased from 15.3% at the end of 2020 to 12.3% in June 2021 (BOK, 2022). Capital ratios of financial institutions remain well above mandatory requirements, but also well below the OECD average (Figure 1.5, Panel A), the overall leverage ratio is close to the OECD average (Panel B), and the nonperforming loan ratio remains low (Panel C).

As temporary support measures are withdrawn, financial vulnerabilities may arise. Focus should be shifted from keeping the largest possible number of SMEs alive towards supporting necessary restructuring, while monitoring potential spillovers to the financial system.

Like in many other countries, housing prices surged during the pandemic, which carries macroeconomic risks as rising interest rates or a potential price correction could lead over-leveraged households to hold back non-essential consumption. New housing supply has not been enough to meet the strongly rising demand in recent years, partly driven by an increase in single-person households (Figure 1.6, Panel A). Historically low mortgage rates and expectations of higher housing prices may also have fuelled speculative behaviour. Real housing prices, which have been stable over the past decade, rose around 11% in the fourth quarter of 2021 from two years ago, reaching their highest level since the mid-1990s (Panel B). The housing price-to-income ratio in Seoul rose from 12.8 in the third quarter of 2019 to 17.8 in the first quarter of 2022, but has edged down since then. Strong mortgage credit growth has increased the exposure of banks to the real estate sector, with housing-related loans accounting for around 80% of the total loan portfolio at the end of 2020 (KDIC, 2021). Household debt has increased rapidly over the past decade, and is high in OECD comparison (Figure 1.7). Floating-rate loans have increased significantly

during the pandemic (Figure 1.8 Panel A). More than 80% of total new loans were floating rate in late 2021, implying that households' debt servicing burden is set to increase as monetary policy is tightened and interest rates rise. According to estimates by the Bank of Korea, a 0.5 percentage point increase in interest rates would increase the total annual household debt servicing burden by KRW 6.6 trillion (0.3% of GDP). Unsecured loans (e.g. credit loans) have also increased (Panel B), especially from non-bank sectors. These loans are largely related to housing, as strict macroprudential policies limit the availability of mortgages (FSC, 2021a).

Figure 1.5. The financial system has remained resilient



1. Korean data are for 2019.
2. 2021 data for Korea and 2019 data for Finland
Source: IMF Financial Soundness Indicators; and Korean Financial Supervisory Service.

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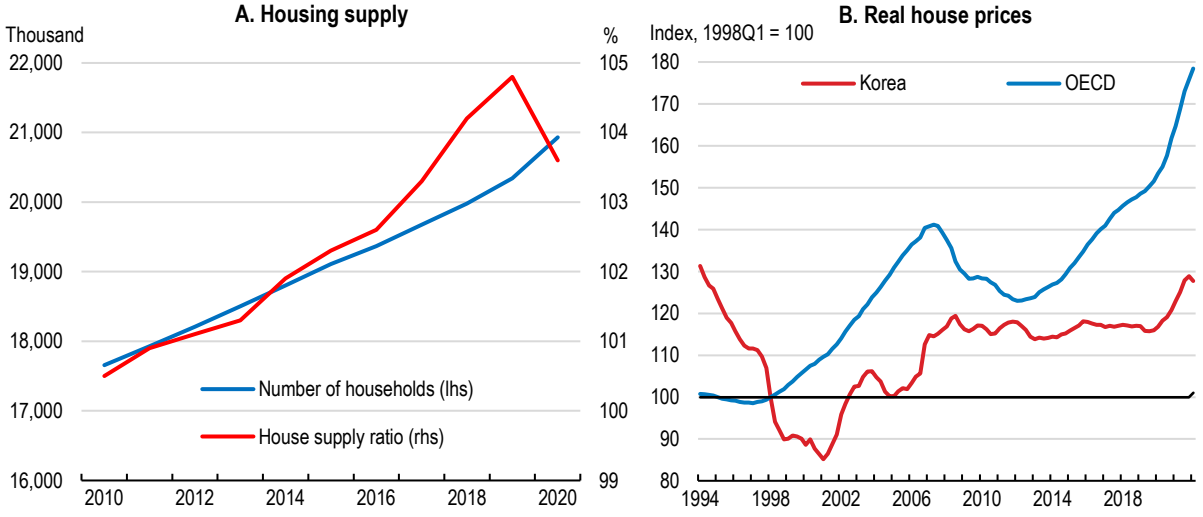
To contain the rapid growth of household debt and housing prices, the government strengthened borrower-based macroprudential measures, namely the loan-to-value ratio, debt-to-income ratio on mortgage lending, and debt servicing ratio. Interest rate rises in 2021 were also partially motivated by surging house prices and household debt. Currently, the loan-to-value ratio ranges between 0% (for the most expensive homes in pressure areas) and 70%, depending on the value of the property and the region, while the LTV

for first-time buyers is 80%. The debt-to-income limit ranges between 40% and 50% depending on the region. In April 2021, the government strengthened the debt servicing ratio rule, basing it on individual borrowers rather than financial institutions, so that household loans are extended based on borrowers' total debt servicing capabilities. Under this new regulation, amortisation of bank loans above KRW 200 million (KRW 100 million from July 2022) should not exceed 40% of the borrower's annual income. In January 2022, the debt servicing ratio ceiling in the non-bank sector was strengthened by lowering it from 40% to 50%. Together with the normalisation of monetary policy, these measures seem to have helped slow the growth in household debt and housing prices since the autumn of 2021. To stabilise the housing market further, the new administration also plans to increase the housing supply.

Figure 1.6. Housing prices surged, partly reflecting strong demand



Note: Panel B: Housing supply ratio is defined as the ratio of the number of dwellings to the number of households.
Source: OECD, House Price Indicators (database); and Ministry of Land, Infrastructure and Transport.

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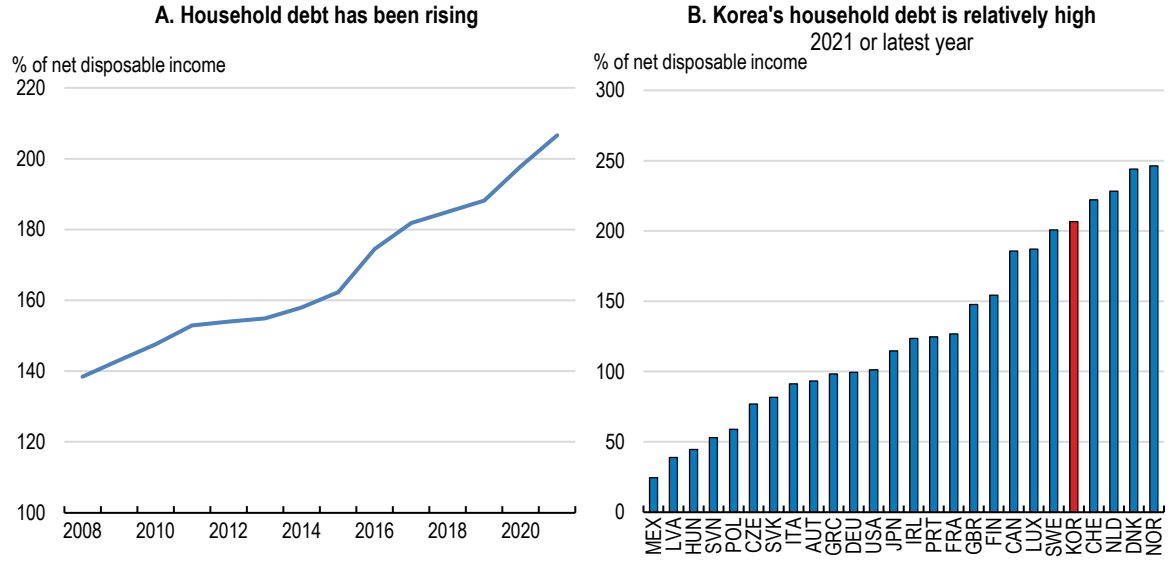
Figure 1.7. Household debt is relatively high and has been rising



Source: OECD (2022), Household debt (indicator).

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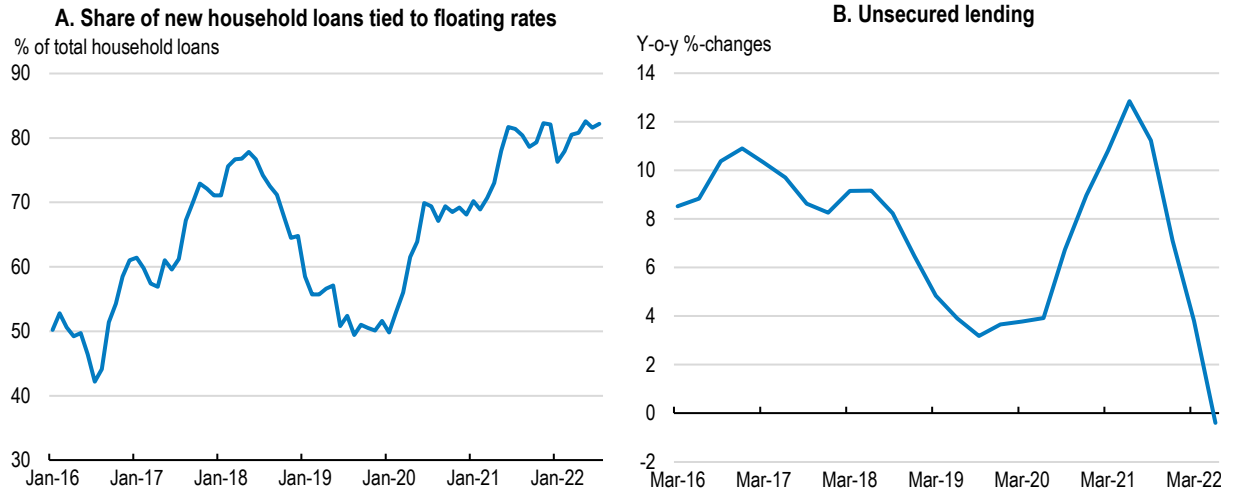
Figure 1.8. Unsecured and floating rate loans have increased during the pandemic



Source: Bank of Korea.

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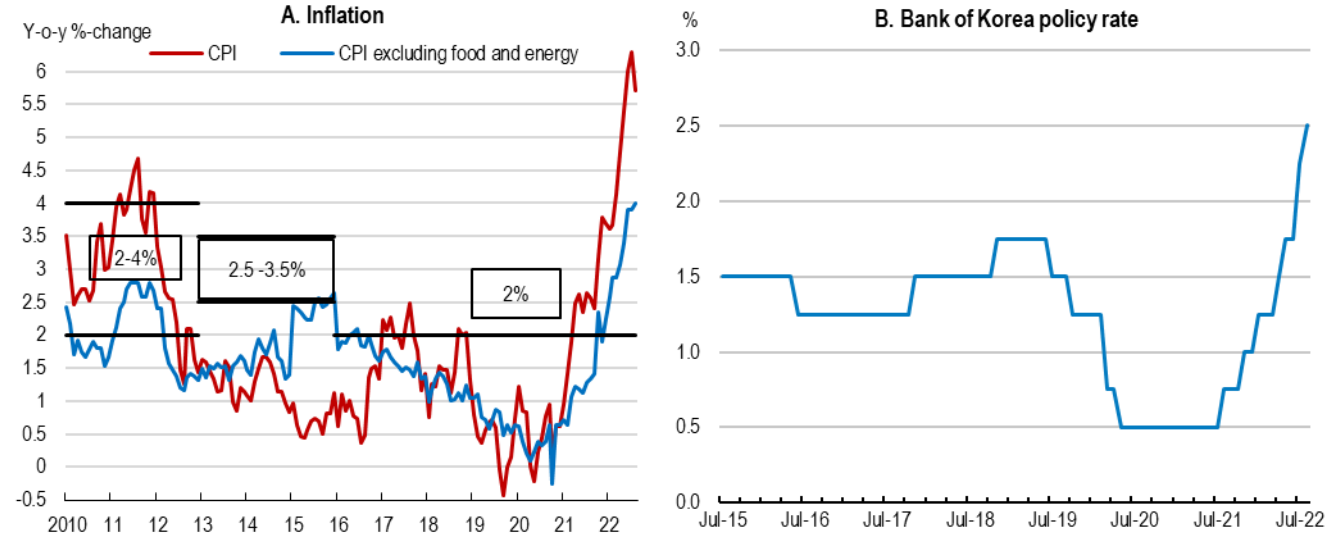
Further macroprudential measures may be required in the future. These could include some lender-based measures, for instance, applying higher mortgage risks weights or introducing a ceiling on the share of unsecured floating rate loans in total bank loans. Introducing a sectoral countercyclical buffer which imposes a capital buffer for household loans, should also be considered. In 2018, Korean financial authorities planned to adopt a sectoral countercyclical buffer, but it has been delayed several times due to the pandemic. The experience of Switzerland suggests that a sectoral countercyclical buffer in the household sector can contribute to lowering banks' mortgage and related financial risks (Suh, 2021). Furthermore, authorities should consider reducing the debt servicing ratio ceiling for the non-bank sector further so that the remaining gaps in the debt servicing ratio ceiling between banks and non-banks are reduced. This would help prevent individuals from borrowing from multiple institutions to circumvent mortgage prudential requirements (IMF, 2022).

Over the past few years, the previous government gradually increased the Comprehensive Real Estate Holding Tax, progressive taxation levied on homeowners holding multiple dwellings, to contain housing demand. Capital gains taxes on the transfer of real estate were also raised to prevent short-term speculation. The higher Comprehensive Real Estate Holding Tax increased the holding costs for multiple-home owners, but the capital gains tax hike may have disincentivised multiple-home owners from selling real estate, at least in the short term (IMF, 2022). The new administration plans to reform tax policies, notably reducing comprehensive real estate holding tax and capital gain taxes, together with constructing more houses. Reducing capital gains taxes would help bring underutilised housing to the market (notably as this policy is planned to be implemented as a time-limited tax reduction). Taxes on immovable property are in general regarded as an efficient means of raising tax revenues, because the tax base is highly immobile, which limits the scope for behavioural responses to the tax such as labour supply and investment in human capital (OECD, 2022a). The Comprehensive Real Estate Holding Tax, however, has some weaknesses, including low acceptability due to the recent sharp rises in the tax rate and that the additional tax burden was passed on to tenants. Furthermore, real estate transaction statistics show decreasing housing sales and an increase in properties being given away, consistent with anecdotal evidence of tax planning as properties were gifted to relatives. The comprehensive real estate holding tax should be revised to contribute to stabilising the housing market as was initially intended, and the tax burden should be shouldered in a more sustainable way. More generally, however, frequent changes in housing-related taxes and macroprudential policies should be avoided. Frequent policy changes increase volatility, and new policies may not have the intended effect if households expect that the next administration will undo any changes.

Monetary policy should continue to keep inflation expectations anchored

Headline consumer price inflation moderated to 5.7% in August 2022 from its 6.3% peak in July, amid weaker global oil prices (Figure 1.9). However, this is still close to triple the 2% inflation target due to persistent underlying pressures, including from supply bottlenecks and recovering consumption. Core inflation reached 4% in August 2022, reflecting a broadening of price pressures to various categories of goods and services, including furnishings and restaurants. In a timely response, the Bank of Korea initiated a normalisation cycle in August 2021, raising the key policy rate in seven steps from 0.5% to 2.5%, initially partially motivated by a wish to dampen household credit growth. The pre-emptive moves have helped keep inflation expectations anchored and nominal wage increases modest so far. However, year-ahead inflation expectations have increased lately and upward pressure on nominal wages is expected to mount as the labour market tightens. Wages are accelerating, notably in conglomerates. On June 30, the Minimum Wage Commission agreed to raise the minimum wage by 5% for next year. Upstream, producer prices rose 9.2% in July 2022. Prices rose broadly across energy and non-energy products. Manufacturing product prices rose by 12.8%, utility prices by 21.4%, and food and beverages prices by 9.3%. Core producer prices excluding energy and food were up 6.6%, with services prices up by 3.5%. The war in Ukraine is likely to exacerbate the situation. Korea's trade-weighted exchange rate weakened over the course of 2021 and 2022. In July 2022, the real effective exchange rate reached its lowest level since June 2013 (Figure 1.10), largely reflecting a relative strengthening of the US dollar. Even though fluctuations are considerably less severe than what has been seen during periods of strong currency movements in the past, the weakening will compound inflationary pressures from higher import prices going forward.

Figure 1.9. Monetary policy has been normalised in response to rising inflation



Note: In boxes, the medium-term consumer price inflation target.
Source: OECD, Economic Outlook database.

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Monetary policy should continue to keep inflation expectations anchored to prevent a price-wage spiral. The Bank of Korea's tightening cycle has been well-timed so far but it should keep a close eye on the risk of rising debt servicing burdens putting households under financial strain, holding back consumption and triggering a hard landing in the housing market.

Figure 1.10. The won has been weakening

Real effective exchange rate

Note: The real effective exchange rate is a weighted average of exchange rates adjusted by relative consumer prices. The basket consists of 60 economies and weights are based on Korea's trade flows, with the highest weights given to CNY, USD, EUR and JPY. A decline in the real effective exchange rate means that the won has depreciated.
Source: Bank for International Settlements.

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Table 1.3. Past recommendations on monetary policy

Main recent OECD recommendations	Action taken
Maintain accommodative monetary policy and consider unconventional measures going beyond liquidity support.	Well-timed and effective policies supported Korea's strong recovery from the pandemic. The context has changed, however, and policy focus has shifted to address persistent above-target inflation.

Fiscal policy support should become more targeted

Fiscal policy should be scaled back to support necessary structural change. Fiscal consolidation should proceed gradually, and support should move from broad-based crisis support toward targeting households and businesses likely to be affected by such restructuring and those vulnerable to rising living costs and debt servicing burdens. Strengthening the social safety net and improving training and activation policies of those who have lost their jobs are essential policies in this respect, as further discussed in Chapters 2 and 3.

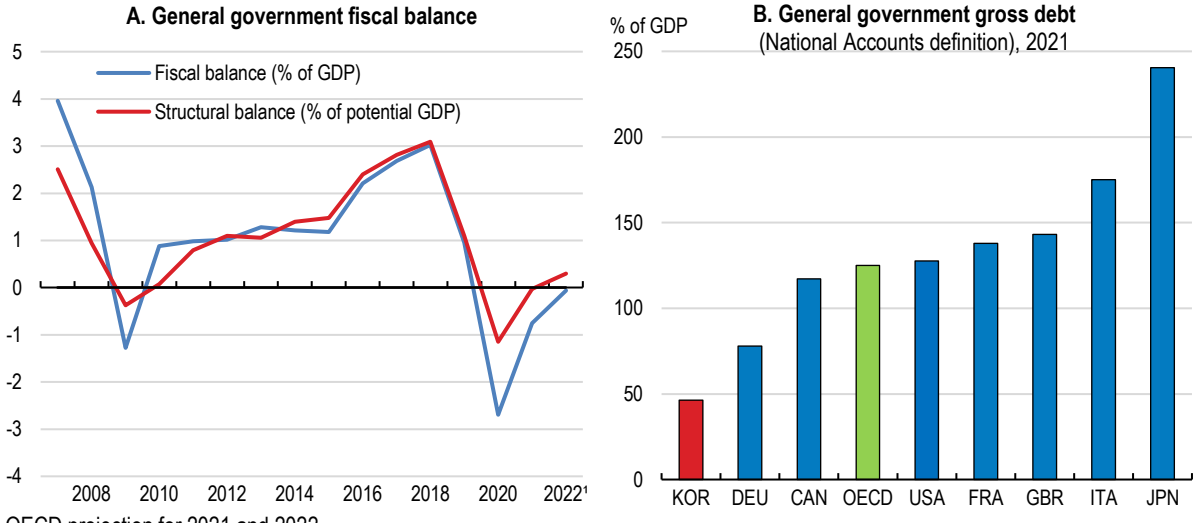
The support measures should, as far as possible, be deployed in ways that do not exacerbate ongoing price pressures, to help the central bank contain inflation. This requires delivering maximum relief to the most vulnerable at a lower cost. Concrete options to strengthen and better target the social safety net are discussed in Chapter 2 of this Survey. To relieve the burden of soaring energy prices on households, the government increased the temporary fuel tax cut on gasoline, diesel and liquefied petroleum gas to 37% and extended it until the end of 2022. Even though many OECD countries have implemented similar emergency measures, such generalised energy subsidies are costly, and benefit disproportionally higher-income households (OECD, 2022b). If extended over the long term, they lead to overconsumption and run counter to climate targets. The fuel tax cut should be phased out in due course. According to a weighted

price index from the Korea Economic Research Institute, consumer price inflation as experienced by the bottom quintile of the income distribution was 1.4 times higher than that for the top quintile (KERI, 2022b). This was because the price of food, housing, and utility bills, which are the main expenditure items for low-income households, rose faster than for other items such as education. The government has expanded tariff-free import items to some key foodstuffs including beef and chicken as an effort to protect livelihoods and curb inflation.

Transfers to those most in need, while allowing domestic prices to move in tandem with international prices, would be a superior alternative to fossil fuel price support. Such transfers could for example be extended through the existing energy voucher programme put in place in 2015, distributing lump-sum payments to support low-income households with their energy bills. The programme was recently almost doubled in size to KRW 230 billion, adding 0.3 million households to the scheme. Some OECD countries transfer a lump-sum amount to vulnerable households to offset the impact of higher energy crisis. Denmark, for example, offered a DKK 3 750 (EUR 504) tax-free cheque to help around 320 000 households who earn less than DKK 550 000 (EUR 73 909) and live in an area with district heating driven primarily by gas power plants or have individual gas heating. Germany has recently approved a EUR 130 million package of one-time grants to be offered to low-income households in summer 2022, when they receive their energy bills.

Going forward, a credible fiscal framework to ensure long-term sustainability needs to be put in place, given spending pressures ahead. By early 2023, the new administration plans to establish a long-term fiscal plan with concrete actions, which is a step in the right direction. The pandemic resulted in a large deterioration in the fiscal balance, but gross government debt still remains relatively low in international comparison (Figure 1.11, Panel A and B). The population is still relatively young, but rapid population ageing, together with the ongoing challenges of improving the social safety net (Chapter 2), are expected to place higher spending pressures on Korea than on most other OECD countries in the long term. According to the OECD Long-term Model, ageing-related public expenditure will increase faster than in most other OECD countries, requiring additional revenues (or expenditure cuts) corresponding to 10% of GDP by 2060 to stabilise debt (Figure 1.12, Panel A). Narrowing employment and productivity gaps of youth, women and the elderly, increasing the pensionable age and curbing health spending growth as described later in this chapter could ease spending pressures by approximately one-third (Panel B).

Figure 1.11. Government debt remains relatively low



1. OECD projection for 2021 and 2022.

Source: OECD (2021), OECD Economic Outlook 111 (database), projections revised as of 12 September 2022.

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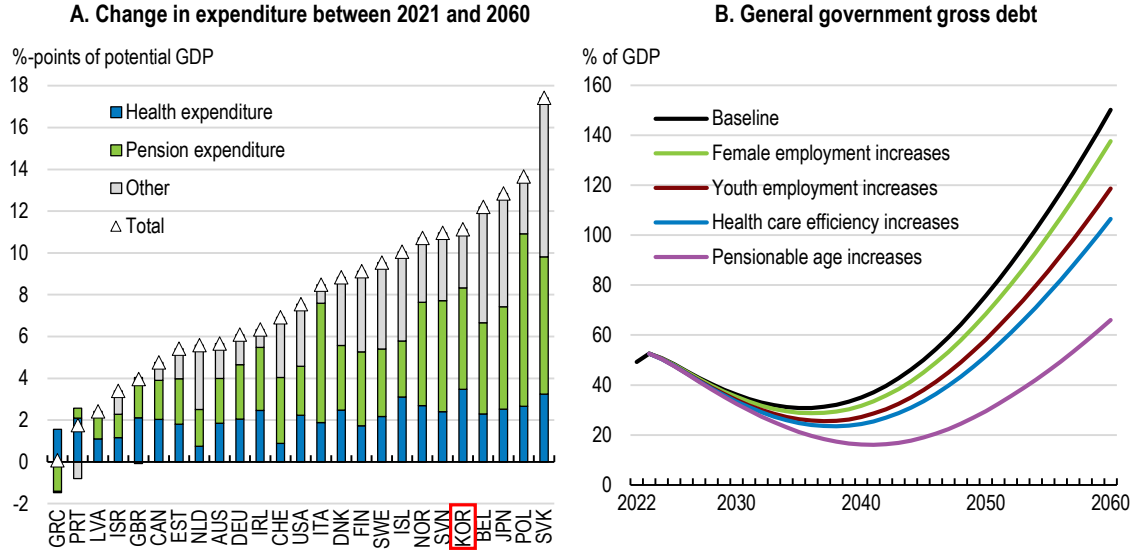
In 2020, the previous government proposed a fiscal rule with a debt-to-GDP ratio anchor at 60%, comparable to the original EU fiscal rules, and a flexible consolidated deficit target of 3% of GDP. Concretely, the following formula was to be upheld: (government debt to GDP/60%) x (consolidated fiscal balance/-3%) ≤ 1.0. A drawback of this rule was that in the near term it allowed for large deficits and a potentially rapid build-up of debt, while demographics are still relatively benign. In early July 2022, the government announced a revision to the proposed fiscal rule, which is welcome. Previously, the deficit target (3% of GDP) was based on a consolidated fiscal balance, which includes social security funds. The rule in practice would thus have allowed deficits of about 4.5% of GDP, as social security funds are currently in a surplus (about 1.5% of GDP in 2021). Henceforth, the announced deficit target is to be based on the managed fiscal balance excluding social security funds, which implies a tightening of the rule. Moreover, the provision under the previous proposal allowing deficits over 3% of GDP when the national debt to GDP ratio is lower than 60% has been removed. Last but not least, the fiscal rule is to be laid down in law rather than in the form of a decree, so as to make it more binding. The government plans to introduce a bill to this effect in September this year, and the fiscal rule is to be put into effect as soon as the National Assembly passes it – ahead of the previously planned implementation of the rule in 2025.

Figure 1.12. Rapid ageing will put pressure on public finances



Note to Panel B: The baseline scenario is constructed by keeping government revenue constant as a share of GDP from 2022, while GDP, expenditure and interest rates are simulated in the OECD long-term model. In "female employment increases", 2/3 of the baseline gender employment gap is closed. In "youth employment increases" employment gaps to the OECD average are closed for each of the age groups 15-19, 20-24 and 25-29. The faster increase in the National Pension eligibility age implies increasing the legal pension age to 68 by 2034 and increasing it by two thirds of life expectancy gains thereafter. "Health care efficiency increases" implies reducing the baseline increase of health expenditure by around 20%. The scenarios are cumulative, so that e.g. the "youth employment scenario" also incorporates effects from improving female employment and the "health care efficiency scenario" also includes effects from the three other scenarios.
Source: OECD calculations based on the OECD Long-term model.

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Besides fiscal rules, many countries have independent fiscal institutions that enhance the transparency and credibility of fiscal policy, notably by monitoring compliance with fiscal rules and reviewing legislative proposals in the fiscal area (IMF, 2021; Kopits, 2011; Shaw, 2017). The National Assembly Budget Office (NABO) has to an extent been playing this role. NABO was established by the legislature in 2003 to provide projections of economic growth and tax revenue and to analyse national fiscal management, including the annual budget proposed by the President. It also evaluates government spending programmes and estimates the cost of legislation proposed in the National Assembly. Another important task is to estimate the medium and long-term fiscal requirements for government programmes. Thanks to its analytical capabilities, NABO has become a respected and influential institution. NABO would be well-equipped to

take on a formal role as an independent fiscal council with the expected adoption of the fiscal rule. This would make the rule more effective and could be combined with a 'comply-or-explain' principle as set in legislation in EU countries (Jankovics and Sherwood, 2017). According to this principle, budgetary authorities should react publicly to the fiscal council's assessment, within deadlines defined by law.

Table 1.4. Past recommendations on fiscal policy and action taken

Main recent OECD recommendations	Action taken
Continue to provide support to households and businesses until the economy is recovering, targeting any additional income support towards low-income households. Ensure that fiscal plans preserve long-term fiscal sustainability.	The government targeted some measures to sectors and households most affected by the crisis, such as emergency cash transfers to low-income households and extension of job retention schemes to the tourism and sports sectors.

Measures are needed to bolster the resilience of essential supply chains

The war in Ukraine has exposed Korea's structural vulnerabilities connected to its deep integration in global value chains (GVCs), particularly for electronic goods (Figure 1.13). Korea's reliance on Russia and Ukraine for raw materials to produce semiconductors is just one manifestation of the vulnerabilities posed by the concentration of trade both geographically and in terms of products. Approximately 14.7% of imported items depend more than 80% on supply from China, according to the Korea International Trade Association. These items include some essential goods. Urea, a key raw material for the chemical and logistic industries in Korea, has been entirely imported from China. China's temporary urea export restrictions in November 2021 therefore caused domestic urea prices to skyrocket, disrupting diesel car production, transportation and certain industries such as fertilisers. Magnesium ingots used to manufacture cars are also entirely imported from China. China controls 85% of the world's supply of magnesium, without which production of major Korean exports such as cars, smartphones and batteries would be hard hit.

Ongoing efforts are underway to diversify Korea's trade relations. In April 2022, the Korean government proposed to join the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), a free trade agreement involving 11 Asia-Pacific nations. Member nations account for around 15% of world trade. In February 2022, Korea joined the Regional Comprehensive Economic Partnership (RCEP), a free trade agreement among 15 Asia-Pacific nations. The government participated in meetings of the Indo-Pacific Economic Framework (IPEF) for deeper cooperation with partner countries in the Asia-Pacific region on supply chains and other emerging trade issues. Besides trade diversification, the government plans to enact and revise laws on supply chain management to help ensure stable supply chains of strategically vital goods. The government also plans to better secure overseas resources, notably through expanding loans and other financial assistance to companies that invest in high-risk key industries in overseas markets. These steps are welcome and should be implemented without delay.

In the process, consideration should be given to developing consistent and evidence-based policy tools to help identify potential supply chain bottlenecks and clarify the scope of essential products (Box 1.1). These tools would also support collaboration with the private sector and improve transparency and trust (OECD, 2021a). The private sector plays an important role in managing supply chain risk. In the semiconductor sector, for example, stockpiling of raw materials by major companies has helped minimise the impact of the Ukraine crisis. Going forward, the government can provide the private sector guidelines for crisis planning based on such tools and request them to implement contingency plans to avoid or mitigate supply chain disruptions.

Box 1.1. Government measures to reduce supply chain risks

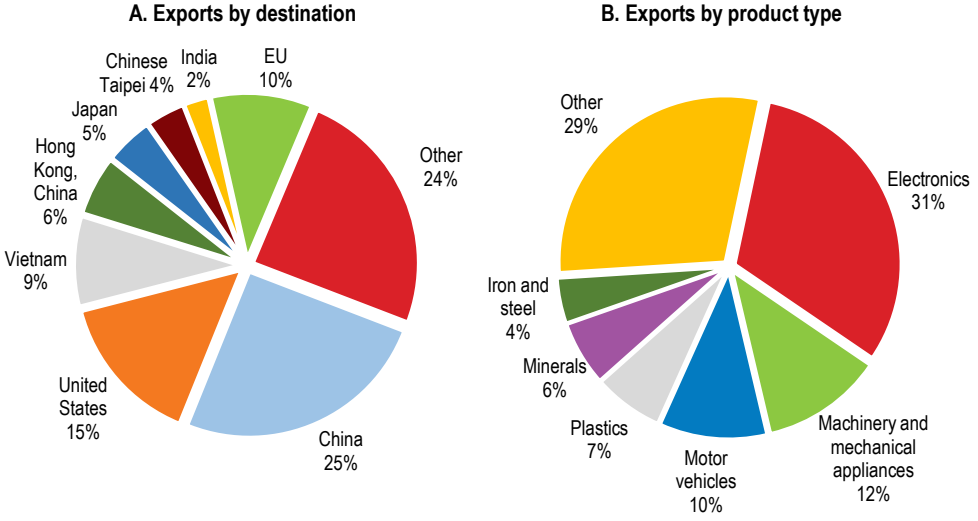
A number of measures can be considered to ensure the supply of essential goods:

- Governments can mitigate supply chain risks by facilitating the development of stress tests to identify potential supply chain bottlenecks, collect and disseminate information on the concentration of production, and clarify the scope of essential products. Based on such stress tests, countries can require private suppliers of essential goods to implement contingency plans to avoid or mitigate supply chain disruptions.
- Governments can facilitate stockpiling of essential goods based on risk assessment and cost/benefit analysis of investing in stockpiles. Committing to regular purchases of a minimum quantity from a supplier at a set price in exchange for a commitment by the latter to stand ready to temporarily scale up production in the case of an emergency surge in demand can be considered.
- Governments can also support the development of domestic production capacity with due consideration for political economy trade-offs, including opportunity costs of public funds, and possible costs of introducing other distortions into markets.

Source: (OECD, 2021a).

Figure 1.13. Exports are concentrated geographically and in terms of products

2021



Source: Korea Customs Service.

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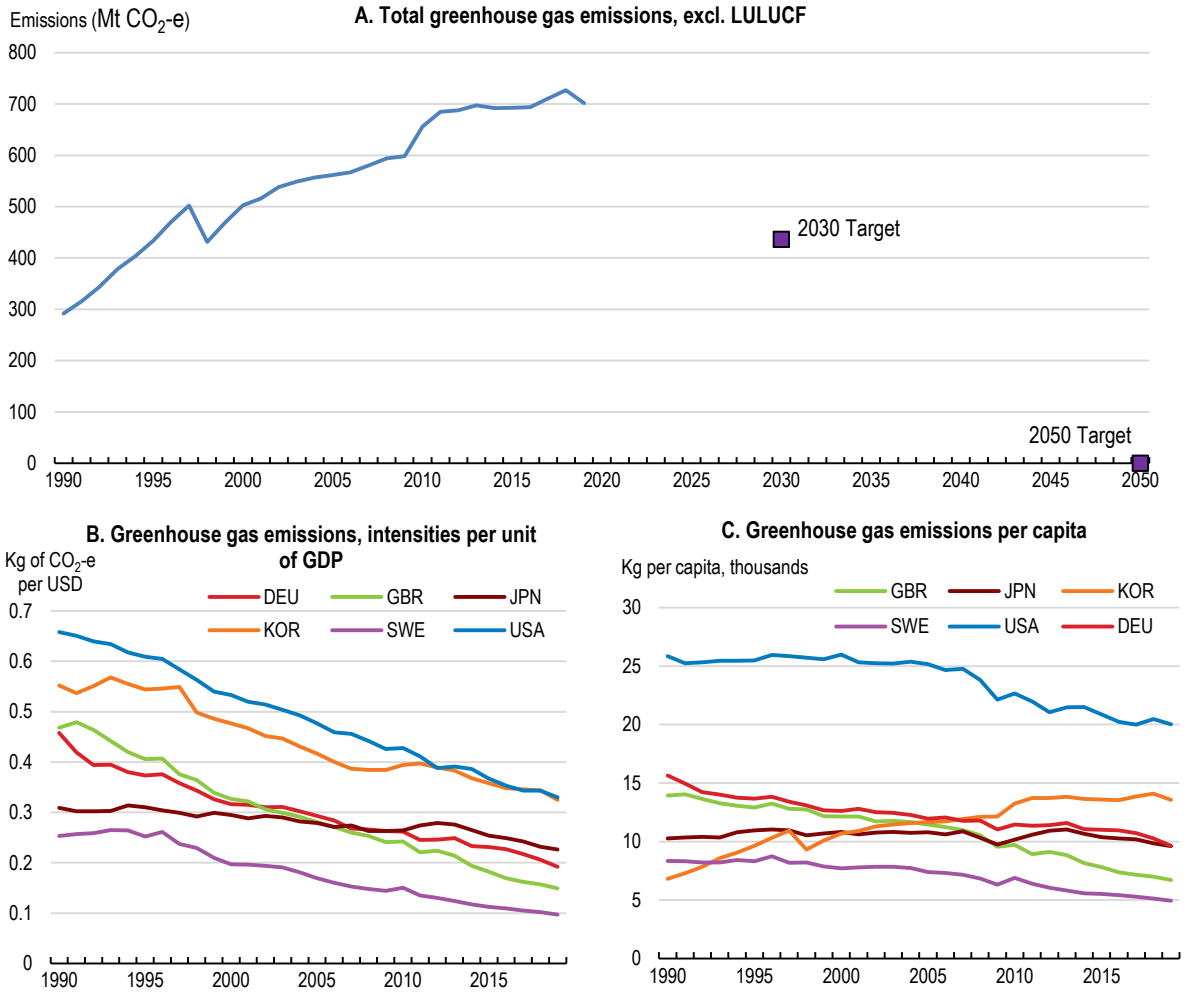
GHG reduction targets are challenging, but the new framework helps

Korea is among the largest greenhouse gas (GHG) emitters in the OECD. Emissions have risen fast since 1990, but have fallen from the 2018 peak. Per capita emissions also increased over the same time period, largely reflecting GDP and income growth. Emission intensity per unit of GDP has improved, but remains high compared to OECD peers. In 2020, Korea pledged to achieve carbon neutrality by 2050 and in 2021, tightened its international commitment to reduce emissions (Nationally Determined Contribution, NDC) from 37% below business-as-usual to 49% below (corresponding to 40% below the 2018 level) by 2030 (Figure 1.14). These pledges were upheld by the new government. Korea's Framework Act on Carbon

Neutrality and Green Growth to Tackle the Climate Crisis was passed in 2021, and requires the government to present a first Basic Plan for Carbon Neutrality and Green Growth for a planning period of 20 years, by 25 March 2023. In order to minimise adjustment costs of reaching ambitious targets, a policy package should be concrete, efficient, comprehensive and timely.

Figure 1.14. Steep greenhouse gas emission reductions are needed



Note: LULUCF stands for land use, land use change and forestry.
Source: OECD, Air and climate statistics (database).

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Concerns have been raised that such a rapid pace of emission reductions will put too high a burden on business in the emission-intensive Korean economy, as its emissions peaked later than most OECD countries, and its industry structure is tilted towards high-emission industries like iron and steel, cement and petrochemicals. Korea's NDC implies that emissions be reduced at a 4.2% annual rate from 2018 to 2030. This is relatively fast compared to 2.0% annually for the European Union (to achieve a 55% cut from 1990), 2.9% annually for the United Kingdom (a 68% cut from 1991), 3.1% annually for the United States (a 51% cut from 2007), and 3.6% annually for Japan (a 46% cut from 2013). Emission reduction targets are challenging, but the late emission peak and high emission intensity also mean that considerable emissions remain from sources that have already been reduced in a number of OECD countries.

To reduce emissions, the new government recognises that it is necessary to incentivise businesses to invest in clean technologies (MOEF, 2022). This can be done by harnessing the potential of the emissions

trading scheme to accelerate energy efficiency savings and phase out coal from electricity generation. The United Kingdom for example has largely phased out coal from electricity supply with a combination of the EU emission trading scheme (EU ETS) price and a carbon price floor of GBP 16 introduced in 2013, replaced by an auction reserve price of GBP 22 in the UK-ETS upon departure from the European Union. These price signals were in the United Kingdom complemented by "Contract for difference", a cost-efficient renewable electricity support scheme with auctioning (OECD, 2022b). Indeed, emissions from coal-fuelled power plants (37% of electricity supply) alone equal approximately 35% of Korea's emissions. Coal can be phased out and replaced by tested and available technologies at a moderate abatement cost which will likely be more than offset by gains from reducing excess mortality and ill health caused by particle pollution (Kim et al., 2020; Botta et al., 2022; Lanzi and Dellink, 2019). Furthermore, accelerating the replacement of coal with renewables would likely entail considerable net job creation, even in provinces currently reliant on coal (Climate Analytics, 2021). According to current plans, the share of coal in electricity generation will still be high at 22% in 2030, and there may be scope to reduce this share further.

The new administration's policy shift towards supporting nuclear electricity generation in addition to renewables (MOEF, 2022) improves the chances of target achievement and may reduce costs compared to previous plans to phase out nuclear and coal in parallel. Korea places great emphasis on nuclear safety. A master plan for high-level radioactive waste management, set out in December 2021, describes the method and schedule for safe disposal of spent nuclear fuel in a deep geological disposal facility. But so far, like in most countries, it has proven challenging to agree on a location for such a permanent disposal facility due to local resistance.

Korea's emissions trading scheme holds potential to reduce emissions in line with targets

Policies need to comprehensively target all sources and removals of emissions in order to facilitate cost-efficient reductions. Cross-sector policies also reduce the scope for lobbying and sectoral carve-outs. By pricing emissions, people and businesses adjust their investments, production and consumption in accordance with their own technical possibilities and circumstances. This is largely privately held information, which cannot easily be targeted by regulations or subsidies. Emission pricing also strongly incentivises research and development of low-emission solutions (D'Archangelo et al., 2022).

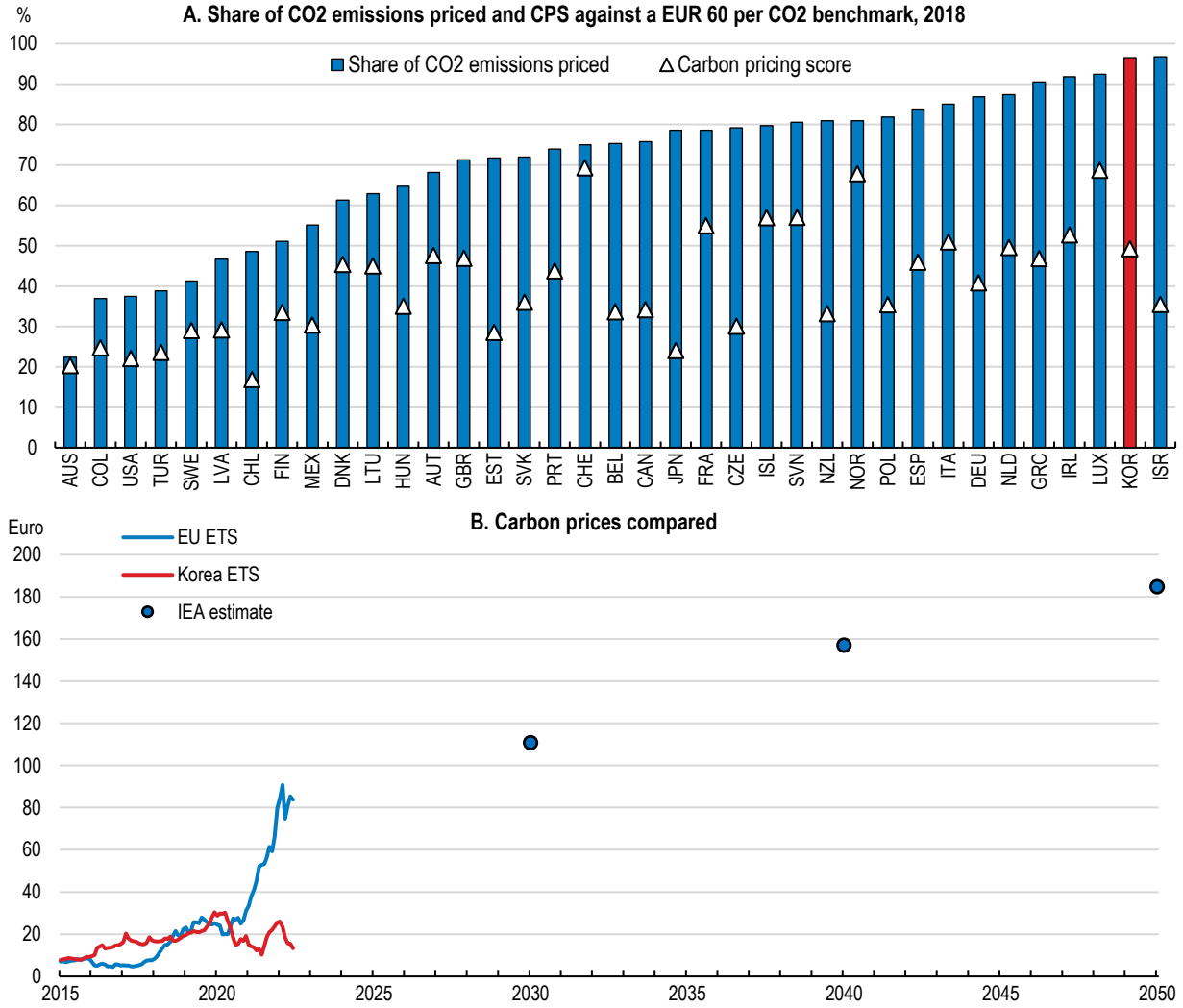
Korea has an emissions trading scheme (K-ETS), covering approximately 74% of Korea's emissions, which compares favourably to the approximately 40% of EU emissions covered in the EU emission trading scheme, although prices are currently lower in the Korean ETS and many EU countries have additional explicit carbon pricing instruments in place at the national level (Figure 1.15). All companies and facilities (around 700 in total) with emissions above a certain level are included in the system. Industry has complained that laws and guidelines for the operation of K-ETS are too complicated, pointing to the need to streamline the set-up, while enhancing transparency and reliability by reducing the room for discretionary interpretation. The K-ETS could be a powerful tool for steep and efficient emission reductions, but its potential is not being harnessed. Allocations for the third trading period (2021-25) were made with the overall cap consistent with emission targets of the 2018 Nationally Determined Contribution Roadmap by 2030, which implied a 26.3% cut from the 2018 level, well below the 40% target set in 2021.

During 2021-25, 90% of ETS allowances are handed out for free, except in emission-intensive trade-exposed industries, who receive 100% for free. This is a much higher share of free allocations than the approximately 40% of the total in the EU-ETS. Furthermore, improving the institutional framework for electricity supply would allow the marginal carbon cost to pass through to electricity producers, improving the effectiveness of the ETS for a major and systemically important emitting sector (Figure 1.16, Panel A) (IEA, 2021). The new government plans to reduce the share of free allowances and assign a larger share by means of benchmarking (MOEF, 2022). This is a step in the right direction.

A mechanism intended to add the ETS price on top of the production cost estimate that determines which electricity producers are allowed to produce at any given time ("environmental dispatch mechanism")

implemented from January 2022 largely fails to incentivise emission reductions. Rather than calculating the ETS market price multiplied by actual emissions, it adds the actual expenses incurred by the power generation business to acquire ETS allowances, most of which are allocated for free. Price liberalisation may potentially facilitate full carbon cost pass-through in the future (Kuneman et al., 2021).

Figure 1.15. Emission pricing has broad coverage, but prices are not target consistent



Note: Panel A: The data in this figure only covers CO2 emissions from energy use. The Carbon Pricing Score (CPS) measures the extent to which countries have attained the goal of pricing all energy related carbon emissions at certain benchmark values for carbon costs, including explicit carbon prices and fuel excise taxes. For example, a CPS of 100% against a EUR 60 per tonne of CO2 means that all emissions are priced at a level that equals or exceeds the benchmark of EUR 60 per tonne CO2. Panel B: IEA estimates are for CO2 prices for electricity, industry and energy production in advanced economies with net zero pledges. The estimate depicted here considers the effects of other policy measures alongside CO2 pricing, such as coal phase-out plans, efficiency standards and renewable targets. These policies interact with carbon pricing; therefore, CO2 pricing is not the marginal cost of abatement as is often the case in other modelling approaches. Estimates are in 2020 prices. More information can be found in the World Energy Outlook table B.2.

Source: OECD (2021), Effective Carbon Rates 2021; International Carbon Action Partnership; International Energy Agency (2021), World Energy Outlook 2021.

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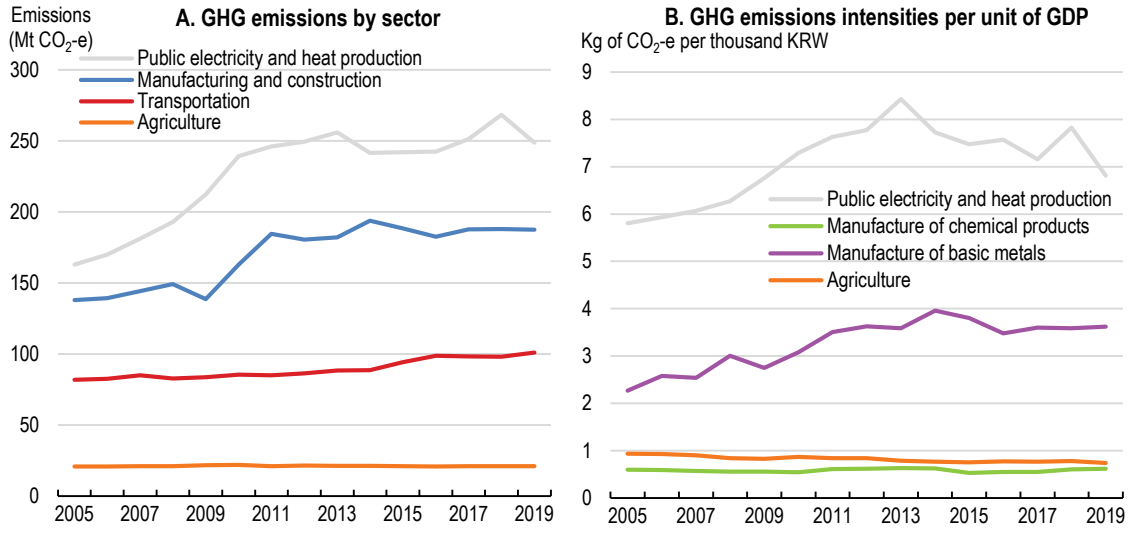
Korea's electricity price is set by Korea Electric Power Corporation (KEPCO), the state utility, subject to government approval. It has been raised by KRW 11.8 (USD 0.009) per kWh in 2022, the first substantial increase since 2013, but remains one of the lowest in the OECD, despite the "Climate Change and

Environmental Charge", which has been levied on users of electricity since 2021. The financial position of KEPCO, which will also be responsible for considerable investment in transmission, nuclear and renewable energy over the green transition, has weakened considerably due to rising global energy prices in 2021 and 2022. A mechanism to adjust prices was put in place in January 2021, but annual price adjustments are limited to maximum KRW 5 (USD 0.004) per kWh. KEPCO's recommendation to increase prices in line with the mechanism was overruled by the previous government in March, but the price was adjusted by KRW 5 in July. In addition, prices are differentiated by six consumer categories, such as households, agriculture and industry, leading to distortive cross-subsidies between sectors. Electricity used in agriculture for example costs approximately 40% of the electricity used by households. Electricity sector reform with competition in production and retail sales of electricity ensuring full pass-through of relevant costs, including that of ETS compliance, overseen by an independent regulator as in most OECD countries, should be an urgent priority going forward (OECD, 2021d).

Liquidity in the K-ETS has been limited in the past, with high price volatility and companies hoarding allowances they were allocated for free. Important actions to solve this problem were taken by enabling financial intermediaries in the secondary market to trade allowances from 2021, and by the appointment of three new market maker institutions committing to quote both bid and ask prices (ICAP, 2022). Fundamentally, auctioning a higher share of allowances would increase the number of transactions and thereby boost liquidity.

Figure 1.16. Emissions are highly concentrated in electricity generation and manufacturing



Source: Greenhouse Gas Inventory & Research Center of Korea; Korean statistical information service.

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Free allocations are usually intended to soften competitiveness concerns and avoid those emitting activities moving to laxer jurisdictions. However, evidence does not suggest that countries with stricter environmental policies lose competitiveness in general. There is, though, a risk that a select few emission-intensive, trade-exposed industries, notably within heavy manufacturing and metals sectors (Figure 1.16, Panel B), can relocate their production should the carbon price differential to trading partners increase to very high levels in the future (HMT, 2021; OECD, 2021b). Such relocation is termed carbon leakage if it results in increased global emissions. This issue is best solved by global cooperation to ensure that the most emission-intensive and globally-traded sectors face a meaningful carbon price or equivalent regulations in major producer countries. Sectoral deals on steel, road transport, aviation and shipping were agreed during COP26, in an encouraging move forward. Furthermore, the idea of better measuring and harmonising direct and indirect price signals in leakage-exposed sectors is gaining traction in international

organisations and fora such as the OECD, IMF and G20 (IMF and OECD, 2021; HMT, 2021). Domestic mechanisms can help level the playing field in the absence of such global cooperation, but such mechanisms face challenges and trade-offs related to their practical implementation and effectiveness, costs, and WTO compliance. The European Union has proposed a levy on carbon-intensive imports, which is set to affect Korean exports to the European Union, notably steel. The K-ETS price will most likely be deductible from the levy payable by European importers of Korean exports.

Policies for the K-ETS going forward should focus on bringing the overall emission cap in line with annual targets derived from the 2030 target and expanding its coverage, auctioning a larger share of allowances and comprehensively reviewing the institutional framework hindering the carbon price from passing through and holding back emission reductions in the electricity sector. The United Kingdom intends to align the ETS cap with the net zero objective by January 2024, and is considering expanding ETS coverage across the economy (OECD, 2022b). The EU has for many years operated an ETS cap consistent with targets, and is also considering expanding coverage based on the German pricing system in transport and heating that became operational in January 2021 (D'Archangelo et al., 2022). Signalling a tightening of the emission cap post-2025 (K-ETS phase 4) consistent with the 2030 target would increase the carbon price immediately in expectation, and hence speed up the necessary action to reduce emissions. Early action spurred by higher prices and a liberalisation of electricity prices would imply a more gradual and less costly transition overall.

Policies complementing the emissions trading scheme should be selective and well-designed

Target-consistent policies also need to be developed outside of the ETS. Fuels for transport, construction and heating can likely be included in the ETS (or taxed) by charging refineries and importers based on the carbon content of fuels sold domestically as done in Quebec (Canada), California and Germany. Double taxation of the same emissions could be avoided with a refund mechanism for fuel consumption already covered by the ETS. Negative emissions from natural and engineered removals of carbon will over time need to offset remaining emissions. They could also be included in the ETS by crediting verified removals with ETS-eligible allowances. Engaging in international cooperation on carbon offsets or linking K-ETS to other emissions trading schemes is in principle welfare enhancing, but requires that markets are competitive and that partner countries have credible plans to also reach net zero by 2050 to avoid hollowing out Korea's contribution to the world reaching net zero. Public sector regulations, investments and activities impact emissions, but will not always be covered by the K-ETS. Consistently applying the price of greenhouse gas emissions in public sector cost-benefit analyses would make sure policies across government are in line with emission reduction targets. The UK system of cost-benefit analyses regulated by the "Green book" is a good practice example, where target-consistent "carbon values" are systematically applied.

Regulation and subsidies should complement carbon pricing by addressing a number of market imperfections, but need to be well-designed, coordinated and selectively targeted to specific well-identified cases of market failure. Businesses that do not respond to price signals will decline, provided that they operate in competitive markets. Policies to streamline regulations and boost business dynamism described below will therefore also ease the cost of transitioning the economy to net zero by allowing industry structure to adapt quickly while effectively matching people to jobs and ensuring incentives reach across sectors. Subsidies can help, notably by boosting investments in green research, development and initial deployment of technologies (OECD, 2022b; D'Archangelo et al., 2022; Dechezleprêtre and Cervantes, 2022). Korea's Carbon Neutral Industry and Energy R&D Strategy announced in November 2021 supports the development of core technologies in 17 key industries, and the budget for R&D related to carbon neutrality was more than doubled to KRW 1.9 trillion in 2022. Furthermore, the new government plans to intensify the link between financial support and carbon reduction performance.

The disciplining effect of markets is much less salient for households, whose greenhouse gas emitting consumption habits may resume even if cleaner alternatives are available and inexpensive. Subsidies can address liquidity constraints preventing households from investing in energy efficiency and clean heating. Regulation can help overcome coordination problems and bounded rationality for example by mandating energy efficiency and availability of electric vehicle charging points in the building code, and setting regulatory back-stops to phase out fossil fuel cars and heating systems and the use of coal in electricity generation (OECD, 2022b; D'Archangelo et al., 2022; Dechezleprêtre and Cervantes, 2022). The Korean building code has tightened energy efficiency requirements since 2009, and is set to expand the mandatory zero-energy building standard, currently applying to public buildings of more than 1 000 square meters, to encompass public buildings of more than 500 square meters and new public apartment buildings with more than 30 housing units from 2023. From 2024, the zero-energy building standard will be gradually expanded to new categories of public and private buildings. Subsidies for energy efficiency improvement of existing buildings, such as "Green Remodelling Support", were introduced in 2013 and have been strengthened considerably since. Energy savings in existing buildings are supported locally, with for example Seoul Metropolitan Government providing interest-free loans for energy efficiency, such as replacement of insulation, lighting, and heating facilities. Vehicle emissions standards were implemented in 2008, and are being tightened according to a pre-announced schedule.

The K-ETS operates alongside a range of energy policy instruments aimed at decarbonising Korea's electricity generation mix, such as capacity payments, renewable portfolio standards, emission performance standards, fuel taxes, phase down trajectories, and technology targets (Kuneman et al., 2021). The new government has stated its intention to adjust Korea's Carbon-Neutral Implementation Plan based on scientific advice and in compliance with the 2030 emission reduction target. This evaluation should make sure that policies complement and improve price pass-through from the K-ETS rather than complicate performance monitoring, blur price signals and blunt economy-wide incentives (D'Archangelo et al., 2022).

Institutional arrangements can help support the drive towards net zero. A number of countries including the United Kingdom, Sweden, France and New Zealand have for example set up independent climate policy councils with tasks including advising the government on setting climate targets, monitoring progress and evaluating policy (OECD, 2022b). Korea's 2050 Carbon Neutrality and Green Growth Commission, a permanent body established under the 2022 Framework Act on Carbon Neutrality, is set to perform similar tasks in Korea. The Commission reviews carbon-neutral policies, takes stock of the implementation and collects opinions of various stakeholders. Its membership is broad, including government, experts and civil society. The Commission is co-chaired by the Prime Minister and a representative from the private sector. Equipping the Commission with a sufficiently funded secretariat with strong analytical capabilities would be a way to ensure high quality and relevance of outputs and advice from the Commission going forward.

Central banks and financial supervisory authorities increasingly take responsibility to green the financial system. However, the financial sector does not work in isolation. It can only be a facilitator, funding climate-friendly investment in response to effective policies. Financial regulators have an important role to play in improving financial resilience by mandating better assessments and disclosure of risks from climate change and transition risks from a changing policy and investor landscape, and integrating these risks into the supervisory framework. Increasing demand for more environmentally-friendly investment portfolios combined with climate risk assessments and disclosures can on the other hand leave a vacuum and lead to counterproductive market dynamics such as blanket portfolio exclusions of firms or sectors on simple criteria including their current emission intensity. Disclosure and a taxonomy classifying activities and investments as harmful or beneficial to the climate can help alleviate these concerns. The European Union has already implemented important parts of their taxonomy, while the United Kingdom is also developing one (OECD, 2022b).

The Bank of Korea and the Financial Services Commission are both members of the Network of Central Banks and Supervisors for Greening the Financial System (NGFS), a group of financial regulators sharing

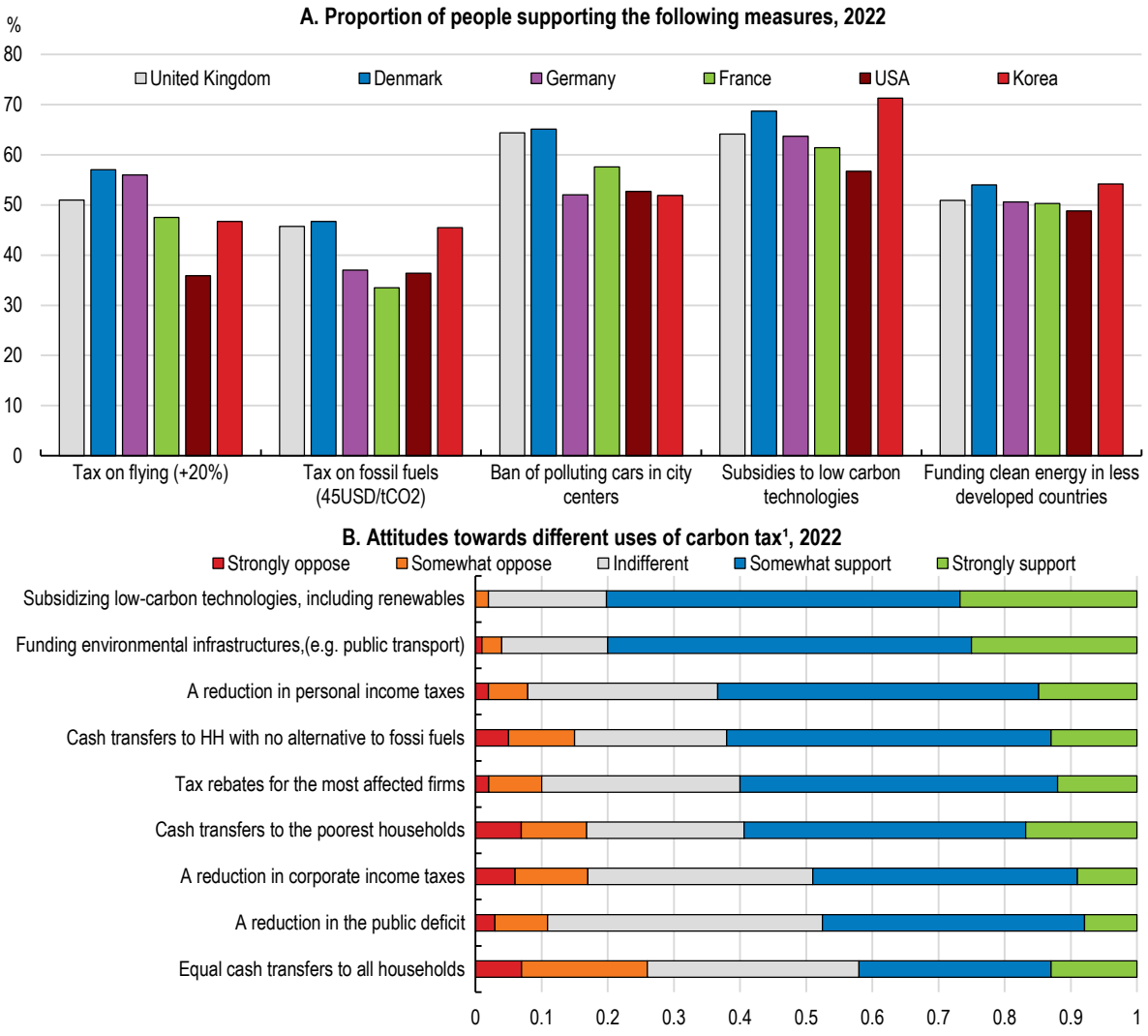
best practices and contributing to the development of environment and climate risk management in the financial sector. Such cooperation is helping Korea to quickly catch up with international best practices set by frontrunners such as the United Kingdom. The Financial Supervisory Service (FSS) has introduced a guideline to manage climate risks in the financial sector, detailing areas such as business environment and strategy, governance structure, risk management and disclosure and launched a climate risk forum in May 2021 to coordinate among relevant government agencies and financial institutions. The five major trade groups in the financial industry have prepared a green finance handbook, providing best practice examples and reference information on financial institutions' green finance strategies. In close cooperation with financial companies, the authorities plan to develop a climate scenario and conduct a pilot stress test in the financial sector in 2022 (FSC, 2021b).

The Korean people support policies to reduce emissions

Implementing policies to reduce greenhouse gas emissions also depends on support from the population. The first-order effect of policies targeting household emissions would likely be regressive in Korea (Alonso and Kilpatrick, 2022). Taxes on heating fuels and electricity are more so than those on transport fuels, as low-income households tend to use a larger share of their income for heating than high-income households. These distributional effects can be met by targeted transfers and programmes to improve residential housing energy efficiency and transition to zero-emission heating, notably heat pumps (OECD, 2022b; D'Archangelo et al., 2022).

However, compensating negatively affected households might not be sufficient to secure support for efficient policies even when, as in Korea, the objective of mitigating climate change is broadly accepted. A new OECD survey of more than 1 500 representative respondents in Korea and several other countries analyses the public acceptability of carbon pricing and other climate policies. Like in other OECD countries, an overwhelming majority of Koreans agreed in early 2022 that climate change is an important problem (94%) and that it will negatively affect their personal life (86%). Support for various concrete policy measures is nonetheless moderate, except for subsidising low carbon technologies, which 71% support. Only 46% support a tax on fossil fuels, but this is much higher than in Germany, France and the United States, and on par with the United Kingdom and Denmark (Figure 1.17, Panel A). Support increases to around 80% if carbon revenues are used to subsidise low-carbon technologies and fund environmental infrastructure (Panel B) (Dechezleprêtre et al., 2022). This indicates that expansion and improved pass-through of the price signal from K-ETS is feasible politically if combined with technology and infrastructure support. Consecutive administrations' failure to raise electricity prices over the past nine years does point to a political cost of making decisions to raise energy prices. Broad acceptance of climate policy would also require active discussions with the business community, as well as creating or strengthening institutions and mechanisms to engage and promote opportunities for intergenerational dialogue (OECD, 2020a).

Figure 1.17. Concrete climate policies receive varying degrees of popular support



1. The question in the survey was as follows: "Governments can use the revenues from carbon taxes in different ways. Would you support or oppose introducing a carbon tax that would raise gasoline prices by 40 cents per gallon, if the government used this revenue to finance..."
Source: Dechezleprêtre et al. (2022).

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Table 1.5. Past recommendations to reduce emissions and action taken

Recommendations from past Surveys	Action taken
Tighten caps for air pollutant emissions and strengthen vehicle emission standards (2020).	The management system to cap air pollution emissions was extended nationwide from October 2021.
Price CO2 emissions evenly across sectors and fuels and raise pricing according to a predictable schedule (2020).	The K-ETS emissions cap was reduced and the share of allowances auctioned increased from 3% (Phase 2, 2018-20) to 10% (Phase 3, 2021-25).
Steadily increase the share of permits auctioned and the stringency of the total emission cap in the emissions trading system (2018).	The government expanded the share of permits auctioned to 10% for K-ETS Phase 3 (2021-25).
Raise environmentally-related taxes, in part to close the gap between diesel and petrol taxes, and boost electricity prices (2018).	The tax on soft coal has increased and tax benefits for replacing old diesel vehicles were introduced in December 2018.

Societal divides hold back productivity, well-being and fertility

Korea's exceptional journey from one of the poorest countries in the world in the 1950s to the 10th largest economy in 2020 saw per capita GDP rise from around 1% of the OECD average to surpassing the average in 2020. GDP growth and access to health care have pushed life expectancy well above the OECD average, and was accompanied by a transition from authoritarian rule to democracy. This rapid development was founded on an export-oriented growth strategy, sound macroeconomic policies with an investment-friendly climate and heavy investments in education. Large family-run business groups (chaebols) focused on manufacturing acted as engines of growth, supported by subsidies, favourable access to credit, tax incentives and trade protection, notably throughout the 1960s and 1970s, after which this support was scaled back (Jones, 2021).

Productivity gaps between small and large companies widen despite policy efforts

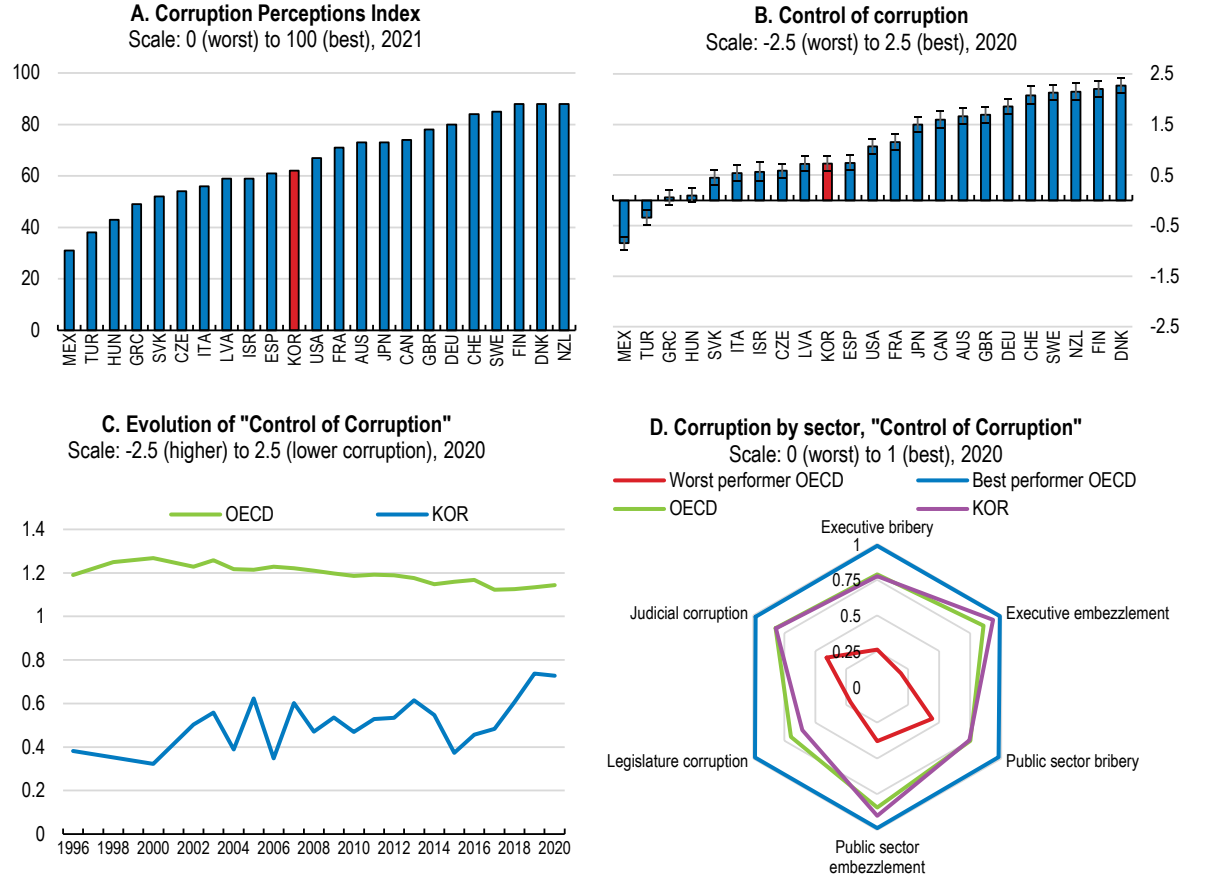
However, the very drivers of Korea's economic miracle also gave ground to pronounced gaps in business and society. Large business groups are still dominant today in terms of national sales, and even more so in exports. These firms typically offer highly educated workers well-paid jobs, good working conditions, regular employment and social insurance coverage. Low-productivity SMEs, often in the domestic-oriented service sector, hire a larger share of non-regular workers, who earn less pay and have less protected jobs. These firms are not able to attract the skills needed to boost productivity, for example by adopting digital technologies. Indeed, firms with at least 300 employees pay young workers 50% higher wages than those with less than ten employees, and only employ 14% of their work force on non-regular contracts, compared to almost half in companies with five or less employees (Chapter 3) (OECD, 2020b; OECD, 2018).

The 2018 *OECD Economic Survey of Korea* found that productivity gaps between large and small companies are supported by the concentration of economic power among large companies. While these companies need to maintain high productivity to compete internationally, they often tend to use their market power domestically. SMEs that supply products to large firms complain that they are unfairly squeezed by those firms. Their sheer size and importance to the Korean economy is a macroeconomic risk, compounded by their complex ownership structures (OECD, 2018).

Owner families wield outsized voting power, which can lead to private interests taking precedence over those of other shareholders (OECD, 2018). A regulatory move away from opaque circular ownership structures has been largely successful in increasing transparency around these conflicts of interest, although considerable discrepancies between voting power and cash-flow rights remain (Chattopadhyay et al., 2021). Legislation has been passed to prevent controlling shareholders from abusing these voting rights, for example by allowing shareholders to file lawsuits against directors causing damage to subsidiaries of which they are in charge and measures to protect audit committee members' independence from controlling shareholders' influence. The government plans to pursue further measures to penalise unfair business practices and promote fair competition (MOEF, 2022).

Close ties between business and political elites led to a number of high-level corruption scandals in the past. Although Korea has climbed the rankings in the Corruption Perceptions Index (Figure 1.18, Panel A), from 52 in 2016 to 32 in 2021, reflecting falling low-level corruption, it scores poorly compared with most other OECD countries. It also scores relatively low in the World Bank's Control of Corruption index (Panel B), even though it improved over time (Panel C). By sector, Korea's score in legislature corruption is slightly worse than the OECD average (Panel D). Anti-corruption policies have been tightened considerably, and are still evolving (Box 1.2).

Figure 1.18. Control of corruption is improving



Note: Panel B shows the point estimate and the margin of error. Panel D shows sector-based subcomponents of the "Control of Corruption" indicator by the Varieties of Democracy Project.

Source: Panel A: Transparency International; Panels B & C: World Bank, Worldwide Governance Indicators; Panel D: Varieties of Democracy Project, V-Dem Dataset v12.

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Box 1.2. Anti-corruption policies in Korea: recent developments

Korea's Anti-Corruption and Civil Rights Commission (ACRC) works continuously to improve its integrity education for elected officials. In 2021 it added scholarship student selection to the list of public duties subject to the Improper Solicitation and Graft Act, Korea's extensive law on bribery. Moreover, the ACRC has taken steps to strengthen whistle-blower protection and plans to increase compensation for those reporting irregularities. When whistle-blowing results in increased revenue, or recovery of funds, the whistle-blower can be rewarded with up to KRW 3 billion (EUR 2.2 million). The number of reports on corruption and public interest infringement that received monetary rewards has increased steadily, from 12 in 2011, when the Act on the Protection of Public Interest Whistle-blowers was passed, to 408 in 2019. The ACRC has intensified efforts to increase the transparency of companies, distributing guidelines to public institutions in June 2022 on how to comply with the Integrity and Ethics Compliance Programme. It plans to develop and implement a similar programme for companies within the year, comprehensively taking into account international standards reflected in Korean law, such as the UN Convention against Corruption.

ACRC's own annual Anti-corruption Initiative Assessment showed that, on the whole, public institutions continued to increase anti-corruption efforts in 2021. ACRC did, however, note that public universities

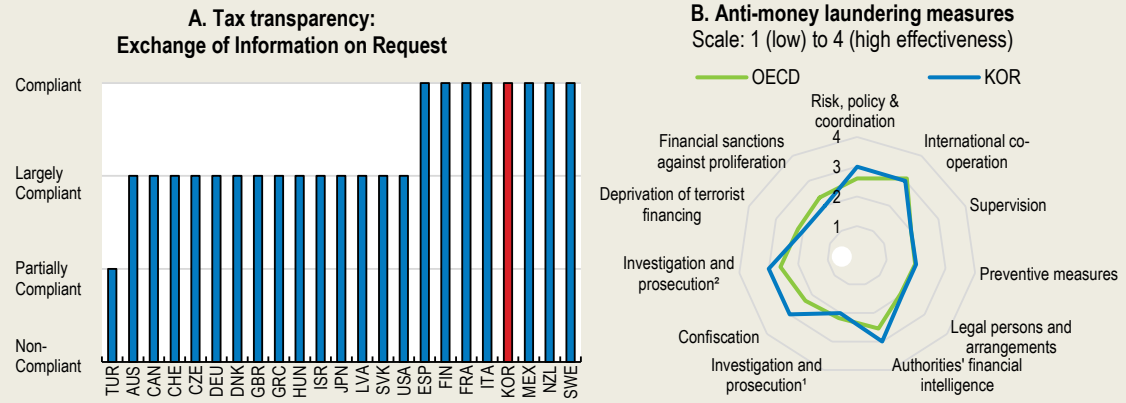
and health institutions could do more to minimize the risk of corruption. ACRC also carries out an "Integrity Assessment", surveying corruption perceptions among officials and citizens. From 2022, the two assessments are combined into one.

To address corruption among high-ranking officials, an independent anti-corruption agency, the "Corruption Investigation Office", was established in January 2021. The agency can investigate abuse of power, such as bribery and embezzlement, among high-ranking officials, including the President and prosecutors from the Supreme Prosecutors' Office, and their families.

In May 2022, the Act on the Prevention of Conflict of Interest Related to Duties of Public Servants took effect to prohibit public officials from seeking personal gains and to secure fairness in their performance of public duties. The law, which will directly affect around 2 million civil servants including officials, lawmakers and executives at state-run companies, also stipulates that officials involved in real estate developments should declare it within two weeks if they or their family members possess real estate located in real estate development areas.

In June 2021, the OECD Working Group on Bribery noted that while 22 out of its 36 Phase 4-recommendations had been fully or partially implemented, there was still much to be done. In particular, Korea needed to increase its efforts to train and provide adequate guidance to officials working with foreign bribery investigations to improve detection and enforcement. Korea was also urged to step up promptly and significantly its level of foreign bribery enforcement and to address key unimplemented recommendations concerning, among others, the false accounting offence and its anti-money laundering reporting framework (Figure 1.19).

Figure 1.19. Tax transparency and anti-money laundering measures



Note: Panel A summarises the overall assessment on the exchange of information in practice from peer reviews by the Global Forum on Transparency and Exchange of Information for Tax Purposes. Peer reviews assess member jurisdictions' ability to ensure the transparency of their legal entities and arrangements and to co-operate with other tax administrations in accordance with the internationally agreed standard. The figure shows first-round results; a second round is ongoing. Panel B shows ratings from the FATF peer reviews of each member to assess levels of implementation of the FATF Recommendations. The ratings reflect the extent to which a country's measures are effective against 11 immediate outcomes. "Investigation and prosecution¹" refers to money laundering, and "Investigation and prosecution²" to terrorist financing.

Source: OECD Secretariat's own calculation based on the materials from the Global Forum on Transparency and Exchange of Information for Tax Purposes; and OECD, Financial Action Task Force (FATF).

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The large business groups no longer drive broader Korean prosperity as in the past. Their share of employment has fallen, even as their production became ever more internationalised, capital- and technology-intensive. By 2016, Korean SMEs – defined as firms with less than 300 employees – accounted for 80% of business sector employment, the second highest share in the OECD At the same time, their productivity has lagged increasingly behind, and is now approximately one-third of that of large companies. As illustrated in the 2020 *OECD Economic Survey of Korea*, increasing SME productivity to the OECD

average of approximately half that of large companies would boost GDP per capita by more than 40% by 2060. Increasing service sector productivity as a share of manufacturing productivity from currently 45% to the OECD average of 85% would boost GDP per capita by almost 60% (OECD, 2020b).

Since the late 1970s, successive governments have become increasingly conscious of the imbalance between large and small companies. A large number of policies have been put in place to support SMEs, including subsidies, favourable access to public procurement, regulations differentiated by company size and whole market segments reserved for SMEs. Although many of these policies may have some justification when seen in isolation, they sum up to a system that supports the survival of low-productivity firms against a backdrop of regulatory complexity (OECD, 2018).

As recognised in the government's "Economic policy directions" (MOEF, 2022), policy should rather focus on ensuring fair competition, simplifying and loosening unnecessary regulations across sectors and firm sizes. Policies targeted at large firms should focus on strengthening board independence, protecting minority shareholder rights, ensuring that voting rights reflect ownership shares, and striking down unfair business practices taking advantage of market power, such as those related to subcontracting. Policies that end up unduly supporting low-productivity SMEs should be phased out by systematically re-evaluating the numerous regulations affecting SMEs and service sectors, and the numerous schemes in place to protect them from competition from larger companies. Subsidies should be re-targeted towards mainly young companies in a growth phase and towards areas supporting productivity growth, such as research and development, digital adoption and on-the-job digital training, and to fill financing gaps related to intangibles which are difficult to collateralise. Support should be time limited, as continued support to companies that are not able to survive on their own wastes fiscal resources and lowers productivity at the same time (OECD, 2018; OECD, 2020b). Since 2018, the government has implemented SME graduation schemes for technology credit guarantees and SME policy loans to prevent SMEs with low performance from receiving misappropriated or repetitive support. These schemes are supported by the SMEs Integrated Management System. The new government plans to reform the SME policy evaluation system to more focus on boosting innovation and growth potential of SMEs (MOEF, 2022).

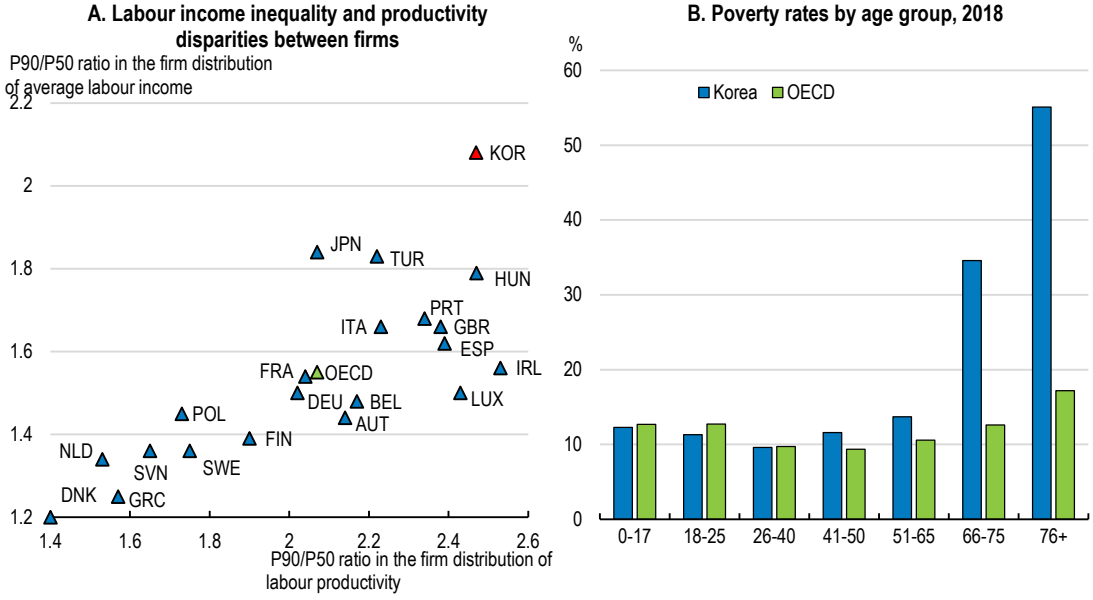
Table 1.6. Past recommendations to reduce productivity gaps and action taken

Recommendations from past Surveys	Action taken
Use regulatory sandboxes to identify excessive regulation and revise or abolish it (2020).	The government has launched regulatory sandboxes in ICT convergence, industrial convergence, financial innovation, regional innovation, smart cities and R&D. Over the three years since introducing the regulatory sandbox system in January 2019, 688 cases have been approved, of which 144 (21%) have led to nationwide deregulation.
Facilitate telemedicine, as long as it is compatible with preserving patient safety and quality of care (2020).	The government temporarily eased restrictions on telemedicine in February 2020.
Ensure that support provided to SMEs improves their productivity by carefully monitoring their performance and introducing a graduation system (2018 and 2020).	In 2019, the government introduced an evaluation system for government support for SMEs to prevent excessive support and improve efficiency. It evaluates the effectiveness of government support programmes based on sales growth rate and employment growth rate. For an accurate evaluation, the support history database in the integrated management system (SIMS) is also expanded.
Provide more basic ICT courses to SME employees and older persons, reduce training costs for SMEs and provide targeted adult learning programmes to SME managers (2020).	In 2021, K-Digital Credit, a basic ICT training programme, was introduced for men and women, middle- and older-aged job seekers, young employees and young job seekers. The government introduced the Digital-specific Systematic On-the-Job Training programme for SME staff in 2021. Moreover, the government is operating 1 000 "Digital Learning Centers" across the country to build the digital capacity of people, including that of senior citizens.

Inequalities spur an unproductive race for a golden ticket

The wide productivity gaps between small and large Korean companies is a key factor behind high income inequality in Korea. Labour income inequality mirrors firm's productivity gaps (Figure 1.20, Panel A). It is compounded by a high incidence of non-regular workers in small companies relative to larger ones. Regular workers receive higher wages, social insurance coverage and strong employment protection, while non-regular workers receive lower wages, are less likely to be enrolled in social insurance and work in precarious jobs (Chapter 3).

Figure 1.20. Income inequality mirrors productivity gaps between firms



Note: Panel A: OECD is the unweighted average of the countries for which data are available. The country-specific data points indicate the unweighted average of within-industry labour income inequality and productivity dispersion between firms. The coverage of firms in the dataset varies across countries and is restricted to firms with at least 20 employees. The P90/P50 ratio is average labour income or labour productivity of the firm at the 90th percentile divided by the corresponding value of the firm at the median.
Source: OECD (2018), Economic Survey of Korea 2018; OECD Income Distribution (database).

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A part of social protection gaps between large and small companies is due to gaps in mandatory (un-)employment insurance coverage for non-standard employees, and limited pension rights earned during unemployment and childcare-related career breaks. Another substantial part is explained by weak enforcement of social protection rights, notably employment insurance and the National Pension Scheme, reflecting the notion that SME productivity is too weak to carry additional labour costs (Chapter 2). As a result of this, and the practice of honorary retirements around the age of 50 in a country with a life expectancy of over 83 years, old-age poverty in Korea is high (Panel B). Preventing honorary retirements would require boosting life-long learning to address a large skill gap between young and old, and moving away from the combination of seniority-based wages and severance pay which creates large employer liabilities increasing sharply with the worker's age.

SME compliance with employment standards also has room for improvement. The minimum wage reached about 63% of the median wage in 2019, after a nearly 30% increase over 2017-19. This is relatively high among the OECD countries with a minimum wage, and the rapid increase likely weighed on employment in SMEs. Subsidies were put in place to help them adjust, and the minimum wage was increased by 2.9% for 2020 and 1.5% for 2021 (OECD, 2020b). Despite these efforts, survey evidence indicates that 4.4% of workers earned less than the minimum wage in 2021, with the proportion of underpaid workers as high as 11% in agriculture and fisheries and 12.5% in hospitality (Minimum Wage

Commission, 2022). Minimum wage increases can in principle boost productivity by making labour unaffordable for low-productivity firms, but would likely be more successful if competition functioned better and product- and labour-market regulations were less stringent. The Earned Income Tax Credit (EITC) can be a useful complement to the minimum wage by subsidising a match between supply and demand for low-productivity labour while reducing in-work poverty (OECD, 2020b).

Early career outcomes can have life-long consequences in terms of income, pensions and security. The potential gains of landing employment in large and productive companies or in government are so large and the alternative so unattractive that an enormous amount of time, resources and personal efforts go into maximising chances to end up on the winning side. This Korean "golden ticket syndrome" includes an excessive focus on education and entrance exams, money and time spent on after-school tutoring (*hagwon*), a high share of youth being neither in education, employment or training (NEET) while for example preparing to sit or re-sit exams. Notable costs of this situation are reduced youth well-being, low youth employment rates due to delayed labour market entry, delayed family formation, increased cost of having children in terms of time and money and reduced intergenerational social mobility, as discussed in Chapter 3.

Policy priorities to reduce inequalities notably include breaking down labour market dualism and expanding social insurance enrolment. Relaxing employment protection for regular workers and reducing the uncertainty associated with redundancies would make it less risky for employers to hire on regular contracts, while expanding social insurance enrolment and training for non-regular workers would reduce precariousness, improve matching and reduce skill gaps (OECD, 2018; OECD, 2020b). This would take some pressure off youth, and should be complemented by reform of the education system. Such reforms should aim to reduce the focus on admission to prestigious universities by improving other paths to success, including vocational and entrepreneurship education, in a dialogue with employers and unions. To improve the quality of universities, caps on student enrolment should be gradually phased out, combined with other measures to encourage universities to shift resources according to social demand. In particular, increased investment in universities outside of the Seoul metropolitan area would reduce the dominance of Seoul-based universities in the ranking of Korean universities (Chapter 3).

Table 1.7. Past recommendations to address inequalities and action taken

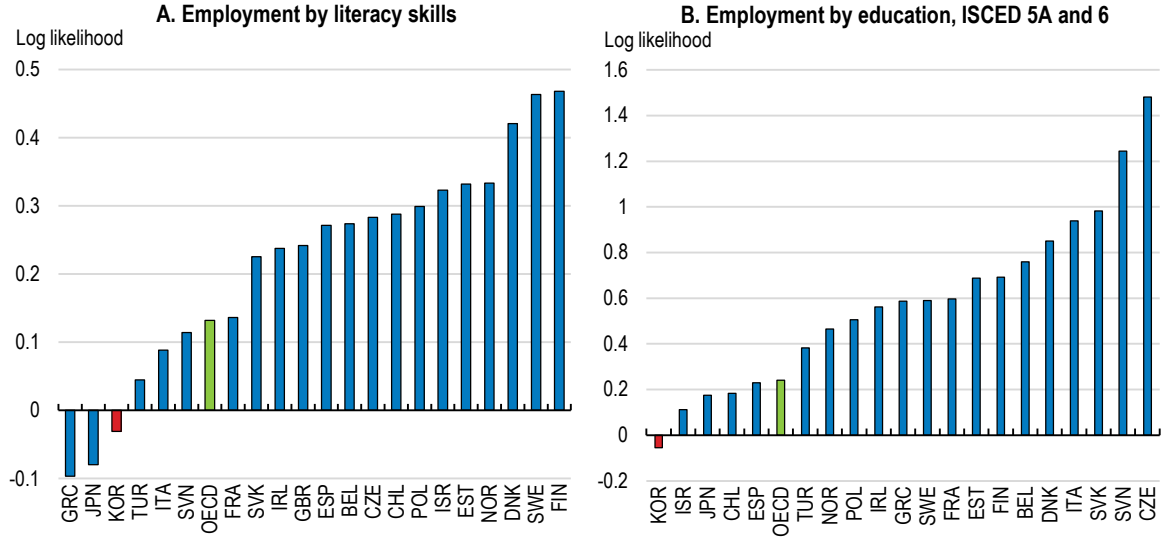
Recommendations from past Surveys	Action taken
Strengthen protection and coverage for non-regular workers and workers in new forms of employment (e.g. platform workers) and increase compliance with social insurance through more effective enforcement (2020).	The government expanded legal coverage of employment insurance to artists in December 2020, to dependent self-employed in July 2021, and to platform workers in January 2022. In 2020, the government introduced the National Learning Card to integrate learning account systems for the unemployed and the employed.
Adjust resources for the public employment service and training programmes to maintain effective support for jobseekers (2020).	In the 2022 budget, funding increased by 12% compared to the previous year for vocational training and employment services, and by 7.5% for direct job creation. The National Employment Support System was introduced in 2021 to support low-income people and youth with a cash allowance and job-training services.
Match the introduction of a cash sickness benefit planned in the New Deal with a strong focus on rehabilitation and return to work (2020).	The government released a plan for a pilot project for a cash sickness benefit with six local governments from July 2022, with the aim of a nationwide launch in 2025.
Expand incentives for workers and employers to ensure that workers stay longer in their career jobs, including through greater wage flexibility, with the view to raising the minimum mandatory retirement age further over time (2020).	In January 2022, the government launched the Elderly Employment Promotion Subsidies System to support SMEs employing more elderly aged over 60. The Elderly Continuous Employment Promotion Subsidy to support SMEs to maintain the employment of elderly workers after the retirement age has been in place since 2020.
Further increase the Basic Pension and focus it on the elderly in absolute poverty (2018 and 2020).	The government increased the Basic Pension for all beneficiaries (around 5 million) to up to KRW 250 000 per month from KRW 200 000 in September 2018. It was increased up to KRW 300 000 for the low income elderly (bottom 20%) from April 2019 and for the bottom 40% of the elderly in 2020. In 2021, all beneficiaries could receive KRW 300 000. From January 2022, the Basic Pension was increased up to KRW 307 500.

Women's stark choice between career and family holds back employment and fertility

The notable costs to Korean youth, parents and society pursuing a golden ticket to attractive employment do not seem to carry comparable benefits in terms of a well-functioning labour market matching of workers to the firms and tasks they are best suited to perform. Literacy skills and tertiary education, objective measures of skills which are highly correlated with employment and productivity in most OECD countries, do not significantly affect the likelihood of employment in Korea (Figure 1.21). The weak link between objective skills and labour market outcomes raises questions about fairness and the intrinsic value of equal opportunities, and it represents a misallocation of human capital and likely a substantial loss of productivity.

Instead, labour market outcomes, employment in particular, overwhelmingly reflect individual demographic characteristics, notably age, gender and parental status. Low employment rates among youth of both genders yield way to rising male employment until around the age of 50, after which many workers exit their career jobs (Chapters 2 and 3). A considerable gender wage gap opens up between men and women in typical childbearing age. Fathers are considerably more likely to be employed than men without children, while mothers are considerably less likely to be employed than women without children (Figure 1.22, Panel A). The combined gender- and parenthood-related employment gap in Korea is the largest in the OECD for all but the youngest adults (Panel B). The widening gender gaps around the time of parenthood reflect two aspects of the male breadwinner model affecting men and women differently. Marriage and childbearing are typically postponed until the father is in stable employment. Women in stable employment, notably in the public sector, are also more likely to have children. However, Korean women tend to leave the labour force following childbirth at very high rates compared to the OECD average, and those who interrupted their career after the birth of their first child stopped working for three years on average over the period 2006 to 2015 (OECD, 2019).

Figure 1.21. Literacy skills and tertiary education matter little for employment in Korea



Note: The log likelihood of being employed is estimated in a logistic regression controlling for 10-year age-gender cohort, parental status (by gender), education level, literacy skills and work experience (relative to age). Literacy skills are measured in PIAAC score points on a scale from 0 to 100. Education is measured by the International Standard Classification of Education (ISCED). ISCED 5A and 6 corresponds to tertiary education at Bachelor level or above. PIAAC data are from 2014-15 for Chile, Greece, Israel, Slovenia and Turkey, and from 2011-12 for the rest. The reference category is a man aged 35-44 without young children, holding an upper secondary degree.

Source: Pareliussen (2022), "How labour market outcomes reflect age, gender and skills in Korea, evidence from PIAAC", *OECD Economics Department Working Paper*, forthcoming.

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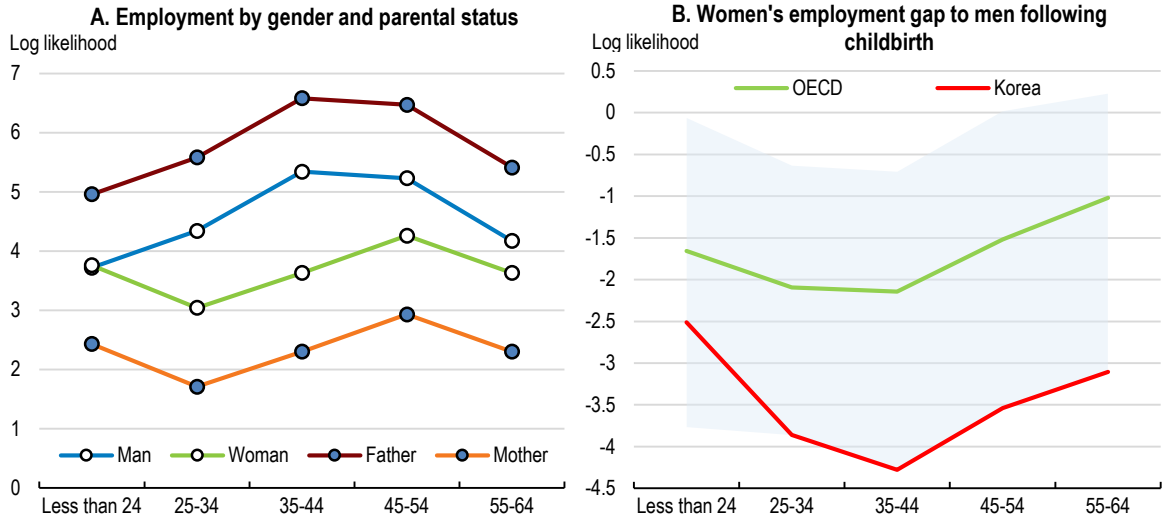
Figure 1.22. Employment excessively reflects gender and parental status



Note: The log likelihood of being employed is estimated in a logistic regression controlling for 10-year age-gender cohort, parental status (by gender), education level, literacy skills and work experience (relative to age). Literacy skills are measured in PIAAC score points on a scale going from 0 to 100, while education is measured by the International Standard Classification of Education (ISCED). ISCED 5A and 6 corresponds to tertiary education at Bachelor level or above. The shaded area in panel B spans all OECD values. The reference category is a man aged 35-44 without young children, holding an upper secondary degree.

Source: Pareliussen (2022), "How labour market outcomes reflect age, gender and skills in Korea, evidence from PIAAC", *OECD Economics Department Working Paper*, forthcoming.

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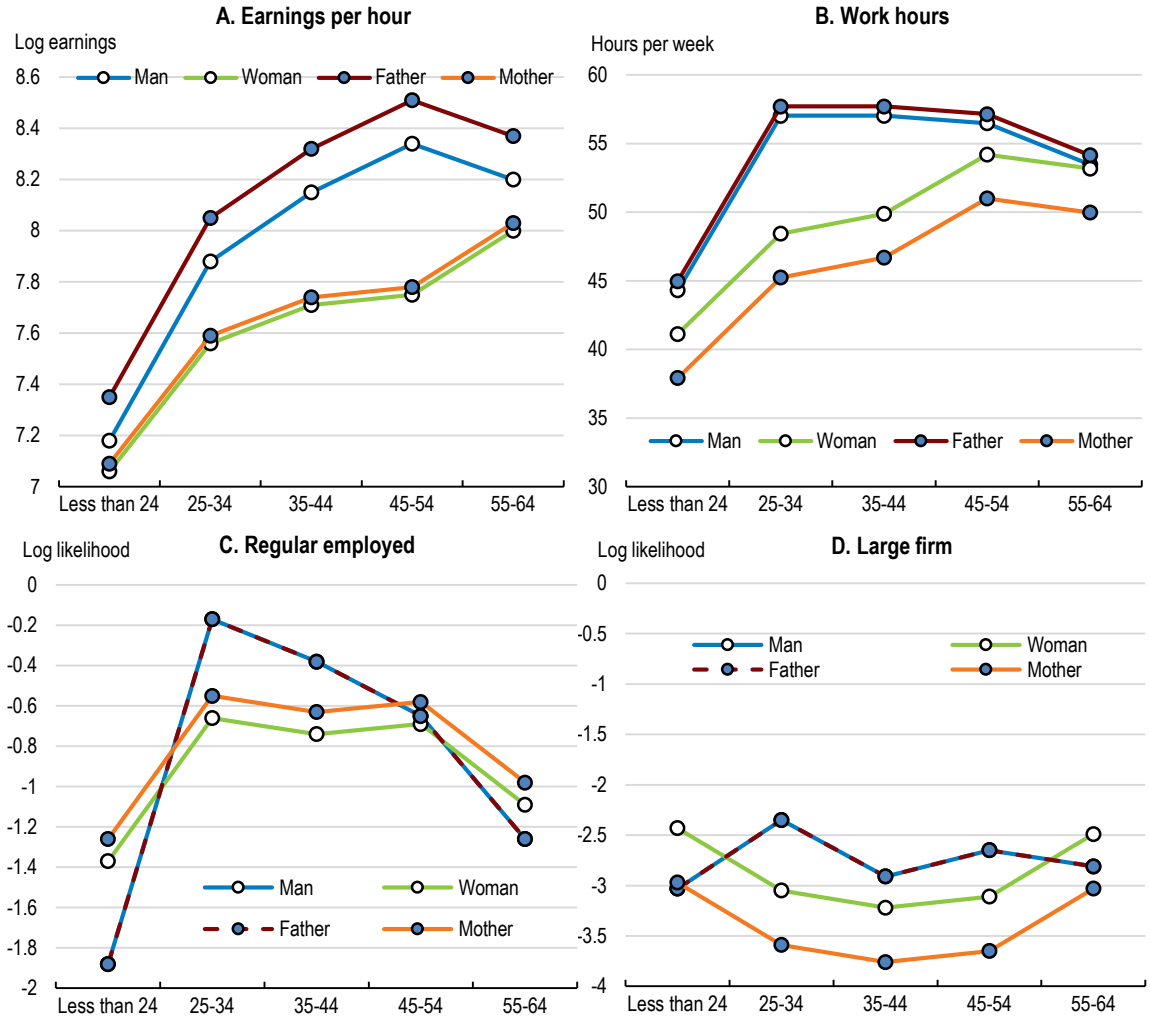
Gender gaps are also prominent among the employed. Korea has the largest gross gender wage gap in the OECD, and the second lowest share of female managers in the OECD after Japan (OECD, 2021c). Fathers, the traditional breadwinners, get a career boost from parenthood, increasing work hours and hourly pay within their pre-parenthood career. Women tend to fall behind men in terms of earnings per hour, work hours per week, and the likelihood of being employed on an open-ended (regular) work contract or working in a large company (Figure 1.23).

In sum, women have gained opportunities to prosper in the workplace, as access to education and jobs has become increasingly equal between genders, but working life and social norms have not kept pace. The high cost of having children, in terms of going from the winning side of labour market dualities with regular and rewarding employment to a second-rate path of low-pay, non-standard work in a low-productivity SME forces women to choose between career and family. Combining career and children is often not an option because the demands from working life are tough, with a culture of long work hours and relatively little flexibility and an unequal division of unpaid care work in households rooted in traditional concepts of gender roles. Following up on their children's education to help them win their own golden ticket costs time and money. Expensive housing and higher demands to meet material standards add to the cost. Women who have left the labour force for a few years to care for young children tend to find the return to the labour market an unattractive proposition. In general, regular employment opportunities are hard to find for "mother returners", for whom low-paid non-regular jobs are the only opportunities available. As a result, mothers are three times more likely to be in non-regular employment than fathers (OECD, 2021c; OECD, 2019). These factors lead young women to postpone family formation and to have fewer children over their lifetime. The average age of first childbirth has increased from 26.2 to 32.3 in less than three decades (Figure 1.24, Panel A). The total fertility rate, which was at six children per woman on average in 1960, has dropped to just below one child per woman in 2019 (OECD, 2019).

Figure 1.23. Working women face considerable gender gaps

Labour market outcomes conditional on employment



Note: Log hourly earnings in PPP-adjusted USD as well as work hours per week are estimated in ordinary least squares regressions with robust standard errors. The log likelihood of being a regular employee or working in a large firm (250 employees or more) are estimated in logistic regressions. All regressions control for 10-year age-gender cohort, parental status (by gender), education level, literacy skills and work experience (relative to age). Literacy skills are measured in PIAAC score points on a scale going from 0 to 100, while education is measured by the International Standard Classification of Education (ISCED). ISCED 5A and 6 corresponds to tertiary education at Bachelor's level or above. The reference category is a man aged 35-44 without young children, holding an upper secondary degree.

Source: Pareliussen (2022), "How labour market outcomes reflect age, gender and skills in Korea, evidence from PIAAC", *OECD Economics Department Working Paper*, forthcoming.

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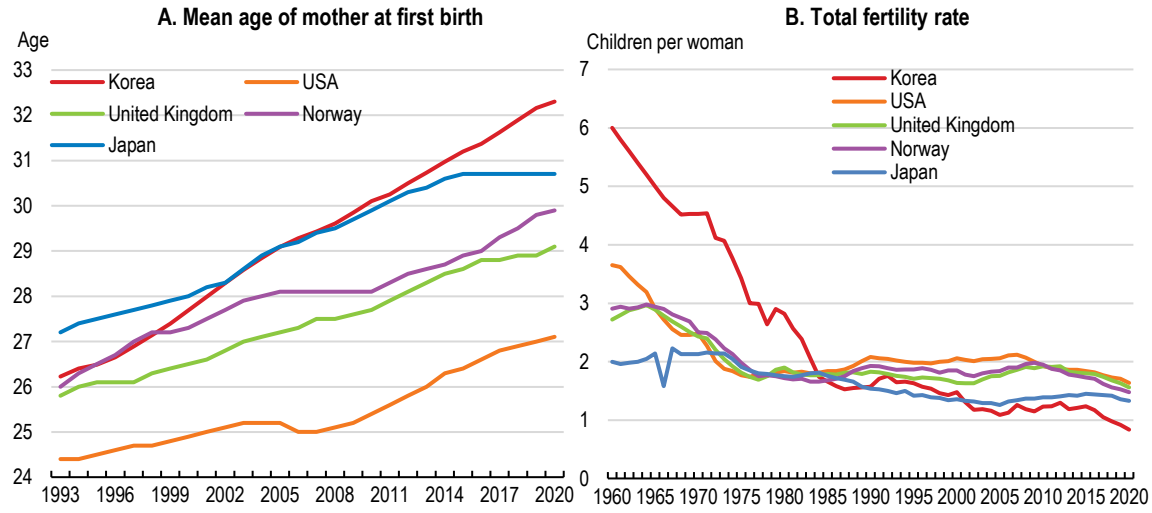
Policy has in many ways been responsive to these challenges. Korea has developed a comprehensive system of public and private formal day care and kindergartens, raising public spending to 1% of GDP, and reaching enrolment rates on par with Nordic countries. The government pays for the tuition for all children, including in private day-care centres. To alleviate concerns over quality, all day-care centres have been obliged to go through an accreditation process since 2019, and the government implements policies to turn private day-care centres into public ones, as these are still highly preferred by parents. Korea is also rolling out a community-based care service network that will provide childcare services using school and community facilities, and link and expand current out-of-school-hours services, an area where supply is still insufficient.

Figure 1.24. Childbirth happens later in life in Korea



Source: Centres for Disease Control and Prevention, Office for National Statistics, Statistics Japan, Statistics Korea, Statistics Norway; OECD Family Database.

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Paid childbirth-related leave has also been expanded, but has gaps. Paid maternity leave up to 100% of regular earnings is available for 90 days for mothers who are covered by employment insurance. The first 60 days are in general covered by the employer (there are exceptions for SMEs). One year of parental leave is available for both mothers and fathers, paid up to 80% of the monthly ordinary wage. The new government plans to extend parental leave to one and a half years. Eligibility is limited by the limited coverage of employment insurance as outlined above and in Chapter 2. A lump-sum payment of KRW 500 000 (EUR 375) per month for three months is available for those not covered by employment insurance. Due to limited eligibility, gender norms, a lack of enforcement of parental leave rights and the cost incurred by employers, the paid parental leave system is under-used (OECD, 2019). 13.4% of parents who gave birth in 2020 took up parental leave (24.3% of mothers and 2.5% of fathers). Among those parents eligible for parental leave, 24.2% exercised their right. A fairly large share (63.9%) of mothers used it, while only very few (3.4%) fathers did.

In light of these considerable investments in childcare and parental leave, difficulties in combining career and family are increasingly reflecting gender norms and an unforgiving work culture (Doepke et al, 2022; Myong et.al, 2020). Long working hours and low flexibility for parents make it difficult to combine work and family. Maximum allowed working was reduced from 68 to 52 hours per week in firms with 300 or more employees as of July 2018, and has been applied to all firms with five or more employees from July 2021. To increase flexibility, a tripartite agreement was signed on a plan to extend the period over which the flexible work hours system can be averaged from three to six months. The first phase of the reform, targeted at firms with 300 or more employees, has contributed to reducing the percentage of individuals working very long hours. This change is helpful, but a 52-hour working week is not compatible with taking active part in raising children and other domestic work. Work culture will need to change by changing norms, and by reducing the current strong emphasis on overtime pay in the total remuneration package. Norms also need to change to reduce pressures on women regarding what it means to be a good mother and wife and sharing domestic and paid work better between mothers and fathers. The public sector as an employer is already considered more family-friendly than the private sector, and can continue to lead by example and engage in constructive dialogue with unions and employers.

Going forward, any policies reducing labour market duality and dampening the intense competition facing youth would reduce the cost of motherhood in terms of foregone earnings and career opportunities. Strengthening the real incomes of young people and families by means of better labour market matching

and public support could help provide a more solid basis for starting and supporting a family (Chapter 2, OECD, 2019). Financing maternal, paternal and parental leave fully by social security contributions or general taxes, as is the case in many OECD countries including all the Nordics, could help secure employers' support, combined with enforcement of workers' rights.

Table 1.8. Past recommendations to reduce barriers to women's careers and action taken

Recommendations from past Surveys	Action taken
As planned under the New Deal, phase out the family support obligation from the Basic Livelihood Security Programme (2020).	The family support obligation for the livelihood benefit was abolished in October 2021 except for the health benefit (however, for a household that is comprised of at least one elderly Basic Pension recipient, the family support obligation rule does not apply).
Regularly publish a national-level analysis of wage difference determinants to promote fairer wages across genders (2020).	The government released the first annual report on gender wage differences in 2021.

Bridging gaps can boost growth

Simulations in the OECD Long-term model (Box 1.3) indicate that Korea's GDP per capita growth potential will slow from around 3% per year in 2005-22 to around 1% per year in 2023-60. About half of the fall results from a declining working-age population. The rest reflects slower growth in the employment rate, less capital deepening and weaker multifactor productivity, despite assumed convergence towards the best-performing OECD countries (Guillemette and Turner, 2021). This steeply reduced growth potential is not inevitable. Policy recommendations in this Survey could contribute to closing gaps in employment and productivity across genders and age groups, and simulations in the Long-term model illustrate how this could improve growth, employment and public finance outcomes.

Box 1.3. The OECD Long-term model

The OECD long-term model includes 48 countries. It is built around a set of long-run projections for potential output which are extensions of the short-term potential output estimates prepared for the twice-yearly OECD Economic Outlook. Potential output is based on a Cobb-Douglas production function with constant returns to scale featuring physical capital and trend employment as production factors plus labour efficiency growth.

Labour efficiency growth converges to a steady state which depends on the particular institutional and policy environment of each country, including the stock of human capital, governance, product market regulations, trade openness, research and development and income inequality. In steady state, labour efficiency grows at an assumed exogenous rate of global technological progress of 1% per year.

Trend employment is primarily the result of three sets of dynamics: the evolving size of the working-age population; its age composition; and trends in the employment rates of different age-gender groups driven by historical employment trends and education levels.

The productive capital stock is notionally split between private and public sector capital stocks. The public sector capital stock-to-output ratio is assumed to be constant in the baseline scenario, while the business sector capital stock ensures that in steady state, the capital-to-output ratio is stable. Housing is excluded from the definition of the productive capital stock.

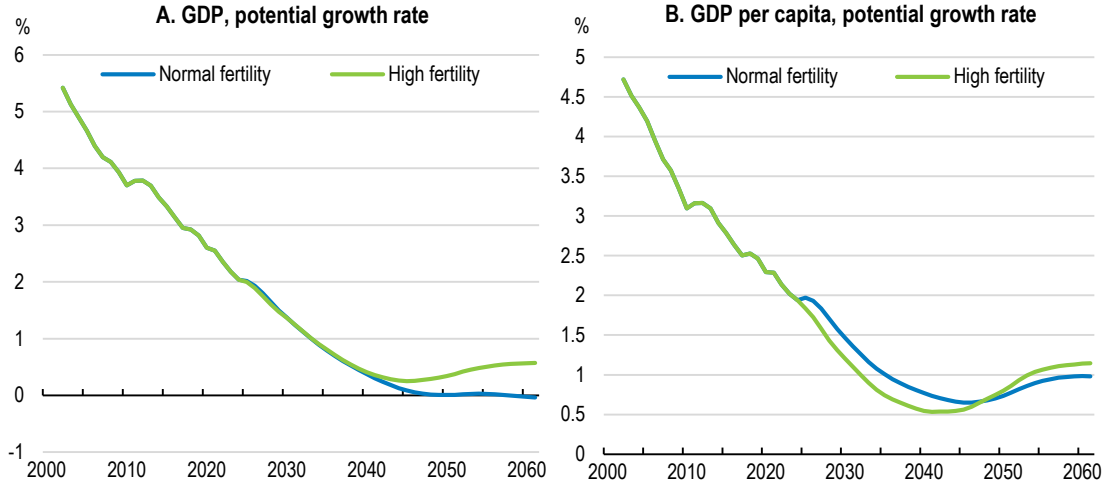
Source: Guillemette and Turner (2021), "The long game: fiscal outlooks to 2060 underline need for structural reform", *OECD Economic Policy Papers*, No. 29.

Policies outlined above to increase women's opportunities to combine careers and families, speed up young peoples' labour market entry and reduce the pressure on youth and their parents from the race to secure educational credentials are likely to increase fertility. However, even a large and immediate increase in fertility will only affect output with a long lag. The GDP growth projection in the Long-term model

is based on population projections from the United Nations Population Division under a "normal" fertility rate. Even the normal fertility trajectory implies that fertility rises from 0.8 children per woman today to approximately 1.5 children per woman in 2060. Fertility rates in the high-fertility trajectory equals the normal trajectory plus 0.5. Increasing fertility would increase GDP growth in volume noticeably from approximately 2040. However, the higher dependency rate would lead to lower per capita GDP growth until 2048 (Figure 1.25).

The OECD Long-term model's baseline already assumes that the employment gap between women and men will narrow from 18 percentage points in 2020 to 6 points in 2060 based on education and societal trends. If reforms outlined in this Survey succeeded in bringing about an even more equal sharing of paid employment and unpaid work within families, further narrowing the gender employment gap to 2%, this would raise potential employment by 1.7% and GDP per capita by 1.6%. If a package of policies proposed in Chapter 3 succeeded in raising youth employment to the OECD average, this would entail even larger gains of 2.9% in employment and 2.7% in GDP. The largest gain would come from raising the pensionable age faster than planned, to 68 years by 2034, and increasing it by two-thirds of gains to life expectancy thereafter, as proposed in Chapter 2 (Table 1.9).

Figure 1.25. Potential GDP growth is set to continue falling



Note: Fertility trajectories are from the United Nations Population Division. Even the Normal fertility trajectory implies rising fertility to approximately 1.5 children per woman in 2060. Fertility rates in the High fertility trajectory equals the Normal trajectory plus 0.5.
Source: OECD calculations based on the OECD Long-term model.

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Wage gaps in Korea reflect productivity gaps as outlined above, although not perfectly. Assuming that productivity gaps could be reduced corresponding to closing two-thirds of the wage gap between men and women would boost GDP per capita by 10%. Closing two-thirds of the wage gap between youth and 30-34 year-olds would yield 1.6% higher GDP per capita in 2060, while boosting old workers' productivity corresponding to closing two-thirds of the wage gap between 50-74 year-olds and 45-49 year-olds would entail 8% higher GDP per capita. Assuming that a broad product and labour-market reform narrowed all employment and productivity gaps identified here at the same time in line with the above, potential employment would increase by 9% and GDP per capita by 29% compared to the baseline (Table 1.9).

In the baseline Long-term model projections, spending pressures are set to increase by approximately 10% of GDP by 2060. This increase is driven by ageing, notably pensions and health expenditure (Table 1.10). A broad reform narrowing employment and productivity gaps of youth, women and the elderly, increasing the pensionable age and curbing health spending growth would narrow spending pressures by approximately one-third from 9.8% of GDP to 6.6%. Speeding up youth's labour market entry would reduce spending pressures by 0.9% of GDP compared to the baseline, while closing the gender

employment gap would reduce pressures by 0.5% of GDP. Productivity increases for these groups and the elderly would slightly add to spending pressures, notably driven by health expenditure. Curbing health spending growth would reduce spending pressures by 0.6% of GDP, while the single largest saving would come from increasing the pensionable age more quickly than planned, which would reduce spending pressures by 2% of GDP by 2060 (Table 1.10).

Table 1.9. Long-term scenarios for GDP and employment

	GDP per capita	Potential employment
	% deviation from baseline in 2060	
Alternative employment scenarios		
Closing 2/3 of gender employment gap	1.6	1.7
Raising employment rate to OECD average for youth	2.7	2.9
Alternative productivity scenarios		
Closing 2/3 of gender wage gap	10.0	0.0
Closing 2/3 of wage gap between youth and 30-34 year-olds	1.6	0.0
Closing 2/3 of wage gap between 50-74 year-olds and 45-49 year-olds	8.0	0.0
Alternative pension and health scenarios		
Faster increase in pensionable age	4.3	4.5
Reducing the projected increase of health expenditure by around 20%	0.0	0.0
Broad product- and labour market reforms		
All of the above	29.2	9.1

Note: Gaps between youth and the OECD average (for employment) and 30-34 year-old (for wage) are defined and closed for each of the groups age groups 15-19, 20-24 and 25-29. Gaps between 50-74-year olds and 45-49 year-olds are also defined for each individual five-year age cohort. The faster increase in the pensionable age implies increasing the National Pension eligibility age to 68 by 2034 and increasing it by two-thirds of life expectancy gains thereafter.
Source: OECD calculations based on the OECD Long-term model.

Table 1.10. Long-term scenarios for public finances

	Public health expenditure	Public pension expenditure	Other primary expenditure	Primary revenue change needed to stabilise debt
	Percentage points of GDP			
Baseline change 2022-2060	3.4	4.8	0.7	9.8
	Deviations from baseline in 2060, in percentage points of GDP			
Alternative employment scenarios				
Closing 2/3 of gender employment gap	0.0	-0.1	-0.4	-0.5
Raising employment rate to OECD average for youth	-0.1	-0.2	-0.7	-0.9
Alternative productivity scenarios				
Closing 2/3 of gender wage gap	0.2	0.0	0.0	0.4
Closing 2/3 of wage gap between young and 30-34 year-olds	0.0	0.0	0.0	0.1
Closing 2/3 of wage gap between 50-74-year olds and 45-49 year-olds	0.1	0.0	0.0	0.3
Alternative pension and health scenarios				
Faster increase in pensionable age	-0.1	-0.8	-1.1	-2.0
Reducing the projected increase of health expenditure by around 20%	-0.6	0.0	0.0	-0.6
Broad product- and labour market reforms				
All of the above	-0.5	-1.2	-2.2	-3.2

Note: Gaps between youth and the OECD average (for employment) and 30-34 year-old (for wage) are defined and closed for each of the groups age groups 15-19, 20-24 and 25-29. Gaps between 50-74-year olds and 45-49 year-olds are also defined for each individual five-year age cohort. The faster increase in the pensionable age implies increasing the National Pension eligibility age to 68 by 2034 and increasing it by two thirds of life expectancy gains thereafter.
Source: OECD calculations based on the OECD Long-term model.

Key policy insights recommendations

FINDINGS (Key in bold)	RECOMMENDATIONS (Key in bold)
Supporting a resilient recovery	
Inflation is high and the robust recovery has shrunk economic slack, but uncertainties are high.	**Gradually consolidate the fiscal position.**
The Bank of Korea has raised its policy rate in steps to 2.50%.	**Continue to move towards a less accommodative monetary policy stance with a view to keep inflation expectations in check.**
Rapid ageing will exert increasing fiscal pressures. The government plans to propose a new fiscal rule that is more stringent than the proposal of the previous government.	**Adopt the new fiscal rule and ensure the rule is followed.**
Russia's war on Ukraine has highlighted the importance of supply chain resilience.	Develop consistent and evidence-based policy tools to identify potential supply chain bottlenecks and appropriate measures.
To contain the rapid growth of household debt and housing prices, the government has strengthened borrower-based macroprudential measures, namely the loan-to-value ratio, debt-to-income ratio on mortgage lending, and debt servicing ratio.	Strengthen macroprudential measures if household debt does not level off.
Reaching greenhouse gas emission targets	
Korea's emission trading scheme (K-ETS) covers three-quarters of domestic emissions, but is not yet aligned with recently strengthened emissions reduction targets.	**Align the emission trading scheme cap with domestic emission reduction targets and expand its coverage.**
Public sector regulations, investments and activities impact emissions, but will not always be covered by the K-ETS.	Systematically apply a target-consistent price of greenhouse gas emissions in public sector cost-benefit analyses.
Improving the institutional framework for electricity supply would allow the marginal carbon cost to pass through, enhancing the effectiveness of the K-ETS for electricity generation, a major and systemically important emitting sector.	**Comprehensively review the institutional framework hindering the carbon price from passing through and holding back emission reductions in the electricity sector.**
90% of emission allowances are distributed to companies free of charge. 70% of Koreans support subsidies for low-carbon technologies and environmental infrastructure, while 80% support carbon pricing if revenues are used for such support.	**Auction a larger share of allowances to K-ETS entities, and link auctioning revenue to subsidies for green technologies and infrastructure.**
The temporary 37% fuel tax cut is more costly than alternative policies, and benefits higher-income households disproportionally. It runs counter to climate targets and leads to overconsumption in the long term, if extended.	Replace temporary fossil fuel price support in due course by targeted policies like "energy voucher" transfers to low-income households who are hard hit by soaring energy prices.
Reducing productivity gaps and labour market dualism	
Employers in general cover the first 60 days of maternal leave (with exceptions for SMEs), giving them an incentive to discourage leave.	**Move towards greater public financing of maternal, paternal and parental leave.**
Fighting corruption	
In June 2021, the OECD Working Group on Bribery noted that while 22 out of its 36 Phase 4-recommendations had been fully or partially implemented, there was still work to be done.	Increase efforts to train and provide adequate guidance to officials working with foreign bribery investigations to improve detection and enforcement.

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Annex 1.A. Economic Cooperation with North Korea

Response to COVID-19

In response to the outbreak of COVID-19 in early 2020, and against the backdrop of gradually worsening geopolitical tensions between the two Koreas, North Korea implemented drastic measures, blocking human and material exchanges across the border and restricting domestic movement. This seems to have contributed to contain the spread of the virus for some time, but at considerable cost for the economy and citizens.

North Korea has not carried out many tests (Kim Jeongmin, 2022) and has hesitated to secure COVID-19 vaccines internationally, ending up alongside Eritrea as one of only two countries worldwide that did not start a COVID-19 vaccination campaign. North Korea rejected various vaccine offers including of Sinovac and AstraZeneca doses, reportedly owing to concerns about effectiveness and safety (Reuters, 2021; Cha, 2021). Another question pertains to the ability of the medical system to adequately distribute vaccines around the country (Byrne, 2021). By end-2021, COVID-19 Vaccine Global Access (COVAX) had allocated 8.1 million doses of early COVID-19 vaccines to North Korea, which would have allowed it to inoculate over 15% of the population. However, as the country failed to arrange any shipments, the COVAX allocation was cancelled in early Spring 2022. North Korea did begin to receive COVID-19 related medical supplies and equipment dispatched by the World Health Organisation in October 2021 (Cumming-Bruce et al., 2021). In Spring 2022, the new South Korean President indicated that his country stood ready to provide vaccines.

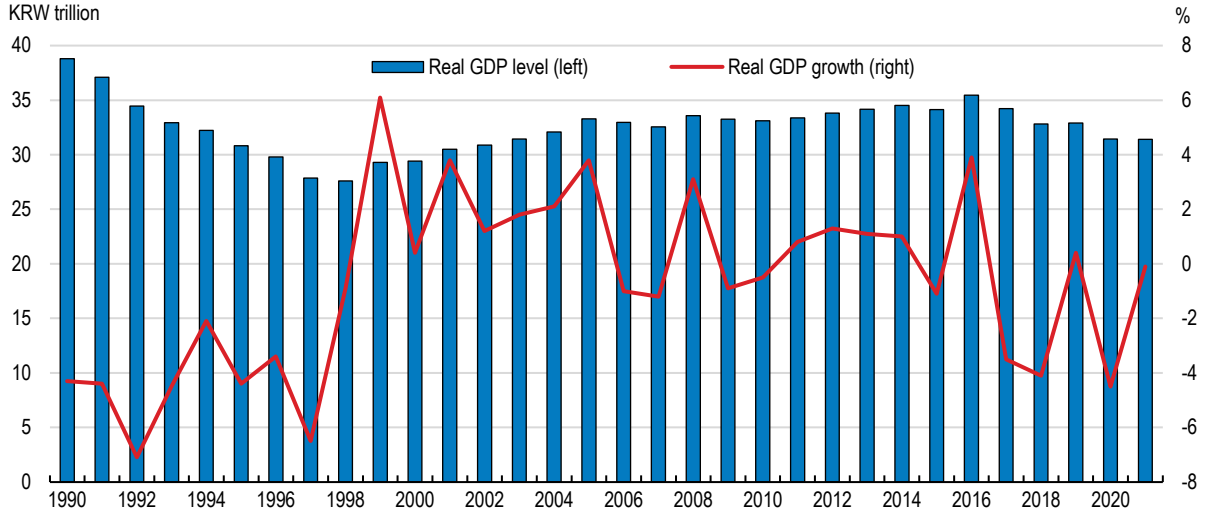
In May 2022, the North Korean authorities started reporting COVID-19 cases and deaths, even as strict lockdowns were imposed across the country. By late July, they had reported around 4.8 million cases of “fever” (close to 19% of the total population) and an implausibly low number of only 74 deaths (38 North, 2022). Infections likely took place much earlier, however (Jang, 2021). With an unvaccinated and largely malnourished population, the risks associated with infection are high. On the Chinese side of the border, the municipal authorities in Dandong took measures in late Spring to limit smuggling on account of contamination risks (Bremer, 2022). In August, the North Korean authorities declared victory over COVID-19 and lifted face mask mandates and other distancing rules, except in the border regions and while still recommending that those experiencing respiratory symptoms keep wearing masks (Choi, 2022).

Economic developments

Before the COVID-19 outbreak, the North Korean economy recorded two years of severe contraction in 2017-18, against the backdrop of tightened international sanctions, with barely any recovery in 2019 (Annex Figure 1.A.1). In 2020, GDP fell by an estimated 4.5%, the steepest drop since 1997, in a context of border shutdowns in the face of the pandemic, continued international sanctions and natural disasters such as floods and heavy rains. Production in agriculture, forestry and fishing decreased sharply due to bad weather and virus-related fishing restrictions. So did production in mining and light industry. The service sector experienced a recession as well, due to the suspension of foreign tourism and the contraction of retail trade. In 2021, GDP contracted further but barely, by an estimated 0.1%, with a rebound in agriculture offset by a continued decline in industry and a small drop in services. Prior to the pandemic, tourism, not targeted by UN sanctions, had been an important source of foreign currency income. Chinese tourists stopped visiting North Korea due to strict border closures, and the ambitious tourism development projects launched in recent years reportedly stalled. Meanwhile, North Korean migrant workers staying abroad despite the UN sanctions have remained an important source of foreign currency for North Korea together with the smuggling of coal and minerals, cyber hacking and the selling of fishing rights (periodic reports of the United Nations Sanctions Committee Panel of Experts; Chainalysis,

2022). The North Korean central bank also issued money coupons (*tonpyo*), which trade at a discount. This may have resulted from shortages of imported paper and ink (Ishimaru, 2021), but it may also be seen as deficit finance (Lim and Cho, 2022).

Annex Figure 1.A.1. Estimated GDP level and growth rate



Note: Estimated at 2015 constant prices (using South Korea relative prices). Estimates are subject to considerable limitations (see Koen and Beom, 2020).
Source: Bank of Korea.

StatLink https://stat.link/qs8t1h

Accordingly, the economic gap with South Korea has widened further in recent years. Recorded foreign trade was 1 766 times smaller than South Korea's by 2021, and gross national income per capita over 28 times smaller, down from 22 times in 2016 (Annex Table 1.A.1).

Annex Table 1.A.1. Comparison of North and South Korea in 2021

	North Korea (A)	South Korea (B)	Ratio (B/A)
Population (millions)	25.5	51.7	2.0
GNI (trillion KRW)	36.3	2094.7	57.8
GNI per capita (million KRW)	1.4	40.4	28.4
Total trade (billion USD)	0.7	1259.5	1765.6
Exports	0.1	644.4	7862.1
Imports	0.6	615.1	974.2
Industrial statistics			
Power generation (billion kWh)	25.5	576.8	22.6
Steel production (million tonnes)	0.7	70.4	106.4
Cement production (million tonnes)	6.0	49.9	8.4
Agricultural production			
Rice (million tonnes)	2.2	3.9	1.8
Fertiliser (million tonnes)	0.6	2.3	3.7

Source: Bank of Korea.

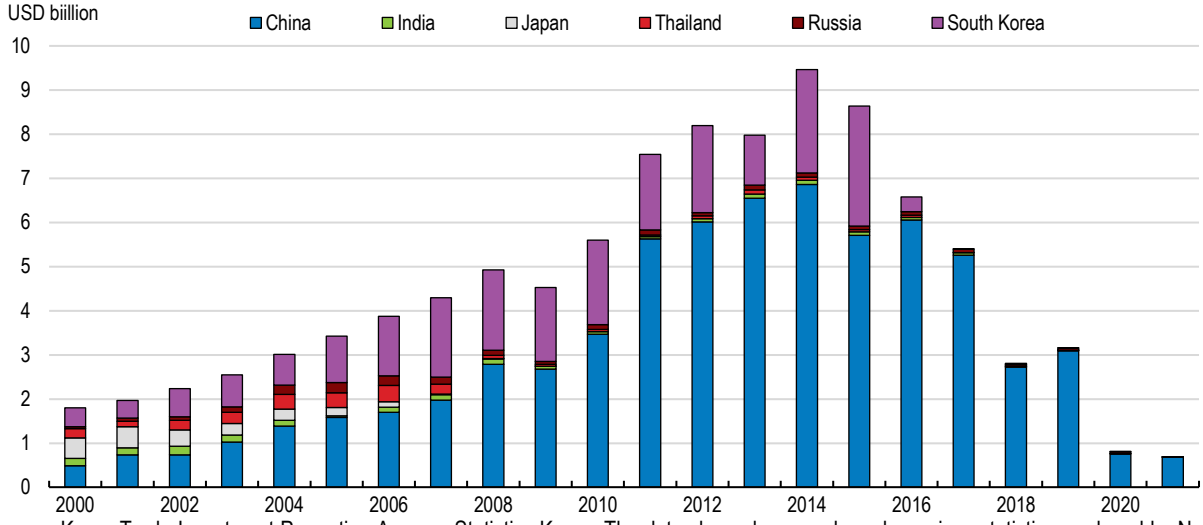
At the Eighth Party Congress in January 2021, the failure of the elapsed five-year 2016-20 National Economic Development Strategy was officially recognized. Spending in the 2021 government budget increased only 1.1%, the lowest since 1966 (excluding the "Arduous March" period in the 1990s) and far below the 6% annual growth rate since 2012 under Kim Jong-un. A 2021-25 National Economic Development Plan was unveiled, emphasizing self-reliance and with military and economic development as the two primary goals. In contrast to the 2016-20 plan, which had aimed to make science and technology

the driving force of development, the 2021-25 Plan focuses narrowly on metals and chemicals, notwithstanding the challenges associated with the international sanctions (Cho, 2021). Economic difficulties are expected to continue as long as borders remain mostly closed, be it due to COVID or because of the international sanctions, which have disrupted private markets, the main driver of economic growth. This has been accompanied by a tightening of government control of private markets. With the reduced role of international trade and private markets, coupled with measures to discourage demand for foreign currencies, the exchange rate of the North Korean won to the US dollar has displayed increased volatility since late 2020.

Shortages of fertilisers and agricultural materials, combined with recurrent natural disasters, affect food production. The Food and Agriculture Organisation (2021) estimated North Korea's cereal shortage in 2020-21 at 1.06 million tonnes. The price of rice traded in the market, which remained stable until 2019, has become more volatile since the pandemic despite the authorities' efforts to stabilise it via releases of stocks. The recent winter drought foreshadowed a poor harvest of wheat and barley this year.

Recorded external trade plummeted by 73% in 2020 to USD 0.86 billion, the lowest level since 1990, and shrank by another 17% in 2021 (Annex Figure 1.A.2). Overall recorded exports dropped by 70% cumulatively over those two years, with exports of mineral and textile products collapsing to only USD 20 million. According to KOTRA (2022), imports of fertilisers for agricultural production decreased by 44% (on a volume basis) over those two years, hurting food production. Since imports fell more than exports, the recorded trade deficit narrowed, from USD 2.7 billion in 2019 to about USD 0.5 billion in 2021. While trade with China decreased by almost 90% over those two years, it accounted for almost 96% of North Korea's total external trade by 2021, followed by Vietnam (1.7%) and India (0.4%). While trade with China started to pick up in late 2021, and train traffic across the Chinese border resumed, trade flows were still only a fraction of their pre-pandemic level in early 2022 according to Chinese customs data. Moreover, train traffic with China was stopped in April 2022, as COVID-19 cases emerged in Dandong, China.

Annex Figure 1.A.2. Recorded North Korean foreign trade



Source: Korea Trade-Investment Promotion Agency; Statistics Korea. The data shown here are based on mirror statistics produced by North Korea's trading partners and do not capture smuggling and illegal ship-to-ship transfers of coal, oil and other materials circumventing United Nations sanctions.

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Since the closure of the Gaeseong Industrial Complex in 2016, trade of goods between the two Koreas has almost vanished, and amounted to only USD 1.1 million in 2021 (Bank of Korea, 2022). In early 2022, the Unification Ministry announced financial support for South Korean businesses affected by the dormant projects in North Korea, amounting to KRW 57.4 billion (around $48 million) in the form of direct subsidies and special loans.

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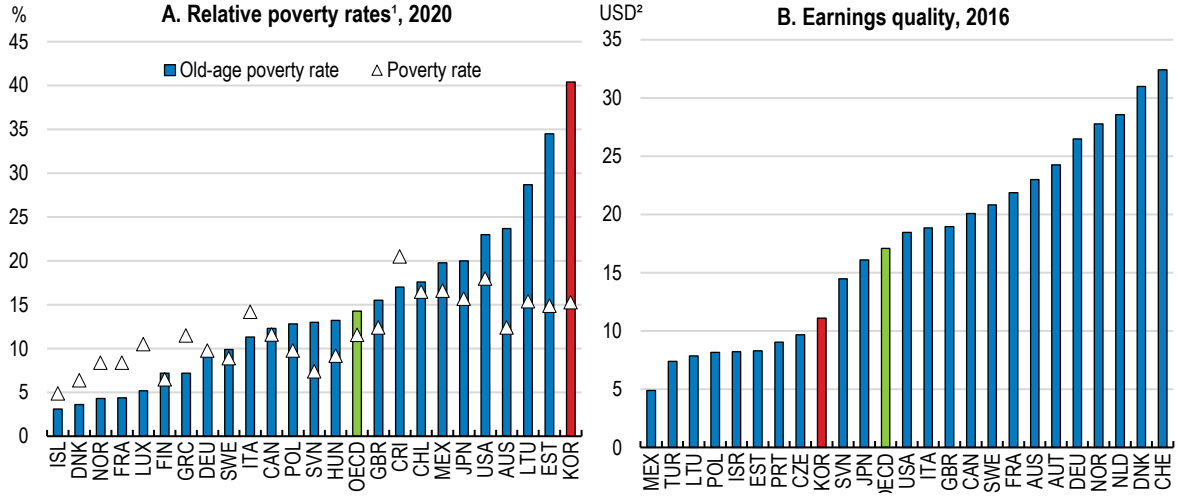
2 Strengthening the social safety net

Hyunjeong Hwang, Economics Department of the OECD
Axel Purwin, Economics Department of the OECD
Jon Pareliussen, Economics Department of the OECD

Social protection in Korea is designed around traditional forms of employment, and excludes a substantial share of workers in non-standard employment. The resulting social protection gaps compound income inequality and undermine financial sustainability. Furthermore, Korea's tax and benefit system may discourage taking up or returning to low-paid work from social assistance or unemployment benefits. Expanding the reach of employment insurance while redesigning the tax and benefit system could boost work incentives and reduce inequality and poverty. The elderly poverty rate is persistently high, partly because public pensions and social insurance were introduced relatively recently. Better targeting the means-tested Basic Pension could reduce elderly poverty considerably. Lengthening working lives is essential to ensure pension sustainability and adequate retirement income for future retirees. Shifting from a severance pay system to a corporate pension would help improve retirement income and lower employers' incentives to push for early retirements. Reducing inequalities in health and long-term care will require expansion of primary care and affordable quality home-based care. This will also help address the overreliance on hospitals and cope with the surging demand for health and long-term care.

Korea's income per capita (on a PPP basis) rose rapidly over the past decades, surpassing the OECD average in 2020, but social inclusion failed to keep pace with the economic take-off. Income inequality and relative poverty rose substantially after the 1997 Asian financial crisis and have remained persistently high in recent years, while many workers still struggle with jobs of poor quality (Figure 2.1, Panels A and B). Rapid technological progress and globalisation, coupled with labour market dualism and large productivity differentials between large companies and small and medium-sized enterprises, are further intensifying the pressures on inequality.

Figure 2.1. Old-age poverty is high and earnings quality is relatively low



1. The poverty rate is the share of the number of people (in a given age group) whose income falls below the poverty line; taken as half the median household income of the total population. 2019 data for Canada, Estonia, France, Greece, Hungary, Lithuania, Luxembourg, Norway, Slovenia, United Kingdom and USA, 2018 data for Australia, Denmark, Finland, Germany, Italy, Japan and Poland and 2017 data for Iceland and Chile.

2. The earnings quality index adjusts gross hourly earnings in USD for inequality using Atkinson's inequality index. This index captures the loss of welfare as a percentage of the arithmetic mean due to inequality in the earnings distribution. For details, see Chapter 3 in OECD Employment Outlook 2014.

Source: OECD (2022), Income distribution (database).

StatLink https://stat.link/eigqtv

At the same time, Korea is facing spending pressures from a rapid demographic transition. Korea's social spending is currently 12% of GDP, well below the OECD average, partly reflecting Korea's still young population and small pension entitlements in a pension system that has been operational for less than 35 years. However, these factors are set to reverse in the coming years reflecting rapid population ageing. Under existing settings, public spending is expected to almost double by 2060 with the largest increases in spending related to ageing (Chapter 1).

Addressing inequality and poverty is high on the policy agenda. Old-age poverty in Korea is high, and gaps in income and social protection between regular and non-regular workers are large. The COVID-19 pandemic, which has disproportionately affected non-regular workers, has further highlighted the importance of ensuring adequate social protection. Against this background, this chapter explores ways to improve the social safety net for both working-age and old-age people, with a view to identify cost-effective solutions and secure long-run financial sustainability. Some recommendations presented in the chapter will entail increased spending, while others, notably increasing the pensionable age, but also improving work incentives and promoting healthy ageing, can yield considerable fiscal savings (Chapter 1). On balance, the proposed package of measures is not expected to yield additional fiscal costs in the long term. However, timing matters. Proposals to boost eligibility to tax-financed benefits would increase net public spending. In contrast, expanding social insurance coverage would increase social insurance contributions immediately, while liabilities would build over time.

Improving working-age benefits to address social protection gaps

Dualism is deeply entrenched in Korea's labour market. Regular workers receive high wages, social insurance coverage and strong employment protection. Other workers, including non-regular workers and self-employed, work in precarious jobs, earn lower incomes and are less likely to be covered by social insurance. Self-employed, for instance, mostly operate small-scale businesses with short life spans (around 70% of small businesses in operation in 2018 and 2019 were less than five years old) and their employment insurance coverage was only 0.6% in 2021 (KEIS, 2021; Statistics Korea, 2020). Tackling this situation will require a significant improvement in Korea's main working-age benefits: i) employment insurance (EI); ii) Basic Livelihood Security Programme (BLSP); National Employment Support Programme (NESP); and Earned Income Tax Credit (EITC) (Box 2.1).

Box 2.1. Main working-age benefits in Korea

The Korean safety net for the working-age population consists of four main benefits:

- Employment insurance (고용 보험, EI): EI, an unemployment benefit scheme, provides income replacement benefits as well as vocational training and education support for workers who lose their job involuntarily. These benefits are financed by contributions. The unemployment benefit premium rate amounts to 1.8% of the worker's gross wage and is shared equally by employee and employer. In addition, employers pay a premium of 0.25% – 0.85% for employment security and vocational development programmes. To qualify for unemployment benefits, the person must have worked at least 180 days in the past 18 months, and unemployment must be involuntary. The maximum duration of the benefit is 270 days.
- Basic Livelihood Security Programme (기초생활보장제도, BLSP): BLSP is a means-tested social assistance programme providing in-kind and cash benefits to households in absolute poverty. The BLSP consists of four categories of benefits: *livelihood, health, housing* and *education*. The income threshold is 30% of the median for the *livelihood* benefit, 40% for *health*, 46% for *housing*, and 50% for *education*. To determine eligibility for the health benefit, the income of any children and parents is included in the means test. BLSP is co-funded by local governments (20%) and the Ministry of Health and Welfare (80%). In the case of Seoul, the programme is funded on a 50-50 basis. BLSP recipients able to work participate in self-sufficiency programmes to help them find employment or start a business.
- National Employment Support Programme (국민취업지원제도, NESP): NESP is a tax-financed unemployment assistance for jobseekers who are entitled to neither EI nor BLSP. The support is targeted at low-income people, youth (aged from 18 to 34), and other groups at a disadvantage in the labour market, such as career-interrupted women and marriage-based immigrants. Those with an income below 60% of the median or youth with an income below 120% of the median can receive both an allowance (up to 500 000 won for a maximum of 6 months) and employment support services (e.g., training, counselling, and job search support). For those with an income between 60 and 100% of the median, youth with an income above 120% of the median, and other vulnerable people, only employment support services are available.
- Earned Income Tax Credit (EITC): The purpose of the EITC is to alleviate the situation for the working poor and to strengthen work incentives. Similar to EITC systems in some other countries, the amount of tax refunded to the worker increases with income at the lower levels and then decreases again as the household approaches the eligibility limit. The eligibility limit and benefit size depend on the household type. The maximum amount of EITC, not including any Child Tax Credit (CTC), ranges from KRW 1.5 million per year for single households to

KRW 3 million for two-earner households. The CTC is paid for up to three children in addition to the EITC. The maximum amount of CTC is KRW 0.7 million per child.

Note: KRW 1 million ≈ EUR 750.
Source: OECD, 2018a; Ministry of Labour.

Expanding the reach of employment insurance

A major weakness of Korea's employment insurance is its low effective coverage. Like in the majority of OECD countries, unemployment benefits are insurance-based and aimed to limit net income loss in the case of unemployment (Box 2.2). This risk-sharing function is particularly important in Korea due to relatively frequent unemployment and high incidence of precarious employment, notably in small and medium-sized enterprises (SMEs). However, self-employed have so far been exempt from compulsory employment insurance, and only 74% of non-regular employees were enrolled in 2020 compared to the over 90% share for regular employees, despite subsidised contributions for low-income workers (MOEL, 2021). Overall, only around half of the work force has access to an employment insurance benefit in the case of unemployment. Low employment insurance coverage, combined with frequent unemployment, makes matching people with jobs harder because uninsured jobseekers are compelled to accept any available job as quickly as possible, and thereby contributes to perpetuate poor quality jobs and labour market duality. The low effective coverage of employment insurance has negative spill-overs on gender gaps, as maternal and parental leave entitlements are based on employment insurance membership (see Chapter 1).

Box 2.2. Why social insurance?

The most important social insurance schemes for the working-age population protect households against the loss of income due to job loss, sickness and disability. Unemployment benefits and related out-of-work support measures are in place for a number of interrelated objectives: to redistribute income and pool risks between different groups of workers, to maintain acceptable living standards during times of joblessness ("consumption smoothing") and to facilitate efficient job allocation and reallocation by improving matching. From a macro-economic perspective, unemployment support also has a central role as an automatic stabiliser.

The market fails to provide efficient insurance against these adverse outcomes because people at high risk will sign up voluntarily, while people with low risk will not, and this drives up insurance premiums to a point where insurance does not pool risk according to its purpose (a phenomenon known as adverse selection). This is why the state obliges or otherwise encourages individuals to take out such insurance.

Social insurance schemes are often self-financed by social contributions paid by participants or their employers. This leads to trade-offs between work incentives (the "tax" wedge introduced by the social insurance contributions), adequacy (coverage and replacement rate), and sustainability (how well revenues match spending over the long term).

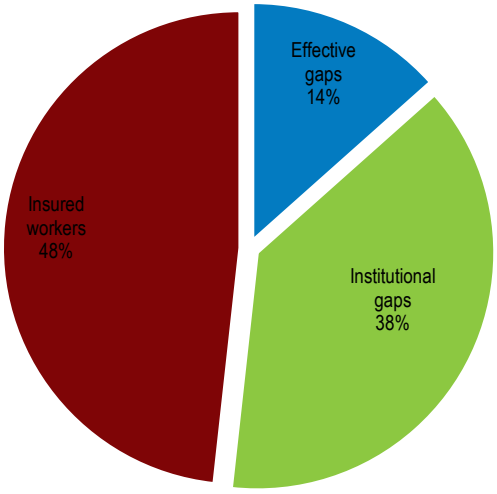
Source: Fall et al. (2014); Immervoll (2012); OECD, 2019a.

One main reason for the low coverage is that insurance programmes were not compulsory for non-wage or non-salaried workers, such as self-employed and platform workers, leading to a 38% "institutional gap" in coverage. A second main reason is that a sizeable share of employees do not contribute, despite their legal obligation to do so, leading to an additional 14% "effective gap" (Figure 2.2). Most un-covered workers are either self-employed or non-regular workers, including part-time and daily wage workers, most of whom are legally obliged to have employment insurance. The self-employed have been allowed to opt in voluntarily since 2006 but only 0.6% were insured in 2021 (as noted above).

According to the Roadmap for a Universal Employment Insurance, the government plans to expand the employment insurance coverage to all working people by 2025. As a part of this plan, workers hired under special contracts such as platform workers and after-school instructors were included in 2021-22. Discussion is underway to also expand the coverage for the self-employed. This is welcome, as self-employed are more exposed to unemployment risks than employees, and the voluntary system in place since 2006 has been unsuccessful in increasing coverage. Several OECD countries have mandatory unemployment insurance registration for self-employed workers, including the Czech Republic, Hungary, Poland, Iceland, Luxembourg, Slovenia, and Greece (OECD, 2018a). Currently, the contribution rate for self-employed persons is equivalent to the employee's and employer's contribution rates combined, as in Iceland and Slovenia, and a part of the insurance premiums are subsidised for those with low-income or one-person businesses. Other countries such as Poland, the Czech Republic, and Greece collect small-value contributions for the self-employed, for instance by reducing reference earnings or applying lower contribution rates.

Figure 2.2. Around half of the entire labour force in Korea does not have access to employment insurance

Employment insurance status, % of total number of employed, 2019



Note: Institutional gaps include workers who are legally excluded from compulsory insurance programmes. Effective gaps include workers who do not contribute despite their legal obligation to do so.
Source: OECD calculations based on E. Jung (2020) and H. Jung (2020).

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The government's efforts to extend legal coverage should be accompanied by more effective enforcement measures. Employers are rarely sanctioned for not registering their workers in the Employment Insurance (EI) system. The government has used the Duru Nuri insurance subsidy to increase compliance for those with limited means, which has increased participation somewhat but at a high cost (OECD, 2020a). In response, the government has stopped paying premiums for existing subscribers from 2021 and only supports new subscribers. To strengthen compliance measures, the government increased the maximum fine for evading contributions from KRW 10 million (USD 7 900) to KRW 30 million in 2020. The higher maximum fine is a step in the right direction, but will not be effective unless the fines are actually applied.

A stronger system to monitor employment insurance registration would help increase compliance (OECD, 2018a). In 2011, the collection of social contributions was centralised under the National Health Insurance, which was an important step forward. However, this has not expanded the coverage as expected (Kim and Baek, 2020). Integrating social contributions and tax collection should be considered. Experiences in other countries suggest that this helps identify self-employed income and tackle evasion and under-reporting (Box 2.3). Integrating revenue functions is a multi-stage process that requires careful timelines and sequencing. Complementary and intermediate steps should also be considered, including mandating

employers to report any change in working hours/working arrangements through an electronic system, like in Greece or Latvia, introducing an artificial intelligence-based fraud detection system, like in Canada, and/or allowing the tax administration to require platforms to provide information about any individual who has earned more than a certain amount via a platform, like in France (Mineva and Stefanov, 2018; and OECD, 2021a). The future of the Duru Nuri subsidies should also be considered after assessing the effect of the reform, given that the costly programme has not been effective in reaching its objectives.

Box 2.3. Integrating social contributions and tax collection

A number of European countries, including the Netherlands and the United Kingdom, have integrated social contributions and tax collection.

An integrated revenue administration allows social security institutions and tax agencies to focus on their core competencies and often results in clear efficiency gains at a low short-term cost. Social security agencies continue to determine entitlements, manage assets and handle disbursements, whereas the tax agency collects revenues, scrutinizes declarations and identifies non-filers. Unified revenue collection thus eliminates duplication of tasks, thereby reducing administrative costs in the agencies as well as the compliance burden for employers and contributors. Simplified and rationalized revenue collection also reduces tax evasion, corruption and fraud. The main risk to integration is failing inter-agency cooperation and unclear division of responsibilities.

Evaluating the integration processes that were undertaken in many Eastern European countries in the 1990s, Barrand et al. (2004) and the World Bank (2008) identified the following success factors:

- The tax administration currently in place must have the capacity to take on the new responsibility for social contributions collection. In particular, the tax agency needs to be clearly structured and have an effective central revenue function, well-trained staff and competent management. Ideally, both tax and social insurance agencies are up-to-date and effective, so that agencies can focus on integrating and improving collection functions.

- The integration can only succeed if all parties involved endorse the merger. Stakeholders include not only social security and tax institutions but also labour unions, organized business and political parties.

- Integrating revenue functions is a multi-stage process that requires strong project management with careful timelines and sequencing. Given the complicated operational and legislative process in play, the full implication/implementation is likely to take at least two years. Transferring functions in small phases and in one single step have both yielded good outcomes.

- The tax agency should be financially compensated for its expanded responsibilities. In some countries, the social insurance agency has directly remunerated the tax agency for the costs of collection.

Source: International Monetary Fund (2004) and World Bank (2008).

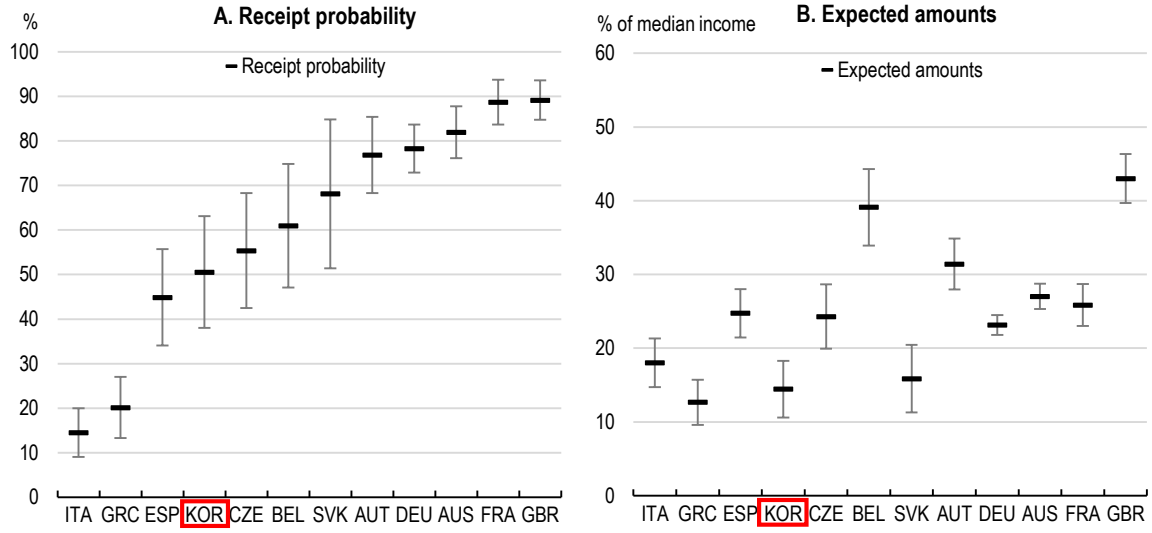
Enhancing access and generosity of social safety net benefits

Non-contributory benefits are provided as a last-resort social safety net, but many poor working-age Koreans are not properly protected by the Basic Livelihood Security Programme (BLSP) and the National Employment Support Programme (NESP). OECD estimates based on household data across 12 OECD countries show that workless low-income households in Korea were the fourth least likely to receive non-contributory benefits (Figure 2.3, Panel A). Average benefit levels for those receiving support were the second lowest, with expected benefit levels below 15% of median household income (Panel B).

Coverage of BLSP social assistance remains relatively low (Figure 2.4), despite the important steps taken to expand eligibility. In 2015, the “all or nothing” nature of previous BLSP benefits was replaced by different income thresholds for livelihood, health, housing and education benefits (Box 2.1), reducing poverty risk. Over 2017-21, the family support obligation was gradually abolished for livelihood benefits, education

benefits, and housing benefits (under this rule, many applicants could not receive benefits if they had a close family member capable of supporting them). This reform is expected to have increased the number of BLSP recipients by around 200 000 mainly older people, and the share of BLSP beneficiaries in the total population by 1.4 percentage points to 4.5% in 2021. The income criterion for the BLSP livelihood benefits (30% of median income) is still below the thresholds of 50% or 60% of median income that is commonly used to define relative poverty. The government plans to increase the income criterion to 35% for livelihood benefits, and 50% for housing benefits. Further extending the BLSP would significantly strengthen the safety net.

Figure 2.3. Accessibility and value of non-contributory benefits are relatively low



Note: Data refers to 2019 for Korea, and 2015 for other countries. Bars indicate 90% confidence intervals. Expected non-contributory benefit receipt for individuals living alone in the bottom 20% of the distribution of income from market sources and contributory benefits. In Korea and the United Kingdom, benefits include refundable means-tested tax credits.
Source: Hyee et al. (2020).

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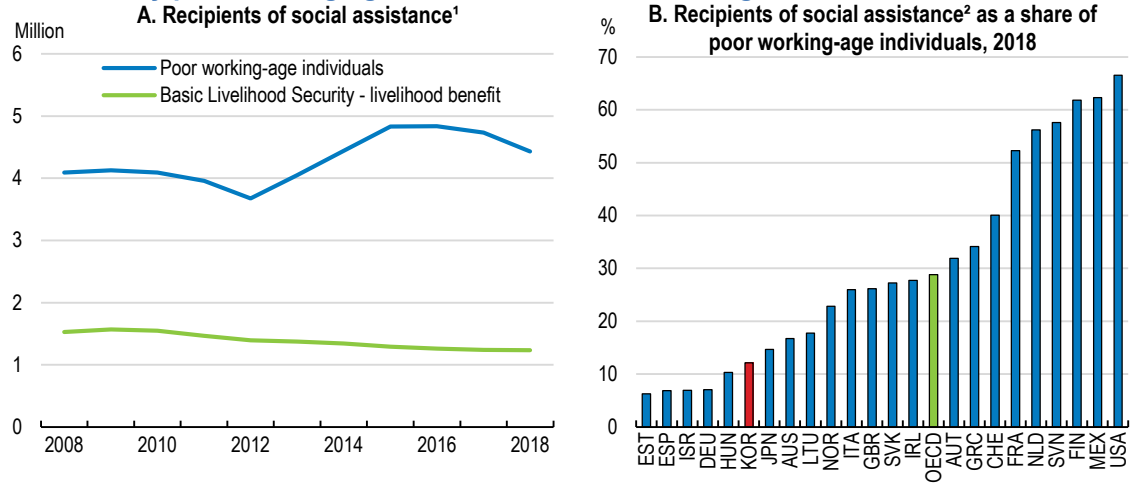
Figure 2.4. Many poor working-age individuals are not receiving social assistance



1. Poor population refers to individuals living in households whose equivalised disposable income is below 50% of the median disposable income of the country.
2. Most of these benefits are awarded at household level. Recipient numbers count the number of benefits paid (and not the number of people who directly or indirectly benefit from them). USA includes food stamps, GBR includes Universal Credit (In employment) which replaced Income support in 2013, DEU includes only Sozialhilfe and not the SGBII benefit which is considered as an unemployment benefit in OECD-SOCR.
Source: OECD-SOCR database; and OECD, Benefits, taxes and wages (database).

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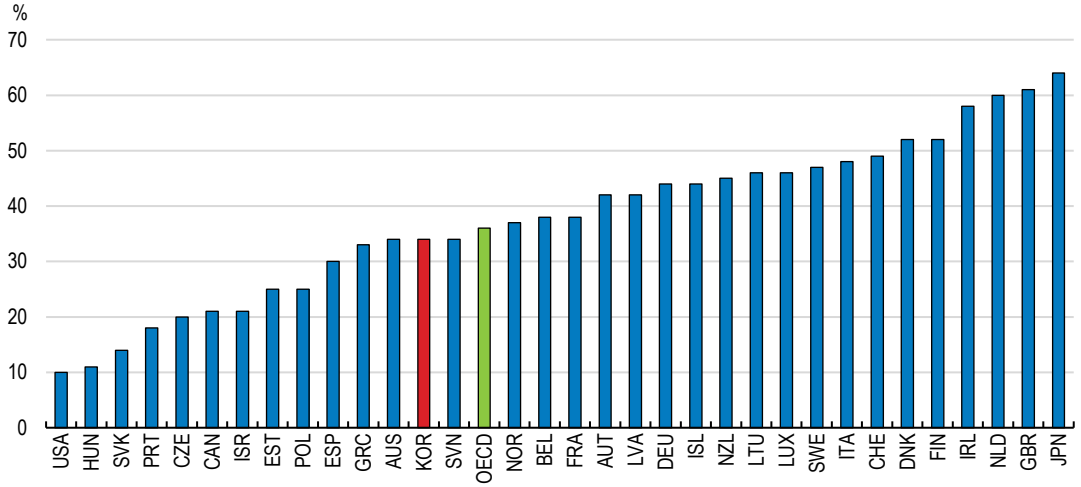
The BLSP has increased over the past few years, but the benefit level remains low by OECD standards. Estimates based on the OECD tax-and-benefit model show that a single person eligible for the living and housing benefits would receive about 32% of the median household income in Korea, four percentage points lower than the OECD average (Figure 2.5). Further increases should be considered, with due consideration of impacts on poverty among vulnerable groups and the fiscal cost.

Some additional policy interventions to improve take-up rates can also be considered. According to a survey of people who did not take up BLSP despite being eligible, 12% of respondents said it was because they were unaware of the system and 10% because of the complexity of the application process (Kim, 2020). These are also among the most common reasons invoked by people who do not claim benefits for which they are entitled in EU countries (Ko and Moffitt, 2022). Simplifying administrative procedures and raising awareness of the scheme would help address this issue (Hernanz, Malherbet and Pellizzari, 2004). For example, mailing recipients saying that they are eligible and explaining the scheme substantially increases take-up rates, particularly among those living in rural areas in Korea (Kim, 2020). If privacy issues arise, mass mailings of letters or media campaigns can also be considered. For example, Dickert-Conlin et al. (2021) found that in the United States, state-level outreach and media campaigns increased participation in the Supplemental Nutrition Assistance Program. However, such efforts would necessarily be more costly than mailing to eligible households only (Ko and Moffitt, 2022).

Figure 2.5. The social assistance benefit level is relatively low

Social assistance, share of median disposable income, 2021



Note: 2020 for Australia, Canada, Israel, Korea, New Zealand and Switzerland.
Source: OECD, Benefits, taxes and wages (database).

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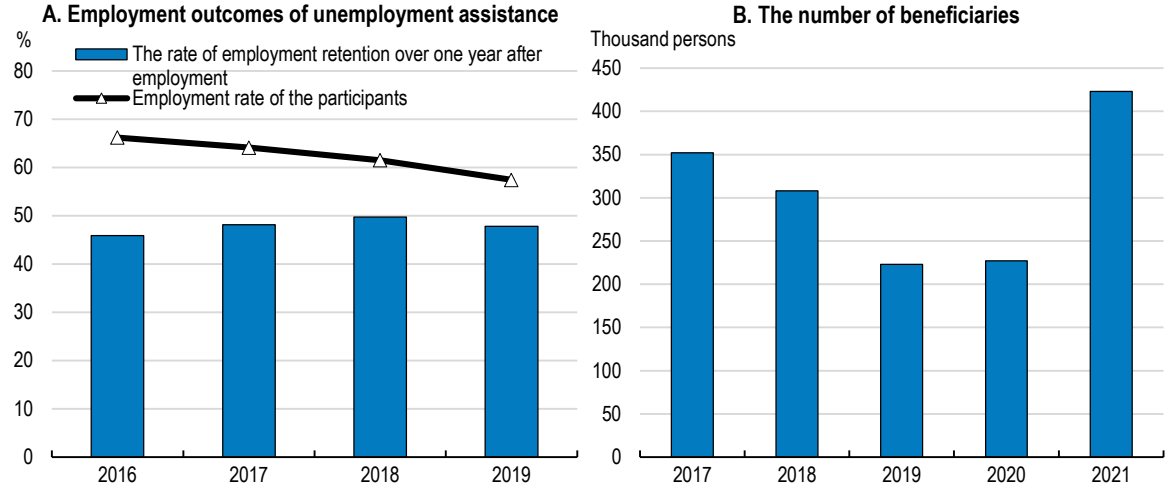
The National Employment Support Programme (NESP) (previously called Employment Success Package Programme) helps jobseekers and unemployed neither entitled to EI nor receiving BLSP but facing considerable disadvantages, especially in the form of low income. The assistance combines means-tested income support and targeted employment services (Box 2.1). Thanks to strong activation measures, participants' employment rate hovered around 60% between 2016 and 2019, and about half had worked for more than a year (Figure 2.6, Panel A). In view of these positive employment outcomes, the threshold for the asset test associated with this allowance was raised from KRW 300 million to KRW 400 million in 2021, and young people were allowed to receive employment support regardless of their employment history. As a result, the number of participants nearly doubled (Panel B). Despite this strengthening, monthly income support is still only 14% of the average wage. This is relatively low compared with other OECD countries and less than one third of the lower limit on Employment Insurance benefits. This is the largest gap in the OECD (OECD, 2018a).

Figure 2.6. The number of National Employment Support Programme beneficiaries jumped in 2021



Source: Ministry of Labour.

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The rapid expansion of beneficiaries and resources should be accompanied by improved quality assurance. The government has taken some steps to cope with the growing caseload per counsellor. In 2021, special private providers dedicated to offering targeted employment support services to young people (23 offices) were introduced and the number of counsellors (+740) and employment centres (+32) were increased. As of 2021, half of the total number of clients received employment support services from private providers according to the Ministry of Employment and Labour. In a purchaser-provider model it is essential to ensure that only effective private providers delivering the highest-quality services can continue to operate. To monitor their performance, a stronger quality assurance framework could be implemented, for instance following the example of Australia's "Star Rating" assessment system (OECD, 2012).

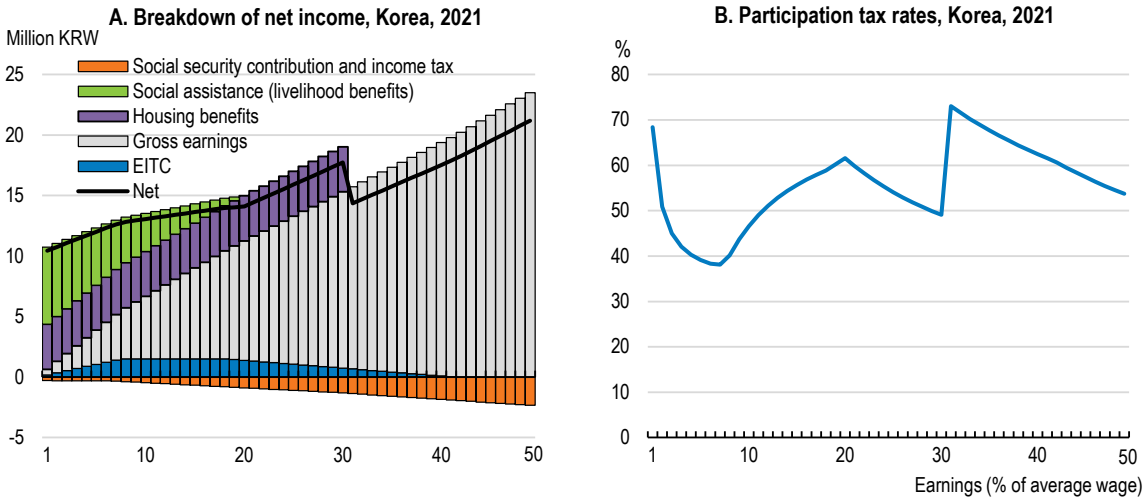
Reducing unemployment risks by improving benefit design

Employment and work intensity are key determinants of poverty. Social assistance and unemployment benefits therefore need to encourage beneficiaries to take up or return to work. There is however a tension between work incentives, income protection and the affordability of the benefit system.

According to the OECD TaxBen model, the incentives to take up low-wage full-time employment are relatively low for jobless households receiving the BLSP. Participation tax rates, which measure the proportion of earnings taken up by taxes, social contributions, and benefit withdrawal when an individual takes up employment, were above the OECD average in 2020. For example, one adult in a jobless couple without children taking up a full-time job at the minimum wage would lose 54% in taxes, social contributions and lost benefits, 5 percentage points higher than the OECD average.

The relatively high participation tax rates are driven mainly by the rapid withdrawal of BLSP social assistance, together with a narrow targeting of the Earned Income Tax Credit (see below). BLSP recipients with earned income have their livelihood benefits withdrawn at higher rates as earnings increase and housing benefits disappear from a certain level (Figure 2.7, Panel A). In particular, the cliff-edge withdrawal of housing benefits leads to a participation tax rate of above 70% (Panel B). This provides weak financial incentives to take up low-paid employment despite the Earned Income Tax Credit. Indeed, only 16% of BLSP recipients assessed to be able to work participated in the Self-Sufficiency Programme, designed to help BLSP recipients to find jobs, and only 34% of the programme participants took up work in 2020 (Seo, 2021). A more gradual tapering of the BLSP will improve work incentives. It will also extend BLSP entitlements to a greater number of people with limited earnings, providing a type of in-work support and reducing their poverty risks.

Figure 2.7. Work incentives are low for Basic Livelihood Security Programme recipients



Note: Participation tax rates refer to the fraction of income that is taxed away by the combined effect of taxes and benefit withdrawals when entering or returning to work. Calculations based on a single childless person.
Source: OECD TaxBen model. http://oe.cd/TaxBEN.

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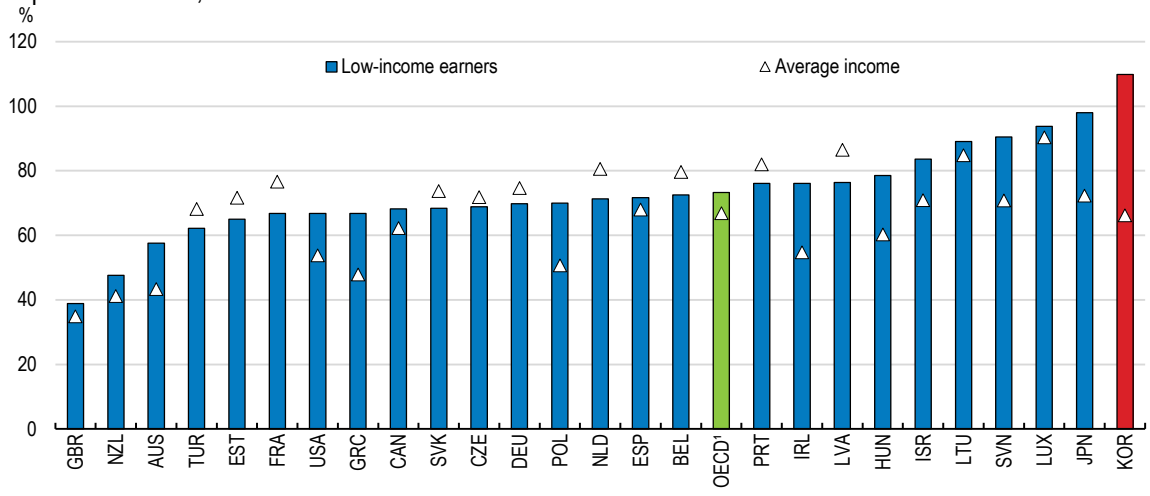
Employment insurance also blunts incentives to return to work for low-wage workers in particular. The participation tax rate for EI beneficiaries returning to work at the national average wage is 65%, which is comparable to the OECD average. However, EI beneficiaries returning to a minimum wage job face a participation tax rate of 110% (Figure 2.8). This means they lose KRW 1 for every KRW 10 earned by working due to the benefit withdrawal and taxation of in-work income while the unemployment insurance is not taxed. This is unique among OECD countries and can potentially trap EI recipients in unemployment, especially given that employment insurance eligibility was recently expanded to new groups of non-regular workers with lower average incomes. Disincentives are to an extent held at bay by the nine-month maximum benefit duration.

Figure 2.8. Korean unemployment benefit recipients lose money when taking up minimum wage jobs

Participation tax rates, 2021



1. Unweighted average for the countries included in the figure.
Note: Participation tax rates refer to the fraction of income which is deducted by the combined effect of taxes and benefit withdrawals when entering or returning to work. Calculations based on a single, childless person, working full-time before unemployment. Low-income refers to minimum wage.
Source: OECD TaxBen model. http://oe.cd/TaxBEN.

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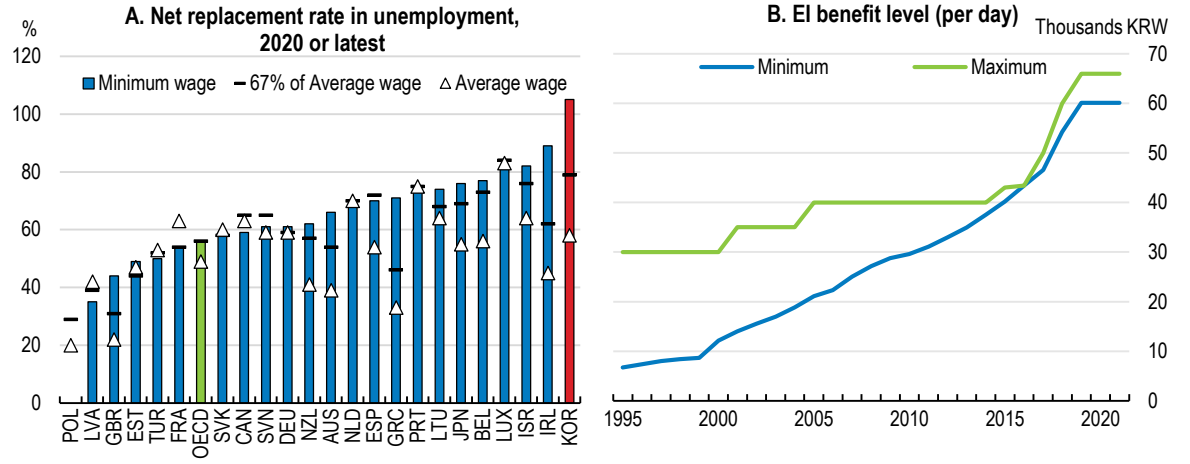
The weak work incentives reflect a high minimum benefit level (Figure 2.9, Panel A). The benefit floor has increased rapidly since the introduction of employment insurance, while the maximum EI payment has increased more slowly (Panel B). This is because the benefit floor is linked to 80% of the minimum wage, which has increased rapidly, while the maximum EI payment is determined by the government. As a result, unemployment benefits are effectively flat-rate, unlike in any other OECD country (OECD, 2018a). The ceiling is close to the OECD average, and broadly equivalent to ceilings in Sweden and Denmark (OECD, 2018a), whereas the high floor makes Korea the only country in the OECD where all unemployment benefit recipients gain more than their net minimum wage (Figure 2.9, Panel A). Reducing the EI floor to the OECD average level should be considered, for instance by capping it at a lower share of the minimum wage, while moderately increasing the maximum duration of the unemployment benefits which is relatively short by international standards (Immervoll et al., 2022 forthcoming). At the same time, a moderate increase in the ceiling can also be considered to enhance the insurance function of the system (Box 2.2).

Figure 2.9. Korea's unemployment benefit floor has almost converged to the ceiling



Note: Panel A shows Net Replacement Rates (NRR) for a jobseeker after six months of unemployment. The net replacement rate measures the fraction of net income in work that is maintained when unemployed. It is defined as the ratio of net income while out of work divided by net income while in work.

Source: OECD Tax and Benefit Models; Ministry of Labour; and OECD calculations.

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Addressing in-work poverty with the Earned Income Tax Credit

The Earned Income Tax Credit (EITC), introduced in 2008, aims to address in-work poverty and better support the large number of people who are unable to earn a decent living despite being employed. In 2019, the share of the working poor (defined as those earning less than 60% of the median income) among all workers was 19.4%, most of whom are non-regular workers (KIHASA, 2020). The government has continuously expanded the scope and coverage of the EITC. In 2012, the EITC was extended to childless households and some self-employed workers. In 2015, BLSP recipients were allowed to receive EITC. In 2019, the EITC was extended to workers under 30 without a spouse and/or dependent child, leading to a significant increase in the number of younger recipients (Chapter 3). In 2019, the maximum EITC benefit was raised, with increases ranging from KRW 500 000 to KRW 3 million for two-earner households and from KRW 650 000 to KRW 1.5 million for single-person households. In 2020-21, the income threshold for eligible households was raised. As a result, both the number of beneficiaries and total pay-out tripled between 2017 and 2020, with one in four households currently receiving EITC.

The impact of an EITC in terms of increasing labour supply and reducing unemployment is generally greater in countries with a wide earnings distribution, low tax rates on labour, and low benefits for the non-employed, indicating that it could be an effective instrument in Korea (OECD, 2013). Empirical analysis

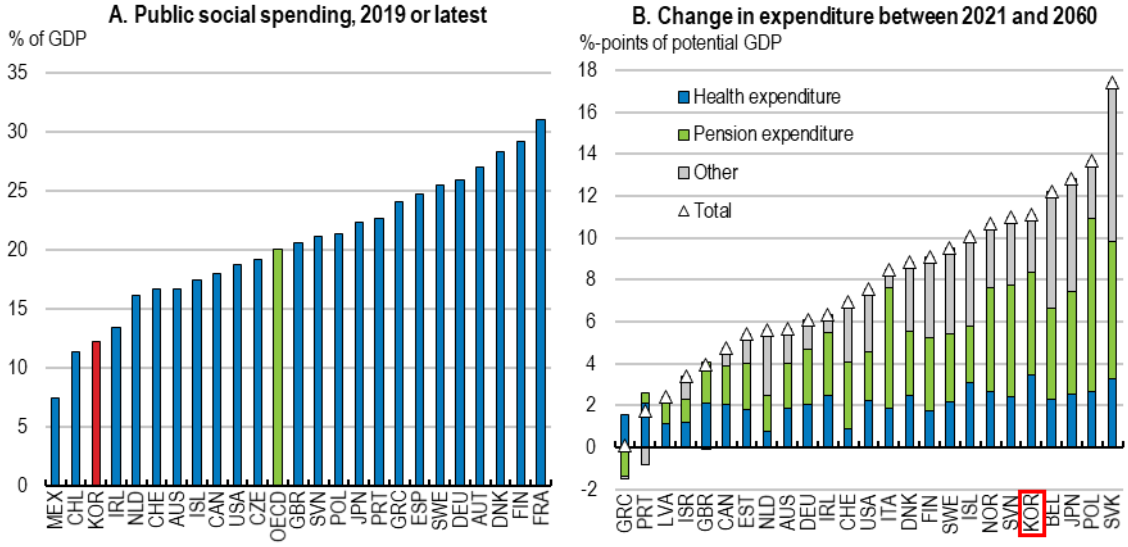
also suggests that EITC has some positive impact on employment and working hours, especially among those who do not receive BLSP (Park et al., 2021; Eom et al., 2014; Nam, 2017).

The new government is considering expanding the EITC further by raising the maximum benefit amount and the income threshold. Phasing out the EITC higher up the earnings scale and more slowly could be considered, as it would improve work incentives and reduce inequality and poverty, but would come at a fiscal cost. For example, EITC for a single person in Korea is fully phased out at around 40% of the average wage, compared to around 50% of the average wage in France, and well above the average wage in New Zealand (OECD, 2021b).

Strengthening the old-age safety net: pension reforms

The poverty rate for those aged 65 and over is high in Korea. Rapid ageing is projected to transform Korea into one of the most aged societies in the OECD, with more than 20% of the population being seniors in 2050 (Chapter 1). The fact that people are living longer is an accomplishment in itself, but ageing also puts long-term fiscal sustainability at risk (Figure 2.10).

Figure 2.10. Public social spending is relatively low but set to increase rapidly



Note: Panel A: Social expenditure comprises cash benefits, direct in-kind provision of goods and services, and tax breaks with social purposes. To be considered "social", programmes have to involve either redistribution of resources across households or compulsory participation. Social benefits are classified as public when general government (that is central, state, and local governments, including social security funds) controls the relevant financial flows. Data from 2017 for Japan and Australia and from 2018 for Canada, Colombia, Costa Rica, New Zealand and Switzerland.
Source: OECD (2022), Social spending (indicator), doi: 10.1787/7497563b-en; Guillemette and Turner (2021).

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The Korean public pension system consists of four main components. The tax-based (Pillar 0) Basic Pension provides a KRW 300 000 maximum benefit (2021) to people aged 65+ below an income threshold. The (Pillar 1) National Pension Service (NPS) is a partially funded system with contributions from workers and employees. The pension benefit consists of two parts that are equally weighted: i) benefits based on individual earnings; and ii) benefits based on average earnings of the insured as a whole. The (Pillar 2) private corporate pension scheme gives employers the choice to convert the mandatory lump-sum severance payment (also called the retirement allowance), which requires employers to pay one month of wages for each year of employment to departing employees, to a tax-advantaged defined benefit or defined contribution pension plan with the consent of employees. This scheme introduced a portable individual retirement account (IRA) for workers who change jobs. The (Pillar 3) personal pension is a supplementary

private pension scheme. The system as a whole fails to secure adequate pension income for many seniors, as the Basic Pension is low, beneficiaries of the NPS generally receive a low level of benefits (partly reflecting a short contributory period), both workers and employers prefer severance payments over pension annuities, and participation in the supplementary personal pension scheme is low. Against this background, the new government plans to reform the pension system, but details are not yet available.

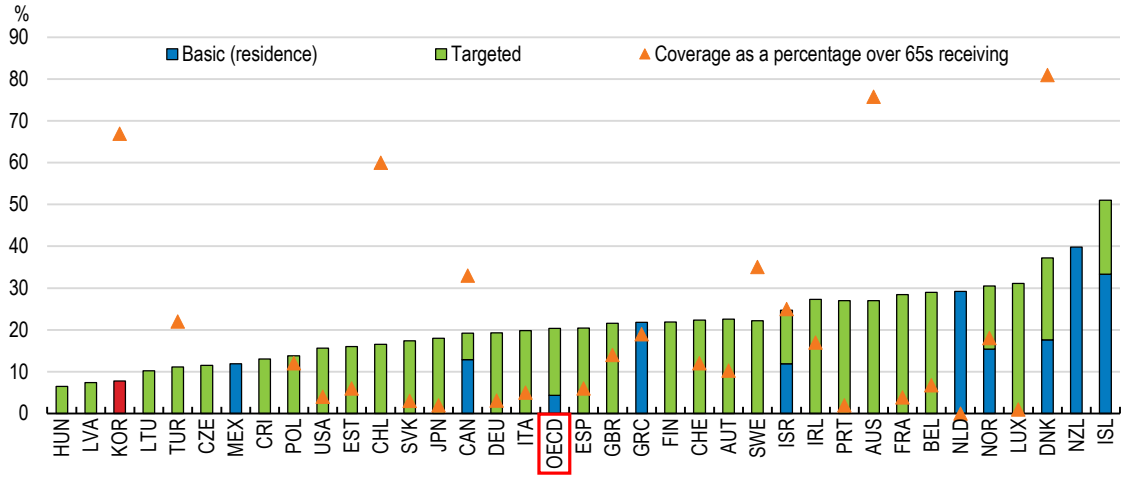
Targeting the Basic PensionBasic Pension to tackle old-age poverty

An immediate priority to tackle elderly poverty in the short term is strengthening the Basic Pension. Together with the Basic Livelihood Security Programme discussed in the previous section, the Basic Pension is the main social welfare programme supporting today's elderly. It is a tax-financed means-tested benefit for the elderly aged over 65.

Even though the Basic Pension is means-tested, a high income threshold means that around 70% of the elderly receive it. At the same time, the benefit level is among the lowest in the OECD (Figure 2.11) at 8% of gross average earnings. The new government plans to increase the Basic Pension level from KRW 300 000 to KRW 400 000. But this is still relatively low compared to the OECD average and insufficient to address high old-age poverty. Even doubling the current amount for low-income seniors would only reduce the old-age poverty rate by 11 percentage points to 33%, which is still high in OECD comparison (Lim, 2018).

Figure 2.11. The Basic Pension level is low

Non-contributory first-tier benefits, share of gross average earnings, 2020



Source: OECD (2018b) Working better with age; and OECD (2021d) Pension at a Glance.

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Most OECD countries means-test their non-contributory pensions, while some provide a minimum pension based on residency. There is a trade-off between targeting, pension level and fiscal cost, where at a given fiscal cost a more targeted Basic Pension is more effective in fighting poverty. At the same time, the total number of recipients will increase significantly with rapid population ageing and undermine affordability under current rules. The original objective of the basic old-age pension, introduced in 2008, was to provide partial support to the elderly who have not secured the national pension entitlement or paid contributions for a sufficient period, but more and more pensioners will have been able to build their own pension entitlements and sufficient contributory periods in a gradually maturing pension system (Jones and Urasawa, 2014). The share of the elderly who received the national pension has already increased by around 12 percentage points over the past six years, from 36% in 2015 to 48% in 2021. Better targeting, as recommended in previous surveys (e.g. the 2014 and 2020 *OECD Economic Surveys of Korea*), would

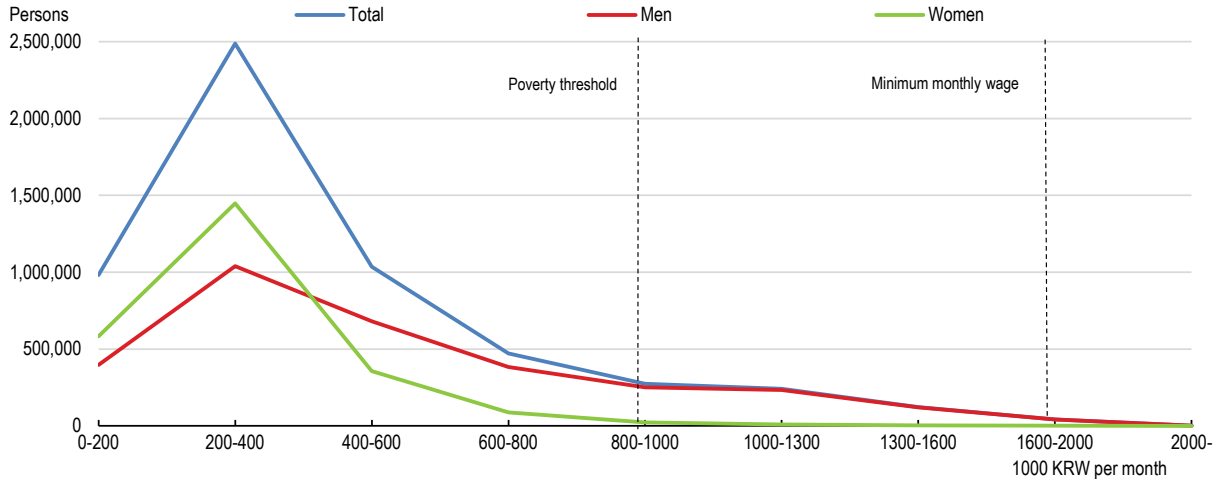
leave room to increase the benefit level for the low-income elderly while maintaining an affordable system for the taxpayer. The government will set up a committee to review the pension system. In the context of this review and conditional on how a potential reform of the National Pension System addresses issues of old-age poverty, lowering the Basic Pension income threshold and increasing the benefit level to better target those with the highest needs should be considered.

Improving the adequacy and financial sustainability of the National Pension Service

A second priority is to improve the contribution-based defined-benefit National Pension Service (NPS). The NPS faces a double challenge. One is raising low pensions. Currently, most national pensions are below the poverty line (Figure 2.12). The average amount in 2021 was only KRW 550 000, one-third of the minimum wage. This reflects the short contributory period (18.6 years on average for new pensioners in 2020) and relatively low replacement rates. Another is improving pension sustainability. Due to rapid population ageing, pension expenditure is set to more than triple by 2050 and the National Pension Fund (NPF) would be depleted by 2057 under the existing set-up (NPS, 2018). These two challenges are two sides of the same coin. Higher pensions may jeopardise sustainability, and if a pension system is unsustainable, sudden corrections in pension levels can be needed in the future (Reinhard, 2010). A balanced approach is therefore required.

Figure 2.12. Most contribution-based pensions are below the poverty line

Distribution of pensioners by pension amounts, 2021



Note: Pensions refer to all types of old-age pensions from the National Pension Service including full old-age pension (완전 노령 연금), early old-age pension (조기노령연금), reduced old-age pension (감액노령연금), and special old-age pension (특례 노령연금).
Source: National Pension Service; and OECD (2021d).

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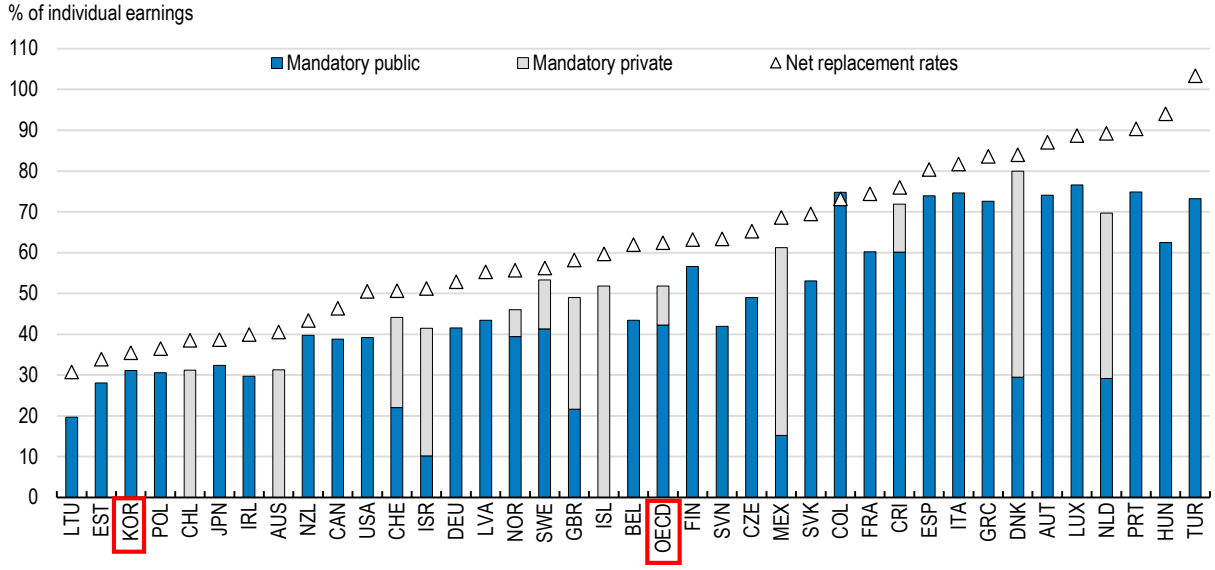
Overall, the gross replacement rate of a full-career worker with an average wage is 31%, 11 percentage points lower than the OECD average (Figure 2.13). According to national estimates, the gross replacement rates are nine percentage points higher (Box 2.4), but this is still low in international comparison. The net replacement rate, better reflecting disposable income in retirement, is 35%, reflecting that pension benefits are exempt from social security contributions in Korea, against a 62% OECD average. The low replacement rate contributes to the fact that only around 60% of the population aged 18-59 paid into to the NPS in 2020 despite the legal obligation for all workers to do so. Nearly half of those surveyed in 2012 expected that the NPS pension benefit would be insufficient to cover their basic living expenses in old age (Seok, 2021). With the targeted replacement rate falling from 70% to 40% in 30 years, trust in the NPS has faltered. A moderate increase in the replacement rate, together with more efficient collection of social

contributions would help increase the coverage and reduce elderly poverty in the long run, as previous surveys recommended (e.g. the 2016 and 2020 *OECD Economic Surveys of Korea*).

Figure 2.13. Pension replacement rates are relatively low

Gross pension replacement rates from mandatory public and private pension schemes and total net replacement rate for entry into working life in 2020 at age 22



Note: Theoretical replacement rates for a full career worker.
Source: Pensions at a Glance 2021: OECD and G20 Indicators, OECD Publishing, Paris.

StatLink https://stat.link/gh36sk

Box 2.4. Why do estimated pension replacement rates differ between the OECD and Korean national sources?

Assuming a full career with average earnings, the National Pension Service (NPS) estimates a replacement rate of 40% while the OECD estimates a 31% replacement rate. Similar differences exist in replacement rate calculations with different earnings and career assumptions, reflecting:

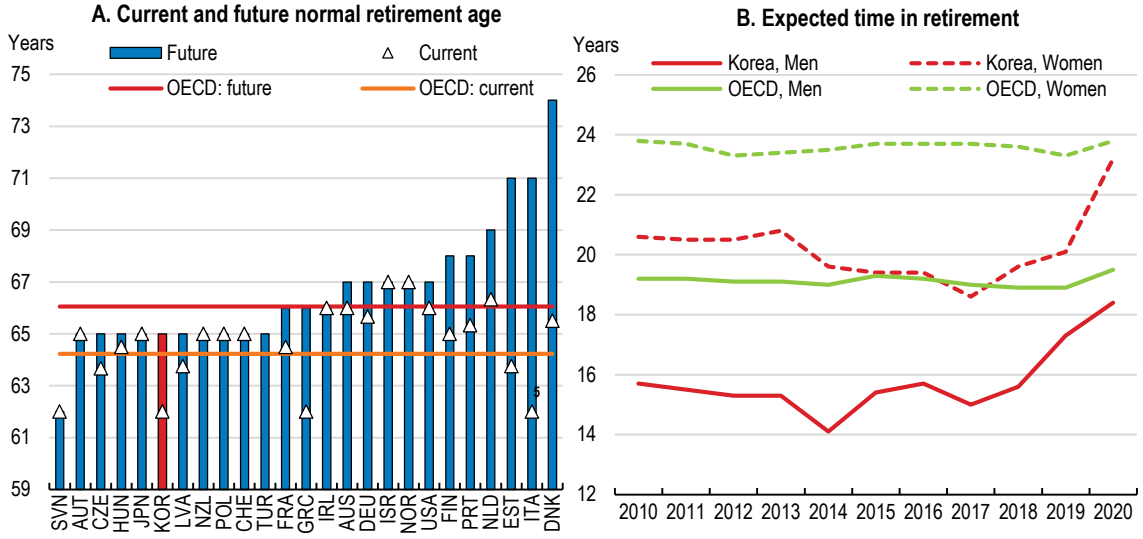
- Different assumptions about average earnings: the OECD only considers the average earnings of regular workers, while the NPS considers the average earnings of all contributors, including the self-employed. Average earnings estimated by the NPS in 2020 were KRW 2.4 million, 37% lower than estimated by the OECD.
- Different assumptions about the contribution period: the NPS assumes that a person contributes 40 years from age 18 until age 59, after which no entitlements are earned. 40 years is the maximum contribution period in Korea. In comparison, the OECD assumes that a person contributes 38 years from age 22 to 59.

Lengthening the contribution period

Raising the pensionable age and preventing firms from forcing retirement before that age (so-called honorary retirement) can lengthen working lives and improve both adequacy and sustainability (Ebbinghuas, 2012) by reducing the number of retirees and boosting pension contributions and entitlements. Extending working lives in the face of ageing is also crucial to alleviate negative effects on growth and living standards.

The pensionable age is currently 62, one of the lowest in the OECD (Figure 2.14, Panel A). The pensionable age is set to gradually increase to 65 by 2034, but this is still low in international comparison (Panel A). The relatively slow increase of the pensionable age, combined with a rapid rise of life expectancy, leads to a sharp increase in the expected time in retirement (Panel B). However, the proportion of workers aged 55 to 64 who wish to extend their working lives has continued to grow, and their desired retirement age was 70.4 on average in 2019 (Kim, 2020). A number of OECD countries link the normal retirement age (the age at which employees are eligible to start receiving full retirement benefits) to life expectancy. In Finland and Portugal, the normal retirement age increases by two-thirds of the gains in life expectancy, while the relation is one to one in Denmark and Italy. In the case of Korea, applying two-thirds of the gains in life expectancy between 2022 and 2065 from the National Pension eligibility age of 65 in 2034 would give a normal retirement age of 67 for those retiring in 2065, around the OECD average (OECD, 2022 forthcoming). The automatic link of life expectancy and pensionable age would reconcile pension sustainability and adequacy in the context of population ageing. Consideration should also be given to accelerating the gradual shift to 65. Increasing the pensionable age should be accompanied by abolishing the gap between contribution age and pensionable age. Contributions currently stop at age 60, two years before pensionable age. This gap is unique in the OECD, and should be eliminated (OECD, 2022 forthcoming). Without reform, those entering employment at age 22 will continue to only make 38 years of contributions, despite the pensionable age increasing to 65 by 2034.

Figure 2.14. The pensionable age will remain low in OECD comparison despite reform



Note: For Panel A, current and future normal retirement ages for a man with a full career from age 22. Current and future refer to retiring 2020 and entering the labour market in 2020, respectively. Normal retirement age refers to the age at which employees are eligible to start receiving full retirement benefits.

Source: OECD (2021d), Pension at a glance; and OECD Social Protection and Well-being database.

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Linking the pensionable age to life expectancy would not reinforce inequalities in Korea. Even though differences in life expectancy are persistent, gains in life expectancy have been broadly similar between different socio-economic groups over the past 15 years, as have gains in life expectancy in good health (Statistics Korea, 2019; and Yoon, 2022). The persistent inequalities in life expectancy should be addressed by health policies rather than the pension system (see below).

Many workers exit their career jobs around the age of 50 due to the practice of honorary retirements. Pension contributions over their second careers are often limited. Limiting the power of firms to force early retirement is essential to translate increases in the statutory retirement age into a higher effective retirement age. According to Statistics Korea, in 2021, around two thirds of those aged 55 to 64 left their

career job before reaching pensionable age. Those who had retired were on average 49.3 years at the time of retirement, and the average length of tenure was only 12.8 years. 41% of the retirement in 2021 was involuntary (Park, 2022). Wage-setting is predominantly seniority-based in Korea (OECD, 2019b). Workers and trade unions support the system, as it provides workers with a guarantee that they will receive a relatively high income when they need to pay for their children's education (OECD, 2018b). This is a root cause of early retirement, as it creates a gap between wage and productivity, accentuated by a large generational gap in education and skills (OECD, 2020a). This creates a culture of forced early retirement either through “mandatory retirement”, by which firms lay off older workers below the statutory retirement age, or “honorary retirement”, by which firms encourage their older employees to voluntarily leave their job before reaching the mandatory retirement age against considerable compensation. The early retirement from career jobs, together with weak social protection, not only leads to a short contributory period but also creates the precarious employment situation of many older workers. It also encourages workers to take lump-sum severance pay which is often needed to create a small business, instead of pensions which are only available after the statutory retirement age.

Some measures have been taken to restrict forced early retirement, but problems remain. Subsidies for the wage peak system which freezes or gradually reduces the wages of older workers have been used since its introduction in 2006 to encourage employers to retain older workers. This has helped employers coping with the wage peak system, but only half of the large firms with more than 300 employees had introduced the scheme as of 2020, reflecting opposition from workers. Also, a law took effect in 2017 to prevent employers from setting mandatory retirement at ages lower than 60. Under this law, employers cannot force employees under the age of 60 to retire. This is significant progress, but will increase the gap between workers’ wage and labour productivity further in the current environment (OECD, 2018b). This increases firms’ incentives to encourage honorary retirement, and empirical analysis suggests that the 2016 reform increased the odds of early retirement through honorary retirement (Lee and Cho, 2022).

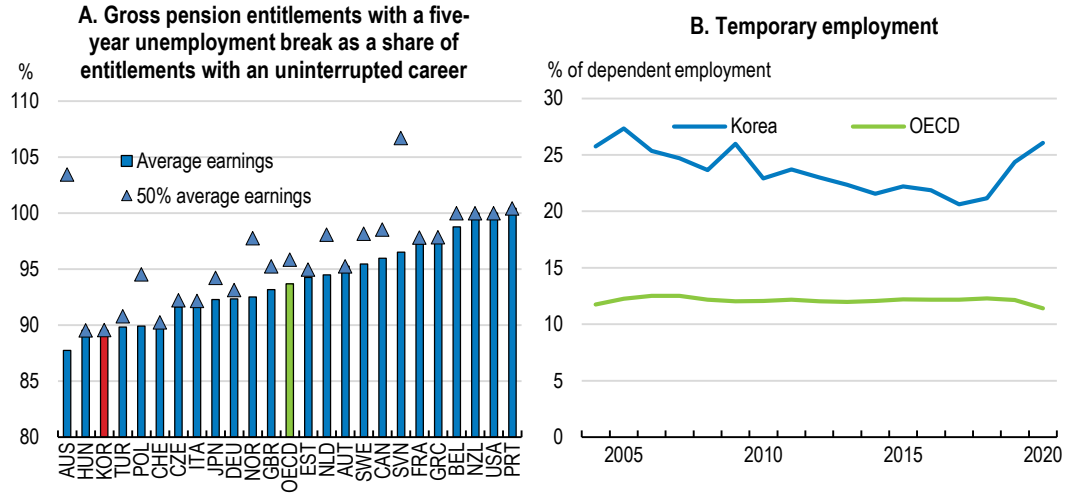
The ultimate objective should be a flexible wage system based on performance, job content and skills requirements as recommended by the *2020 OECD Economic Survey of Korea* and recognised in the new government’s economic policy directions (MOEF, 2022). Introducing worker appraisal and wage-setting mechanisms that are less rigidly tied to individuals’ seniority and more weighted towards their actual skills, competencies and the demands of the particular role they fill, would benefit all economic stakeholders alike and help older workers retain their main jobs until effective retirement. It would also align Korea more closely with the norms in other OECD countries. Among the 10 largest corporations in Korea, LG Innotek was first to introduce the flexible wage system fully based on performance in 2016, after discussion and negotiation between unions over more than two years. To enhance the fairness of performance evaluation, a special committee was also formed in which employees and the employer participate together. Other large companies such as Hynix and Samsung have also been negotiating with their unions, but have not yet reached an agreement. To challenge the status quo, the government should also, in cooperation with social partners, promote mutually beneficial frameworks to align wages with job requirements and skills.

Limiting the loss of pension rights from career breaks would further reduce poverty risks. Compared with other OECD countries, unemployment spells lead to large pension losses in Korea (Figure 2.15, Panel A). Workers earning an average wage lose ten percentage points of their pension replacement rate following a five-year unemployment spell. This is because pension entitlements accrue based on the employment insurance (EI) benefit for a maximum of one year. This compounds the inequalities associated with a polarised labour market that features a high and increasing share of temporary workers who face more career interruptions (Panel B). Crediting longer periods of unemployment would reduce the risk of people with interrupted careers falling into poverty at old age (OECD, 2022 forthcoming).

Childcare breaks also lead to a relatively high loss of pension entitlements (Figure 2.16). Korea is the only country in the OECD that does not provide a pension credit for the first child. A childcare pension credit is provided for a maximum of one year for the second child, and 18 months for the third and consecutive children, but with a ceiling of 50 months in total. Childcare pension credits are accumulated for at least two

years per child in most OECD countries, and much longer in some countries like Germany (three years) and Sweden (four years) (OECD, 2022 forthcoming). Providing at least an 18 months pension credit for each child, including the first child, and scrapping the 50 months cap are warranted to reduce the risk that people with childcare duties fall into poverty in old age, and would be in line with the objective to support fertility. This is particularly important in Korea where the gender gap in old-age poverty is the second highest in the OECD at 4.4 percentage points (OECD, 2019b). According to national estimates, one additional year of childcare credit would increase monthly pensions by KRW 26 000 (Yoo and Kim, 2020), which is still low. Credits lasting at least two years per child would ensure that mothers' pensions are not penalised (OECD, 2022 forthcoming).

Figure 2.15. Unemployment leads to a relatively large pension loss



Note: For Panel A, individuals are assumed to embark on their careers as full-time employees at 22, and to stop working during a break of up to five years from age 35 due to unemployment; they are then assumed to resume full-time work until normal retirement age. Low earners in Colombia, New Zealand, the Slovak Republic and Slovenia are at 66%, 60%, 53% and 55% of average earnings, respectively, to account for the minimum wage level.
Source: OECD (2021d), Pensions at a glance; and OECD employment database.

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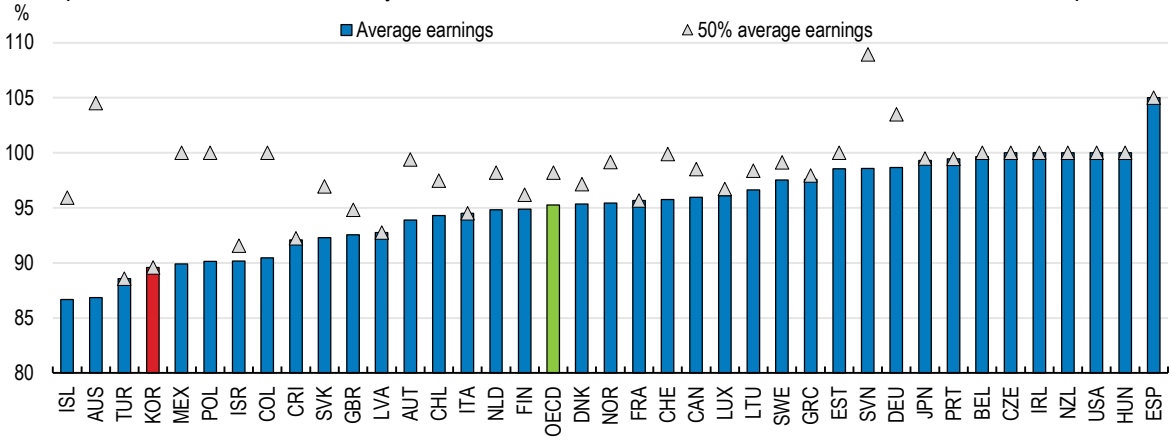
Figure 2.16. A childcare break leads to a large loss of pension entitlements

Gross pension entitlements with a 5-year childcare break, as a share of entitlements with an uninterrupted career



Note: Individuals enter the labour market at age 22 in 2020. Two children are born in 2028 and 2030 with the career break starting in 2028. Low earners in Colombia, New Zealand, the Slovak Republic and Slovenia are at 66%, 60%, 53% and 55% of average earnings, respectively, to account for the minimum wage level.
Source: OECD (2021d) Pensions at a Glance.

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Improving pension sustainability

The contribution rate to the National Pension Service (NPS) is, at 9%, half of the OECD average and among the lowest in the OECD. Under the existing setup, the contribution rate would need to more than double to finance the current target replacement rate of 40% over the long term (National Pension Actuarial Projection Committee, 2018). The labour tax wedge is low at 23%, compared to an OECD average of 35%, suggesting room to increase contributions. In 2018, the government proposed to increase the contribution rate to 13% but this has been delayed several times, mainly due to resistance from current insured persons who have to pay it. Pension contributions should increase sooner rather than later, however, as delayed adjustment compounds the imbalance between pension contributions and liabilities, and will force tougher adjustments for future generations down the road (Chun, 2020).

At the same time, the government should consider more explicitly financing some redistributive components of the public pension system by general taxation. In Korea, 100% of the Basic Pension is already financed via general taxation. But around 70% of childcare pension credits and 75% of the unemployment pension credits are financed by social security contributions and there has not been any increase in contributions since those credits were introduced. Fully financing these elements via general taxation would strengthen the link between pension premiums and entitlements, and it would allow financing by taxes that are less distortive than income taxes and social security contributions. Japan, for instance, gradually raised the consumption tax by five percentage points between 2012 and 2019, mainly to finance rapidly increasing ageing-related costs including pensions. This approach can also be considered in Korea whose 10% VAT rate is well below the 19.2% OECD average (in 2020).

In addition, automatic adjustments of pension benefits to life expectancy could be introduced. This could help ensure financial sustainability, reduce the need for recurrent discretionary adjustments and improve the predictability of future pension entitlements. Several OECD countries use automatic adjustments. For example, Japan links pension entitlements to life expectancy, subject to the constraint that the replacement rate must not go below 50%. In Germany, which has a point-based pay-as-you-go system, the pension point value is linked to the ratio of contributors to pensioners; if the ratio increases, past contributions are uprated by more than average wage growth and vice versa though benefits are not allowed to fall in nominal terms.

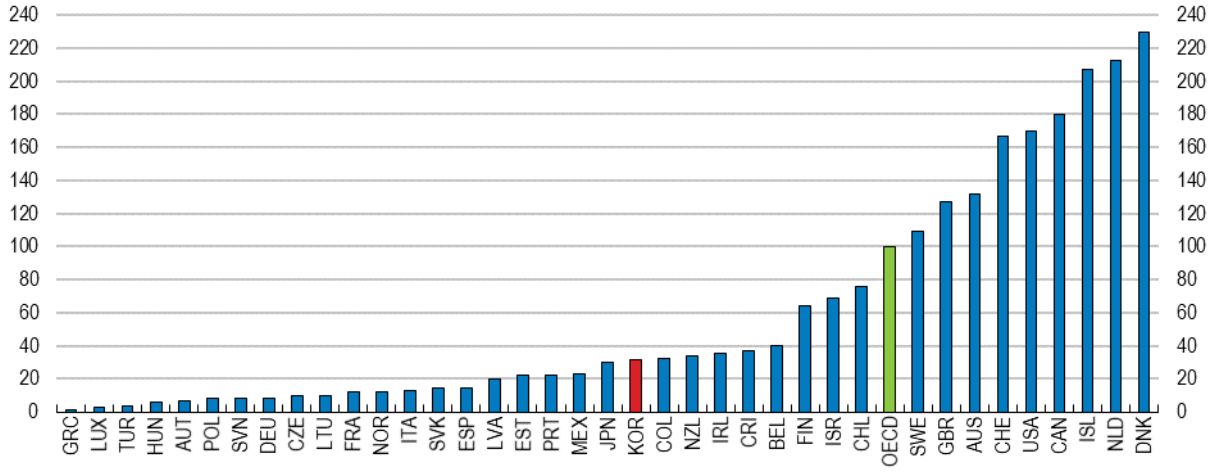
Strengthening the role of private pensions in financing retirement

Private pensions complement retirement income from public sources. Given the weak and immature public pension system and the ongoing demographic and fiscal pressures on public pensions, strengthening the role of quasi-mandatory occupational company and voluntary personal private pensions might be important for Korea, as recognised in the government's economic policy directions (MOEF, 2022).

Private pension savings are low, reflecting the relatively short existence of the system, but also low participation and low yields from savings (Figure 2.17). Only 17% of the working-age population participated in occupational pension plans, one of the lowest shares in the OECD (OECD, 2021c). The participation in personal pension plans is also among the lowest of OECD countries, at around 14% of the working-age population. Participation is particularly low among low-income workers and the self-employed. According to the National Tax Service, the participation rate was only 3% for those who earned less than KRW 300 million (approximately 80% of the average wage) in 2018. Low participation partly reflects weak financial incentives. In Korea, both contributions and returns on investment are exempt from taxation while benefits are treated as taxable income upon withdrawal, as in many other OECD countries. According to OECD estimates, the overall tax advantage compared to a benchmark savings vehicle is 20% of the present value of contributions (8% for lower-income earners at 60% of average savings). This is at the lower end among those OECD countries providing tax advantages to encourage private retirement savings, and compares to a 30-50% tax advantage in Japan, the Netherlands and Israel (OECD, 2018c) (OECD, 2021d).

Figure 2.17. Private pension savings are very low

Total assets in retirement savings plans, % of GDP, 2020 or latest available year



Source: OECD (2021c), Pension Markets in Focus 2021, OECD Publishing, Paris. https://www.oecd.org/pensions/pensionmarketsinfocus.htm.

StatLink https://stat.link/r4pnd2

Some measures should be considered to bolster participation in private pensions. One way is to introduce automatic enrolment for all workers with the possibility to opt out, an approach used in some OECD countries. In Lithuania, for instance, all workers younger than 40, irrespective of their employment status, are automatically enrolled into a pension fund by a public entity, with the possibility to opt out. Evidence suggests that automatic enrolment with the option to opt out increases participation compared to the option to opt in (Pereira and Afonso, 2020; and Beshears et al., 2013). At the same time, increasing tax advantages can encourage people to stay rather than opt out. The government plans to raise the savings limit for pension credits from the current KRW 4 million to KRW 6 million. Increasing the tax credit rate, which is currently relatively low, can also be considered. Another way is to make enrolment mandatory for the self-employed as in Sweden, Estonia, Israel, and Latvia. All employees are mandatorily enrolled in corporate pensions (see below), but the self-employed are enrolled in private pensions on a voluntary basis. Mandating self-employed to enrol in a private pension scheme, for example by means of individual retirement pension accounts, would help reduce gaps in retirement income between the self-employed and employees (OECD, 2020b).

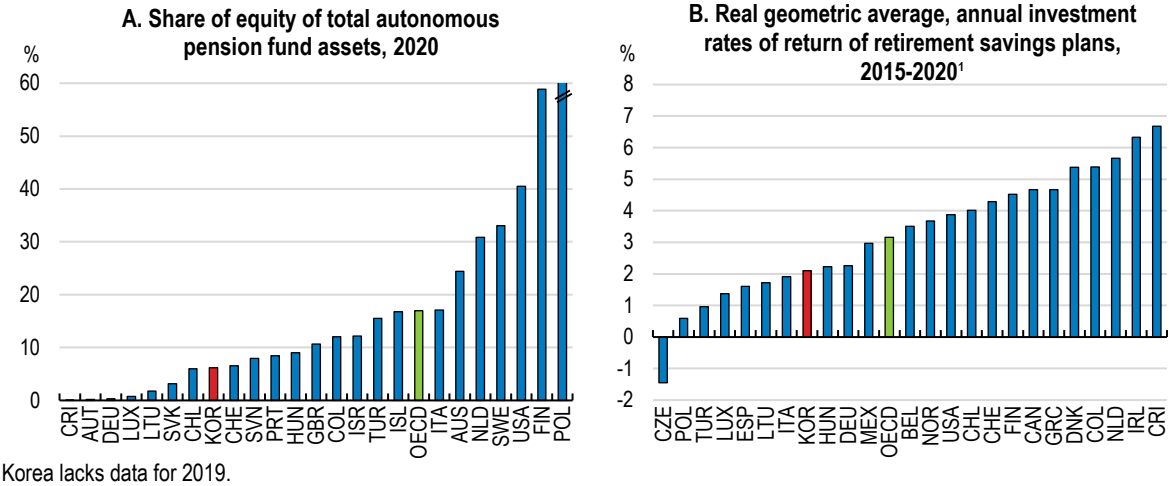
Significant improvements in pension fund returns are also needed. Their investment strategy is very conservative, contributing to the low returns of private pensions (Figure 2.18, Panels A and B). This reflects that most subscribers choose very conservative products that guarantee the repayment of the principal and interest, even in a low-interest rate environment, presumably due to indifference and low financial literacy.

Introducing default life-cycle-based investment strategies, as planned, with substantially higher allocations to global stocks and high initial allocations to equities for young participants, lowered as the individual gets closer to retirement, can help improve performance. Reducing and regulating the choice of investment possibilities can help people make difficult investment decisions, especially if financial literacy is low. The investment limit for risky assets should also be reconsidered. Currently, investment in risky assets listed in law (e.g. debt securities and beneficiary certificates that meet requirements) is limited to a maximum of 70% of assets held in retirement pension plans. Listed equity and private equity funds are part of the eligible risky assets and therefore allowed (up to 70%) for occupational defined benefit plans, but are fully prohibited for defined contribution plans. This is relatively restrictive in international comparison. For instance, more than half of the OECD countries, including Australia, Belgium, Canada, Japan, the

Netherlands and the United States, have no limits to investments in corporate bonds and equity (OECD, 2019c).

The retirement allowance was intended to support the unemployed and retirees in the absence of unemployment insurance and pensions. Most OECD countries do not have severance pay for retirement. Corporate pension systems allow firms to convert the mandatory severance pay into retirement schemes such as a defined benefit (DB) scheme, defined contribution (DC) scheme, or Individual Retirement Pension, subject to employee consent. However, most employees choose the severance lump-sum payment option (96% of those who are entitled to pensions in 2021) (MOEL, 2022a).

Figure 2.18. Conservative investment strategies lead to low returns



1. Korea lacks data for 2019.
Source: OECD Pensions database.

StatLink https://stat.link/jbou4v

The lump-sum severance pay and the aforementioned honorary retirements reinforce each other in a vicious cycle. Workers prefer a lump-sum in part because of honorary retirement, as they are still fairly young, and starting an own business is a way to earn a retirement income. Also, the lump-sum severance pay can be used to finance their children's education. Firms are inclined to carry out honorary retirements because the lump-sum is a multiple of the wage at the end of employment, which increases rapidly with seniority given the steep wage/seniority profile in Korea. Therefore, if they keep workers long on the payroll, the bill can become high when they eventually retire. Furthermore, the business sector's resistance to the corporate pension system reflects in part the requirement that firms must entrust 100% of the funds to financial institutions. In contrast, the severance payment does not have to be funded outside the firm. Workers' lump-sum benefit is thus at risk should the firm fail. Also, many people have difficulties turning the stock of wealth into a suitable flow of income.

Several steps have been taken to promote the corporate pension systems. In 2020, the government expanded the pension tax credit to make it more attractive relative to the retirement allowance, but the lump sum allowance is nonetheless taxed at rates lower than the income tax. In 2022, employees with retirement pension plans were required to transfer their retirement allowance to an Individual Retirement Pension. In the same year, retirement pension funds for small and medium-sized enterprises of up to 30 employees were introduced, with temporary subsidies to workers and their employers (MOEL, 2022b). However, the severance lump-sum payment option will still be allowed. Taxing the retirement allowance as income, and abolishing severance pay and turning it into a pure pension scheme should be considered.

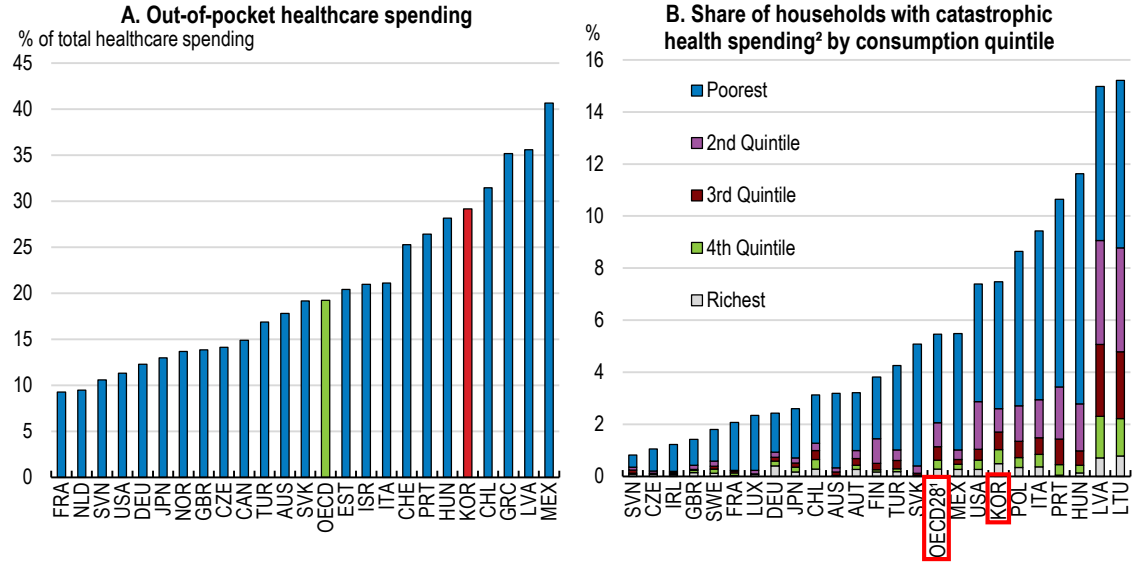
Strengthening the old-age safety net: health care reforms

Korea has made rapid improvements in life expectancy and health outcomes, with life expectancy at birth increasing by more than 20 years from 1970 to 2019, twice the OECD average (OECD, 2021e). Korea's health care system successfully managed the COVID-19 pandemic and led the way internationally with its systems for testing, tracking and isolation, as highlighted in the 2020 *OECD Economic Survey of Korea*. Korea has also achieved universal access to health insurance in a very short time span. Continuous efforts to make health care more accessible partly explain the 1.1 percentage points growth in public health care spending as a share of GDP between 2015 and 2019, the fastest growth in the OECD. However, Korea's health care system still has a number of weaknesses, notably high out-of-pocket costs and an over-reliance on hospitals.

Making health care more accessible

Out-of-pocket payments or co-payments are often used as tools to prevent moral hazard, but excessive out-of-pocket costs can reduce access to care and lead to financial hardship (OECD, 2021e). Out-of-pocket spending is relatively high in Korea, accounting for around 30% of health spending, 10 percentage points above the OECD average (Figure 2.19, Panel A). This partly explains why 7.5% of households are exposed to catastrophic health expenditure defined as out-of-pocket payments that exceed 40% of household income, which is two percentage points above the OECD average (Panel B). This also explains why the elderly report high unmet health care needs mainly due to costs (Kim et al., 2018). On the other hand, out-of-pocket health care costs account for only 20% of income for high-income elderly, suggesting inequity in health care access.

Figure 2.19. Out-of-pocket health spending is relatively high



1. Unweighted average for the countries displayed in the figure and Belgium, Estonia, Greece and Spain.
2. Catastrophic health spending is defined as out-of-pocket payments that exceed 40% of household income.
Source: OECD Health at a Glance, 2021.

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The government started in 2017 with an ambitious plan to expand insurance coverage to all health services except non-essential medical care such as cosmetic surgery by 2022 to reduce high out-of-pocket costs. This plan reflects that out-of-pocket costs for non-covered services have increased faster than for covered services. From 2017, coverage has been greatly expanded to include expensive services like magnetic

resonance imaging (MRI) scans and ultrasound scans, which were essential for medical treatment but financially burdensome for patients. In addition, co-payment rates for many other health care services, including dental care, have been reduced. In 2018, the government introduced a financial assistance programme for catastrophic medical expenses, refunding 50% of co-payments exceeding KRW 1 million per year for low-income households earning less than 50% of the median income. In 2021, the refund was raised to 70-80%. As a result, out-of-pocket expenses (as a share of health care spending) fell by 3.3 percentage points between 2017 and 2020. The health insurance coverage rate, defined as the proportion of payments by health insurance out of a patient's total medical expenses, was 65.3% in 2020. It increased only 2.6 percentage points from 2017, and still falls short of the target of 70% by 2022. The Ministry of Health and Welfare evaluates new medical technologies together with various stakeholders including patients, the government, and experts and determines health insurance coverage (Auraaen et al., 2016). The criteria include medical benefits and the cost-efficiency of new technologies. Beyond this, an effort is needed to assess their potential to trigger catastrophic health expenditures.

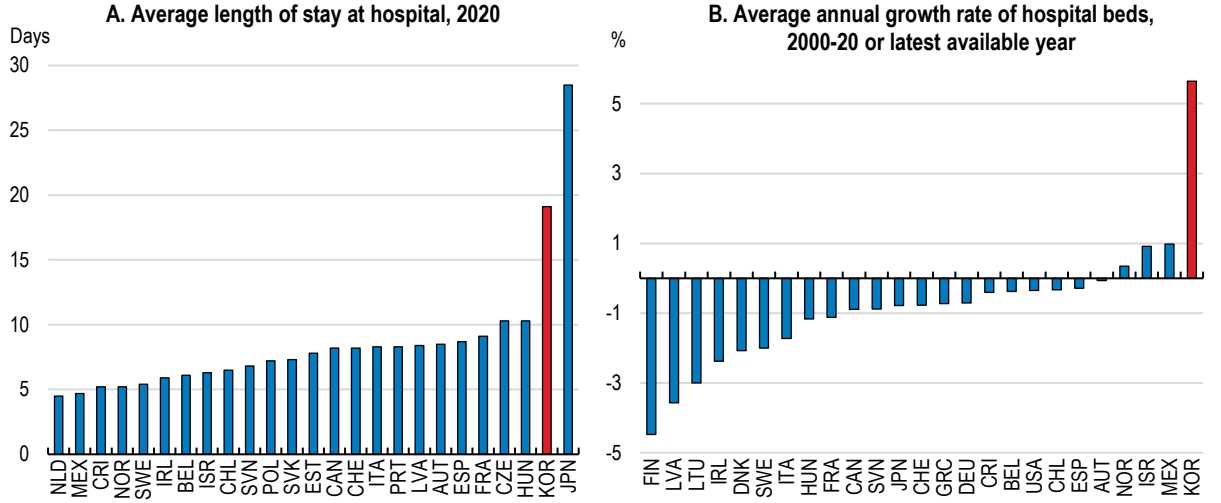
The social and economic costs of unequal access to health care among poor people should also be considered. A number of empirical studies suggest that poorer access to health care is associated with poorer productivity of workers and shorter healthy life expectancy (e.g. Hao et al., 2020; and Hosokawa et al., 2020). Therefore, another priority to improve health care access is to phase down the remaining family support obligation rule for Basic Livelihood Support Programme (BLSP) health benefits, with due consideration of the additional fiscal burden (see above). In 2017, only 3 % of the population had access to this benefit, well below the relative poverty rate of 17.5% (Choi and Ahn, 2019). This was primarily due to the family obligation rule (KIHASA, 2019 and Sohn, 2019). In 2020, about 50.1% (KRW 7 trillion out of KRW 13.6 trillion) of the total funds for BLSP were used for health benefits. If the family obligation rule for medical benefits is abolished, it is estimated that an additional budget of about KRW 4 trillion per year will be required.

Strengthening primary care

Overreliance on hospital care and specialists, as evidenced by long hospital stays, hinders cost-efficiency in health and long-term care (Figure 2.20, Panel A). After the fastest increase in the OECD over the past decades (Panel B), the number of hospital beds per capita is currently 12.4 per 1000 population, one of the highest in the OECD. The average length of stay in acute care is 7.3 days, above the OECD average of 6.6 days (OECD, 2021e). This high number of hospital beds did not allow Korea to avoid strains in the hospital sector during the COVID 19-pandemic. Like most OECD countries, Korea expanded ICU capacity to well above normal during the pandemic, but other countries with less reliance on hospital care at the start of the pandemic went further in this direction. For example, during the Delta wave, ICU hospitalisations peaked in Korea at just above 22 per million population in late December 2021, which was considered to be full capacity utilisation at the time. ICU hospitalisations during the Delta wave peaked at considerably higher levels in for example the United States (79 per million), Belgium (71), France (58) and Germany (59).

This over-reliance is largely due to weak primary care, that does not function well enough as a gatekeeper authorising specialist referrals and hospitalisation. Solid primary health care is associated with lower health inequalities (OECD, 2020c), as it can ensure access to vulnerable populations that would otherwise struggle to access medical services and specialised care. Indeed, low-income elderly tend to use public primary care services more in Korea than the population average (Sung et al., 2010). The fastest population ageing in the OECD means that a larger share of Korea's population is likely to suffer from multiple chronic diseases (OECD, 2013). Primary health care with promising innovations and tele-medicine can boost the capacity of health systems to contain and manage future health crises and reduce unnecessary hospitalisation of people who can be effectively treated outside of hospitals (OECD, 2020c).

Figure 2.20. Overreliance on hospital care and specialists hinders system efficiency



Note: Panel B: 2019 data for Greece and the United States.
Source: OECD Health statistics (database).

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Korean primary care suffers from a shortage of general practitioners (GPs): they account for only 6% of the total number of doctors, far below the 23% OECD average (OECD, 2021e). The shortage of GPs is even more serious considering that the number of doctors per 1 000 inhabitants was 2.5 in 2019, well below the OECD average of 3.5. This shortage is likely to become more acute in the near future, with many GPs nearing retirement and a declining number of new graduates specialising as GPs. The number of admissions to medical school was downsized to 3 058 in 2006 and has remained unchanged so far. To increase the number of doctors, the government decided in 2020 to increase the number of admitted students in medical schools by 400 annually over the next 10 years. However, this has been delayed due to COVID-19 and opposition from doctors' associations. This should be implemented without further delays, in light of rapid ageing. In addition, efforts are needed to increase the share of GPs among doctors.

Shifting away from the current fee-for-service payment scheme while blocking patients from bypassing GPs when accessing specialists and hospitals could increase the attractiveness of the GP profession and better meet the challenges posed by an ageing population and the rising burden of chronic conditions. User payments for pre-defined health services are the same whether performed by a GP, a specialist or in a hospital, incentivising people to choose specialists and hospitals, which cost the same as a GP, but with higher perceived quality. More fundamentally, a fee-for-service payment scheme may not be the best approach to fostering high-quality chronic care, which is increasingly needed with population ageing (OECD, 2013). Introducing pay-for-performance schemes with bonus payments to physicians who achieve pre-defined targets (e.g., lower obesity rate, smoking cessation, chronic disease management), as in many other OECD countries including the Netherlands, Portugal, and the United Kingdom, could improve quality while making the GP profession financially more attractive (OECD/EU, 2016; and Box 2.5) Studies suggest that the introduction of the pay-for-performance scheme in the United Kingdom is associated with higher retention of GPs, improved primary care quality, and increased job satisfaction.

Box 2.5. Pay-for-performance schemes in some OECD countries

The United Kingdom's Quality and Outcome Framework promotes an evidence-based pay-for-performance scheme for primary care, through a rich information infrastructure and a large number of outcome indicators around the prevention and management of chronic diseases. The scheme operates by rewarding general practitioners for achievement against 135 clinical and non-clinical indicators, categorised into four domains: clinical (e.g., chronic kidney disease, heart failure, hypertension); public health (e.g., blood pressure, obesity, and smoking); organisational (e.g. information for patients; education and training); and patient care experience (e.g. length of consultations, access). About 2.4 million patients registered with a GP practice are surveyed twice a year around access, making appointments, quality of care, satisfaction with opening hours, and experience with out-of-hours services. Performance against each indicator attracts points that are used for payment (e.g. maximum 17 points for blood pressures ≤ 145/85 mm). The final payment is adjusted to take account of surgery workload, local demographics and the prevalence of chronic conditions in the practice's local area.

France and New Zealand also have pay-for-performance scheme for general practitioners. In France, for instance, GPs earn financial bonuses if they reach a target rate of 80% of women aged between 50 and 74 years having been screened for breast cancer in the past two years. New Zealand's pay-for-performance scheme for primary care include clinical indicators (e.g., vaccinations for children and elderly, cervical smears, and breast cancer screening), process indicators (e.g., ensuring access for those with high needs), and financial indicators (e.g., pharmaceutical and laboratory expenditures). A maximum payment of NZD 6 per enrolee could be obtained if all targets were achieved.

Source: OECD (2017); and OECD (2016).

Strengthening the old-age safety net: long-term care reforms

Korea is one of the few OECD countries with universal long-term care insurance coverage (LTCI) for the elderly aged 65 or above. The main objectives of LTCI are to ease the financial burden of the elderly and to reduce social admissions to acute care hospitals (WHO, 2015). However, long-term care is still not affordable for many elderly and there is still an over-reliance on hospital care. Lack of coordination between health care and LTC, weak primary care and a lack of affordable quality homecare stand in the way of the original goals of LTCI.

Improving quality and cost-efficiency to cope with demand surges

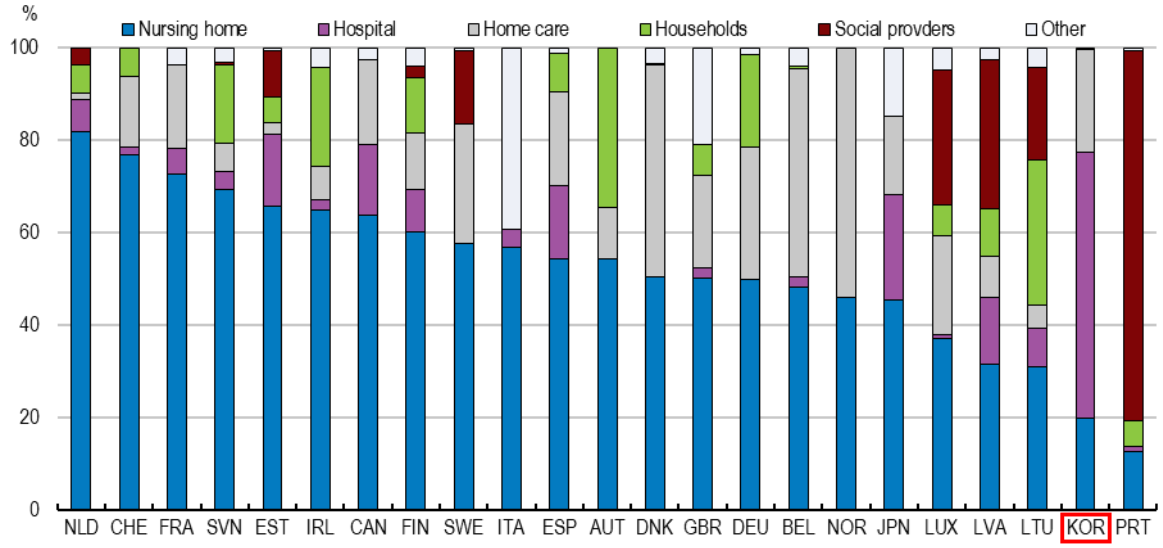
"Social admissions", meaning that some beds in long-term care hospitals are devoted to social care, are very high in Korea. Long-term care hospitals are uncommon elsewhere in the OECD. In principle they deliver medical services, notably subacute care, palliative care, and rehabilitation services, for patients who need a longer hospital stay. The major priorities of long-term care hospitals are treating patients transferred from an intensive care unit and making them return home. However, many patients in long-term care hospitals do not need such medical care. According to the Ministry of Health and Welfare, the number of social admission inpatients was around 170 000 in 2019, accounting for around 40% of inpatients in long-term care hospitals. These are generally patients with cognitive impairment and physical dysfunctions who do not need hospitalisation and would receive better and more appropriate care in LTC facilities. Also, the average length of stay per patient in long-term care hospitals was 165 days in 2019, one of the longest in the OECD. This contributes to the fact that most of the long-term care spending goes to hospitals, unlike in any other OECD country (Figure 2.21). Social hospitalisation also leads to inefficient use of resources. Many patients who actually need medical services at the long-term care hospitals are unable to receive it because of a lack of available beds. According to the Ministry of Welfare and Health,

around 30% of the elderly who stay in long-term care institutions need hospital care, but do not receive it (KCHA, 2020).

The high social admission rates in long-term care hospitals partly reflect that using hospitals is more financially attractive for care recipients than using LTC institutions or homecare. In Korea, long-term care hospitalisations are covered by the national health care insurance (NHI), whereas costs for long-term care institutions and home care are covered by LTCI. NHI and LTCI both exempt those earning less than 40% of the median income from co-payments, and when this threshold is exceeded, care recipients pay a fixed proportion of the total cost. However, NHI has co-payment ceilings depending on income levels, while LTCI does not. This incentivises many elderly to prefer long stays in hospitals (Kim and Kwon, 2021; and OECD/WHO, 2021). Harmonising the reimbursement scheme between LTCI and NHI by making co-payment ceilings dependent on income levels for LTCI, as is the case in Belgium and Japan (Colombo et al., 2011), would incentivise users to choose the best suited service for their needs. Imposing additional charges for those who remain in hospitals after their medical care has ended, like in Ireland, can also be considered.

Figure 2.21. Most of long-term care spending goes to hospitals

Total long-term care spending, by provider, 2019



Note: 2018 data for Japan. Austria, Belgium, Canada, Germany, Ireland, Japan and Korea do not report social long-term care. The category "Social providers" then refers to providers where the primary focus is on help with instrumental activities of daily living or other social care.
Source: OECD Health Statistics (database).

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Financial incentives faced by LTC hospitals also play a role in the high rates of social hospitalisation. In 2008, the reimbursement method for hospitals was changed from a fee-for-service system to a flat-rate per diem reimbursement for LTC hospitals only, given that relatively standardised treatment is provided over a long period of time. This payment model, which incentivises hospitals to cherry-pick low-cost patients with mild symptoms and let them stay for a long period, needs to change. In Japan, for example, case-mix-based payments, which allow adjustment of flat-rate per diem payments according to the severity of illness and types of patients, were introduced to reduce social hospitalisations. In Belgium and Canada, per diem payments are adjusted to incentivise treatment of more severely impaired patients (Colombo et al., 2011).

In addition to the financial incentives for both users and suppliers, the lower quality of LTC institutions and homecare also contributes to high LTC hospitalisation. There has been an excess supply of mostly private LTC institutions and home-based care, which results in wasteful competition with financially unsustainable

price discounts rather than quality improvement (Seok, 2017). Korea has developed an LTC quality framework with legal regulations on LTC quality since 2009. Both the National Health Insurance Service and local governments are responsible for the quality monitoring of LTC facilities. Based on evaluation criteria, local governments have the authority to approve or close LTC providers, but they are not active in doing so. This partly reflects a need to improve the reliability of indicators for quality assessment (Yoon, 2021; and Pak, 2017). The United Kingdom and Portugal, for instance, developed a large number of outcome indicators around the management of LTC providers, not only on adverse health events and client satisfaction surveys, but also on the quality of life of LTC recipients (EC, 2019a; and OECD/EU, 2013). More systematic monitoring and quality evaluation based on reliable outcome indicators would help make informed choices about appropriate corrective actions and sanctions towards LTC providers.

Coordination between LTC providers will gain importance to cope efficiently with ageing, since old age is characterised by the emergence of several complex health states that can repeatedly alternate between acute, subacute, and chronic stages. However, insufficient coordination between LTC hospitals and LTC institutions contributes to high social admissions (Jeon and Kwon, 2017). Some older people, even without the need for medical treatment, want to stay in long-term care hospitals, because they worry that the medical capacity of LTC institutions is very limited and referrals to hospitals are not well arranged (Kim et al., 2015). It is estimated that 20.9% of those who died after being transferred from a nursing home to a hospital did so after long stays in nursing homes without receiving proper treatment (Board of Audit and Inspection, 2013). Furthermore, those who need rehabilitative services or post-discharge interventions should be transferred from hospitals to institutions or home, but this has not been properly done in Korea.

The government plans to construct an integrated long-term care model with more specialisation and coordination among LTC providers, which is welcome. The aim is to link the services of hospitals, LTC institutions, community/home-based care, and primary care smoothly so that appropriate services can be provided according to the health status of elderly patients. There is considerable evidence that hospital admission and length of stay can be reduced by better coordination among LTC providers, including early transfer to nursing homes or patients' own homes with support from community-based health and social care services. The experience of several European countries, including Sweden and the United Kingdom, shows that there is considerable scope for improving care outcomes and quality by managing the interactions between health and social sectors more effectively (EC, 2019b). Enhanced primary care will also help prevent disease and absorb the growing demand for long-term care (Kotschy and Bloom, 2022).

Strengthening homecare

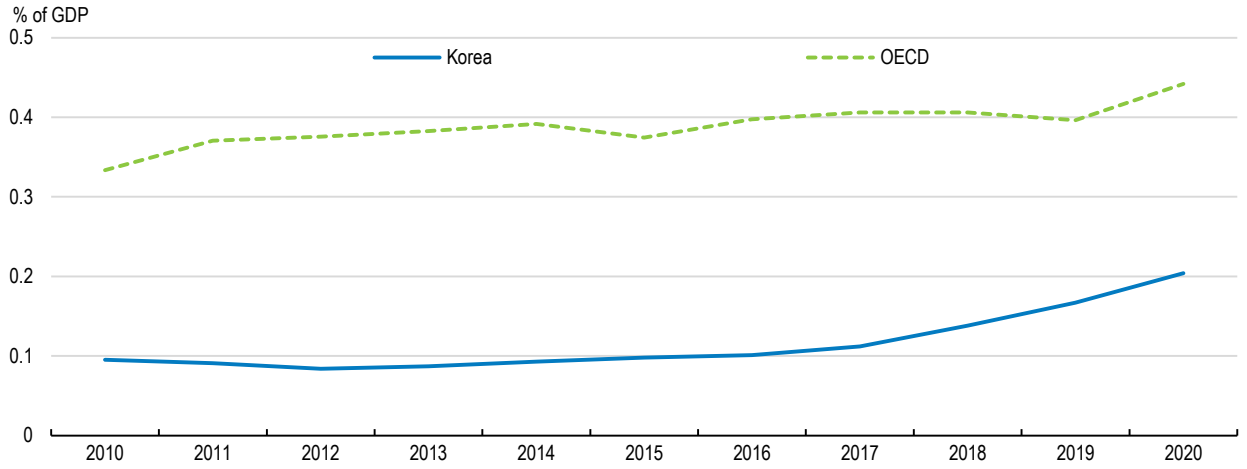
There is a lack of accessible, affordable and high-quality LTC homecare services. Homecare is receiving growing attention across OECD countries as a pathway to minimise the use of costly institutions while better meeting the needs of the elderly. Surveys show that 58% of the elderly in Korea prefer to have health and social care provided within their own home settings rather than in institutions (Statistics Korea, 2018). However, the share of the elderly using home-based services has declined since 2009.

Undersupply of visiting nurse services leads to high unmet needs. 'Regular visiting nursing service', the only medical service among home services, has the highest demand among home services - according to a survey, 64.2% of LTC recipients answered that visiting nursing is the most essential service (Kim and Choi, 2021). However, few elderly at home actually receive nurse visit services - only 1.6% of all home care services provided in 2020 were nurse visits (MOHW, 2019), and only 7.4% of 20 000 people who are recommended for visiting nursing receive such services (Kang and Kim, 2014).

The lack of quality formal in-home care capacity partly reflects insufficient financial and human resources. Despite an increase in recent years, public spending on home-based long-term care as a percentage of GDP is less than half of the OECD average (Figure 2.22). While the number of LTC recipients has doubled between 2010 and 2018, the number of LTC nurses has barely increased (Figure 2.23). Low wages, unappealing working conditions and unstable contracts discourage young people from a career in the LTC

nurse profession (Im et al., 2019). The majority of LTC homecare nurses hold part-time positions (74%) (NHIS, 2019). Also, LTC nurses' have little autonomy to provide medical treatment in Korea, and regulations constrain their capacity to deliver care according to their best judgement (OECD, 2020d). Barriers to importing foreign nurses also exist. In Korea, foreign nurses can work only after passing the national examination, which is held in Korean only.

Figure 2.22. Public spending on home-based long-term care is relatively low



Source: OECD Health statistics (database).

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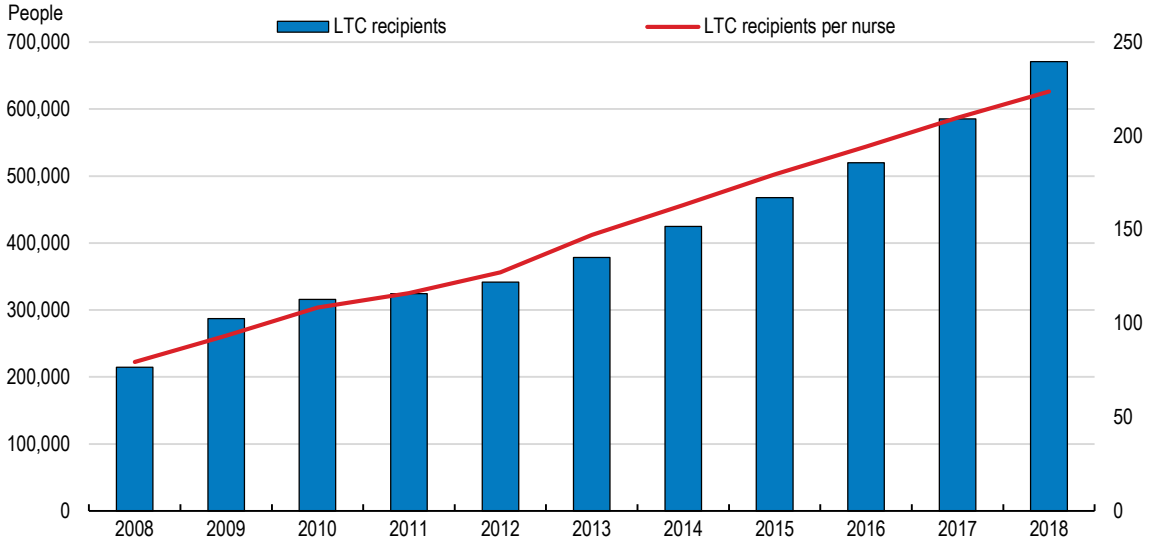
Figure 2.23. Long-term care services face a growing shortage of nurses



Source: Im et al. (2019).

StatLink https://stat.link/ud25in

In addition to shifting resources from institutions to homecare, policies are needed to address the shortfall of nurses to expand both quality and quantity of homecare. Strengthening nurse autonomy, together with increasing the financial attractiveness of the profession should be considered. Scandinavian countries are strengthening highly educated nurses' roles by giving them more autonomy to manage tasks. In Norway, nurses are becoming increasingly specialised and taking more leadership roles, especially in assessing needs for services based on a standardised assessment form that all municipalities are required to use. Since 2011, the Israeli government has promoted a policy that empowers nurses to increase their

independent practice in community care and home-based care. Better access to nursing visit services is likely to improve health outcomes and health care cost efficiency. Indeed, empirical evidence suggests that the use of visiting nurse services is associated with lower health care costs and shorter stays in LTC hospitals (Kang and Kim, 2019). Furthermore, opening the market to migrant nurses can be considered. Some OECD countries have introduced policies that aim to facilitate the international recruitment of nurses. Japan, for instance, has promoted a Mutual Recognition Agreement providing automatic recognition of nursing qualifications. Between 2008 and 2016, around 1 100 nurses entered Japan as part of the agreement (Buchan et al., 2019). The United Kingdom has recruited nurses through agreements with countries that reported nurse surpluses. To facilitate the integration of migrant nurses, these countries often provide initial periods of supervised practice as well as language training, cultural orientation and social support (OECD, 2020d).

More systematic support for informal carers would also help improve the quality of care provided. Recent surveys indicate that, among those who received some LTC, 19% relied on formal care and 89% received some support from family members, mostly women (WHO, 2021). Given the growing demand for LTC and shortage of formal LTC workers, informal care provided by family members is likely to play an important role, at least in the short term. However, informal care reduces the probability of labour market participation and shortens careers in Korea, and thus has a negative impact on labour supply (Park and Ahn, 2019), future pensions and other benefit entitlements. Informal care can also affect carers' physical and mental health negatively, increasing the risk that they become patients themselves (Willemse et al., 2016; and Casado et al., 2011).

Measures should be put in place to address barriers that hinder labour force participation of informal carers. These include more flexible working time arrangements for informal carers so that they can provide care without giving up their jobs (WHO, 2019). Alternatively, granting time-limited paid or unpaid leaves of absence for carers can also be considered, as in Finland, possibly supplemented by pension credits. Furthermore, improving the skills of informal caregivers can improve the quality and efficiency of care. For this reason, many OECD countries have implemented policies to strengthen coordination of care provided by formal and informal long-term care workers (OECD, 2020d). In Australia, for instance, informal carers have access to shared care planning tools so that they share tasks. Also, many OECD countries introduced measures to treat informal caregivers as important care partners. Some countries, including Finland and Germany, give official recognition of the role of carers through legislation and provide a wide range of interventions, including information, counselling, training, and formalised assessments of their needs (WHO, 2019). In the Netherlands, the municipality can in some cases employ the carer, who receives training, salary, and social protection like formal staff. These interventions can contribute to enhancing the capacity of informal caregivers and reducing unnecessary rehospitalisation and institutional care.

Recommendations to strengthen the social safety net

FINDINGS (Main findings in bold)	RECOMMENDATIONS (Key recommendations in bold)
Working-age social safety net	
Around half the workforce in Korea has access to an unemployment benefit through employment insurance, mainly due to the low participation of the self-employed. Childbirth-related benefits are also linked to employment insurance.	**Include the self-employed in compulsory employment insurance, accompanied by more effective enforcement measures.**
Many poor working-age people do not receive means-tested social assistance, partly reflecting that the income criterion for Basic Livelihood Support falls short of the relative poverty threshold.	Further extend the Basic Livelihood Support benefit.
Korea's targeted unemployment assistance programme, which is coupled with labour market support, has positive employment outcomes, but the benefit level is relatively low.	Raise the unemployment assistance benefit level to incentivise participation and ensure participants who are able to work receive labour market support.
Social assistance recipients face weak work incentives, increasing risks they become trapped in benefit dependency and poverty.	Improve work incentives for Basic Livelihood Support recipients by slowing the rate of benefit tapering as earnings increase.
Employment insurance recipients face low work incentives when returning to low-wage work.	Reduce the Employment Insurance benefit floor.
The Earned Income Tax Credit is tightly targeted to the lowest income earners compared to similar schemes in other countries.	Consider phasing out the Earned Income Tax Credit at a higher level of earnings and at a slower rate.
Old-age social safety net: pension	
Elderly poverty is high. Korea's Basic Pension distributes limited resources very thinly to a large portion of the elderly. The government will set up a committee to review the pension system.	**Pursue a broad pension reform to secure adequate old-age income. In this context, conditional on the reform of the National Pension System, consider lowering the Basic Pension income threshold and increasing the benefit level to better target those with the highest needs.**
Most pensions are below the poverty line, mainly due to short contributory histories and relatively low replacement rates. The maximum age for contributions is 60 years, while the pensionable age is 62. The relatively slow increase of the pensionable age combined with a rapid increase of life expectancy will lead to a sharply increasing time in retirement.	**Raise the pension eligibility age further than currently legislated by 2035 and link it to life expectancy thereafter, and align the maximum contribution age to the pensionable age.**
Net pension replacement rates are relatively low and the contribution rate is among the lowest in the OECD.	Increase the National Pension System replacement rate and contribution rate to reduce elderly poverty.
Many workers are forced to retire early due to the seniority-based wage-setting mechanism.	Restrict forced retirement and introduce a flexible wage system based on performance, job content and skills requirements.
Career breaks lead to relatively bigger losses in pension entitlements. Korea needs more babies and fewer poor female pensioners.	Increase pension credits for periods of childcare and unemployment.
Most employees choose lump-sum severance payments instead of the alternative corporate pension, contributing to the incidence of low retirement incomes.	**Transition severance pay into individual pension accounts by capping and gradually reducing the amount available for early lump-sum withdrawals and limiting permitted causes.**
Health care	
Out-of-pocket health care spending is relatively high, despite the mandatory health care insurance with universal coverage.	Expand the range of medical services covered by health care insurance after careful and systematic assessment.
Too few poor elderly are eligible for health care benefits under the Basic Livelihood Support mainly due to the 'family obligation rule', a means test also taking into account the income of close family members.	Phase down the means test on extended family income (the family obligation rule) for health care benefits with due consideration of the additional fiscal burden.
Overreliance on hospital care and specialists hinders cost-efficiency in health care.	Replace pay-for-service with a pay-for-performance scheme for health services.
The gatekeeper role of primary care is hampered by an insufficient number of general practitioners and the remuneration arrangements.	Increase the number of places in medical schools and reinforce general practitioners' gatekeeper function in authorising specialist referrals and hospitalisation.
Long-term care	
Many recipients of long-term care (LTC) are unnecessarily hospitalised, reflecting financial incentives for both users and suppliers, lower quality of LTC institutions, and lack of coordination among LTC providers.	**Harmonise long-term care insurance and health care insurance reimbursement schemes.**
The provision of LTC services is fragmented between the health and social care sectors, creating inefficiencies and reduced care.	Construct an integrated long-term care model, as planned, with greater specialisation and a referral system among long-term care providers.
There are many low-quality LTC providers, partly due to the lack of a reliable quality assessment system.	Improve the quality of long-term care, notably by developing reliable outcome-based indicators.
Home and community-based long-term care are underdeveloped, reflecting low financial and human resources.	Improve funding for and quality of home and community-based care and increase the financial attractiveness of the homecare nurse profession.

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3 Policies to increase youth employment in Korea

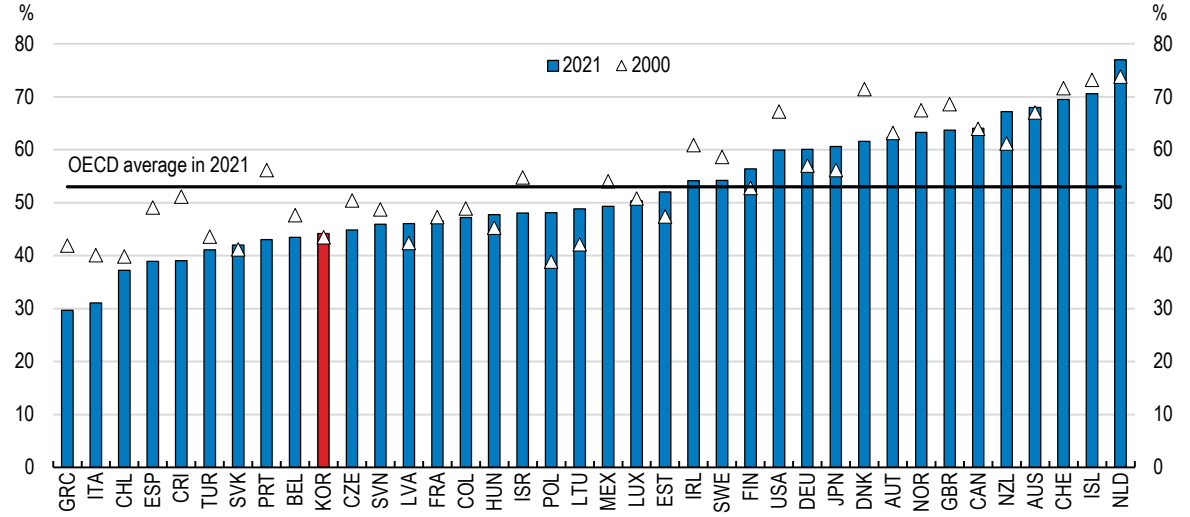
Randall S. Jones, Non-resident distinguished fellow at the Korea Economic Institute

Korea's low youth employment rate has negative consequences for the young people concerned and the economy as a whole. Raising youth employment is a priority, particularly as Korea faces the most rapid population ageing among OECD countries. Low youth employment is due to a mismatch between education and the labour market, reflecting a large skill gap between highly-educated youth who race for credentials to secure attractive careers and older workers retiring from jobs that require less human capital. The share of university graduates among young Koreans is the highest in the OECD, but their employment rate is relatively low even as small firms confront serious labour shortages. Dualism in the labour market (between regular and non-regular workers) and the product market (between small and large firms) encourages young people to queue for jobs in large firms and the public sector to avoid low-wage precarious jobs. Raising the youth employment rate requires breaking down dualism while reforming the education system. Vocational education in secondary schools, which has shrunk while becoming another route to tertiary education, should be improved to make it a direct path to employment. Expanding the approach of Meister schools and the work-learning dual programme would help in that regard. Tertiary education should become more flexible and responsive to the demands of employers. Active labour market policies should focus less on direct job creation and more on job placement and training.

Korean youth face many challenges: intense competition to enter good universities in a society that prioritises education; the high cost of tertiary education, as 77% of students attend private universities; and the lack of affordable housing in the Seoul metropolitan area, where about half of the country's population lives. An increasing number of young people (the so-called "sampo generation") have delayed or given up marriage and having children, as reflected in the drop in the fertility rate to below one. The polarisation of the Korean economy between regular and non-regular jobs and the large wage and productivity gaps between large companies and small and medium-sized enterprises (SMEs) and between manufacturing and services strengthens incentives for higher education. However, despite high educational attainment, the employment rate for youth (the 15-29 age group unless otherwise specified) is well below the OECD average (Figure 3.1). Moreover, the rate of inactivity is high, particularly among university graduates, reflecting a lack of suitable jobs for those with higher education. Meanwhile, around 40% of SMEs face labour shortages (OECD, 2019).

Figure 3.1. Korea's youth employment rate is below the OECD average

The 15-29 age group



Note: The percentage of employed persons in the 15-29 age group. The OECD average is weighted.
Source: LFS by sex and age, OECD.Stat, accessed 17 June 2022.

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The mismatch between education and the labour market imposes considerable private and social costs. Successful engagement in the labour market is crucial not only for young people's economic prospects and well-being, but also for the Korean economy and social cohesion. Youth unemployment and inactivity have a long-term scarring effect that reduces employment rates later in life and increases the chance of becoming non-regular workers with low wages, with negative effects on health and life satisfaction (Nam and Kim, 2013). The strong link between wages and tenure increases the opportunity cost, even for those who do obtain a regular job after a period of inactivity. A recent study found that vocational secondary education followed by direct entry into the labour market yields better employment status and wages than higher education, once family and individual characteristics are taken into account (Choi, 2021). Low youth employment also slows output growth and boosts fiscal costs. Over the longer term, the loss of skills during periods of inactivity reduces economy-wide productivity and potential growth (IMF, 2018). Low youth employment has also contributed to the decline in Korea's fertility rate, one of the lowest in the world at 0.83 children per woman in 2020, with severe demographic consequences. Indeed, the working-age population has been declining since 2017.

This chapter begins with an overview of trends in Korea's youth employment by age group and sex during 2000-20 in comparison to other OECD countries. The second section discusses recent government initiatives to address the problems facing youth. The mismatch between young people's educational

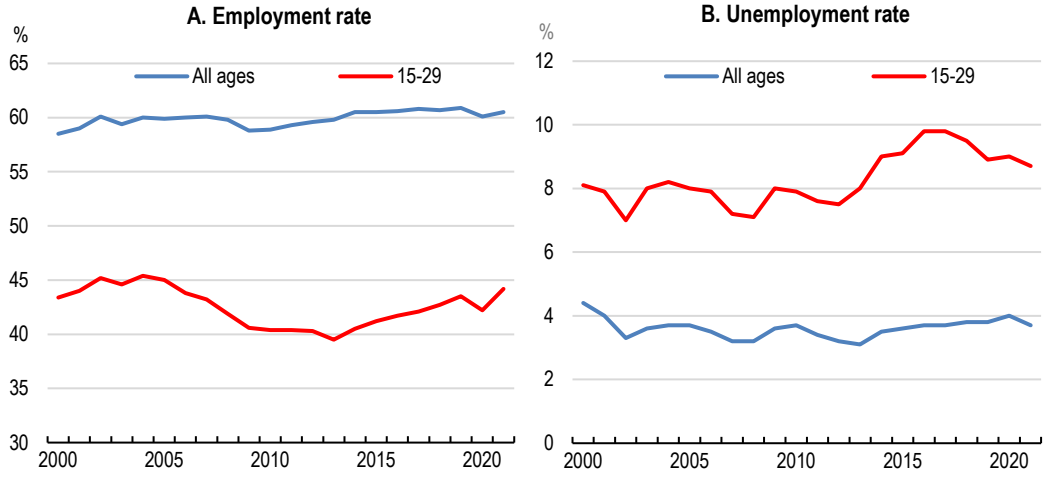
aspirations and the labour market and reforms to education are analysed in the third section. The following sections discuss the factors underlying the mismatch, namely labour market dualism and the polarisation between large and small companies. Box 3.1 summarises recommendations to boost youth employment.

Trends in youth employment and comparison to other OECD countries

Youth employment trends in Korea differ between men and women

The number of young people employed has fallen 21% since 2000, tracking the decline in Korea's youth population. The youth employment rate decreased gradually during 2004-13, in part due to the 2008 Global Financial Crisis (Figure 3.2, Panel A). Although it rebounded from 2013 until the outbreak of the COVD-19 pandemic, Korea's youth employment rate of 44.2% in 2021 was still nearly 9 percentage points below the OECD average (Figure 3.1). This stems from the large share of youth in education and the relatively low share of students who work, which has been stable at around 12% since 2007. In contrast, one in four students in OECD countries were employed (OECD, 2019). During the past decade, the youth unemployment rate has been 2.5 times higher on average than the rate for the total population, although it fell to 7.8% in 2021 (Figure 3.2, Panel B) compared to the 12% OECD average. The combination of low rates for employment and unemployment reflects the fact that Korea's youth labour force participation rate (46.4% in 2020) was well below the OECD average (58.0%).

Figure 3.2. Employment trends in Korea during the past two decades



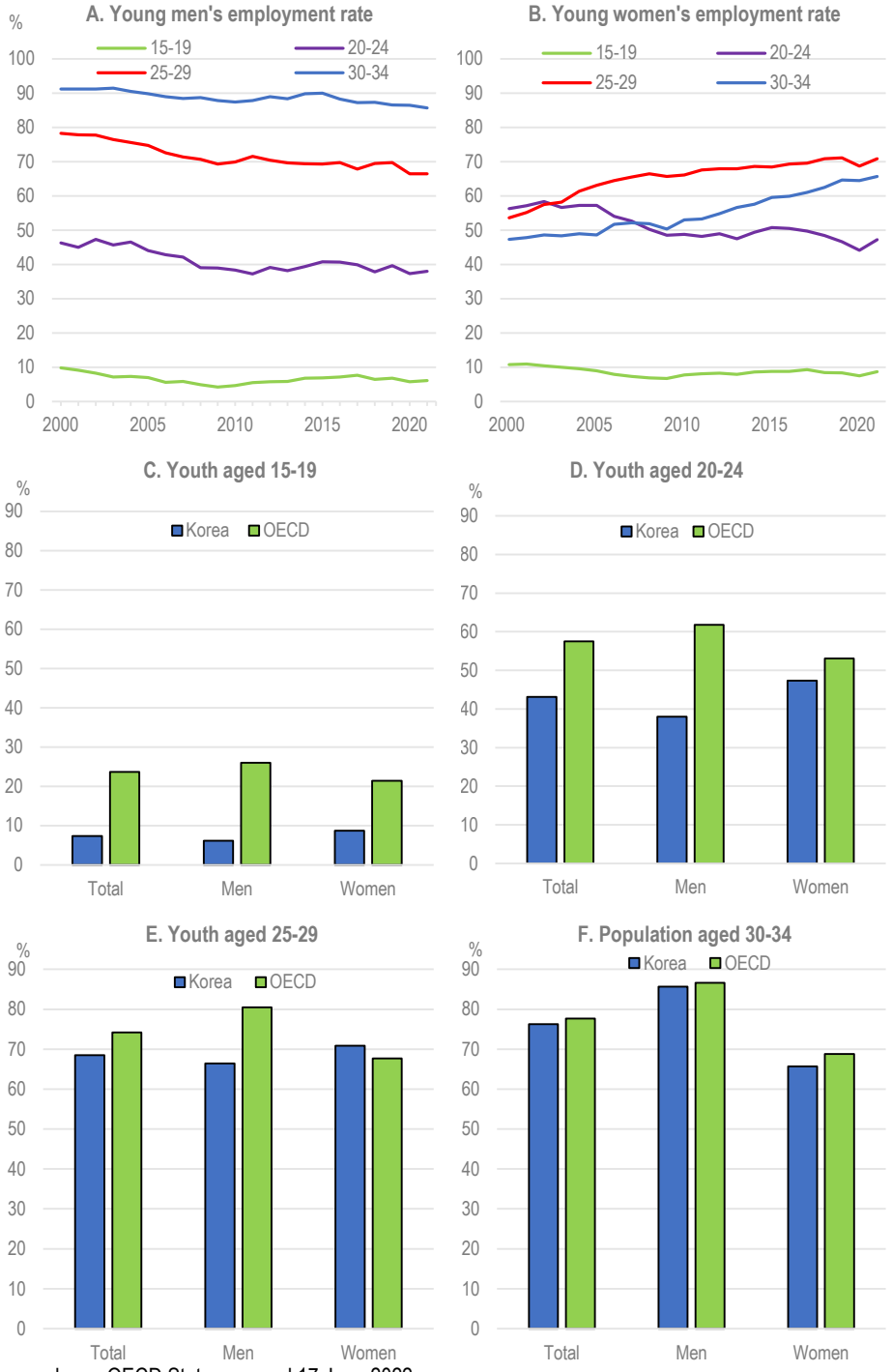
Source: Statistics Korea.

StatLink https://stat.link/chipat

The decline in the male employment rate for the 25-29 and 30-34 age groups and for both men and women in the 20-24 age group are particularly problematic (Figure 3.3, Panels A and B):

- The lower employment rate in Korea for the 15-19 age cohort accounts for more than two-fifths of the 8.8 percentage-point gap with the OECD average (Panel C). However, this is not a concern, as it reflects the higher enrolment rate in upper secondary and tertiary education in Korea. The employment rate has been relatively stable at less than 10% since 2004 for both men and women.
- The gap between Korea and the OECD average employment rate for the 20-24 age cohort increased from 8.2 percentage points in 2000 to 14.4 points in 2021 (Panel D), as the employment rates for Korean men and women both fell by between eight and nine percentage points. This is a concern, as the decline is not explained by enrolment in higher education. The share of high school graduates who advanced to college or university has edged down from its 2005 peak.

Figure 3.3. Youth employment rates in Korea were below the OECD average in 2021



Source: LFS by sex and age, OECD.Stat, accessed 17 June 2022.

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- Korea's employment rate for the 25-29 age group has edged up towards the OECD average, as a 17 percentage-point increase for women over 2000-21 more than offset a double-digit decline for men (Panel E). Indeed, the employment rate for women in Korea exceeds that of men for each of the five-year age cohorts from 15 to 29. This employment increase reflects delayed marriage and childbirth, as many Korean women withdraw from the labour force at the time of marriage or childbirth. The median age of first marriage for Korean women has risen by nearly four years, from

26.5 years in 2000 to 30.8 years in 2021, while the mean age at which mothers give birth to their first child reached 32.6 years in 2017, the highest among OECD countries.

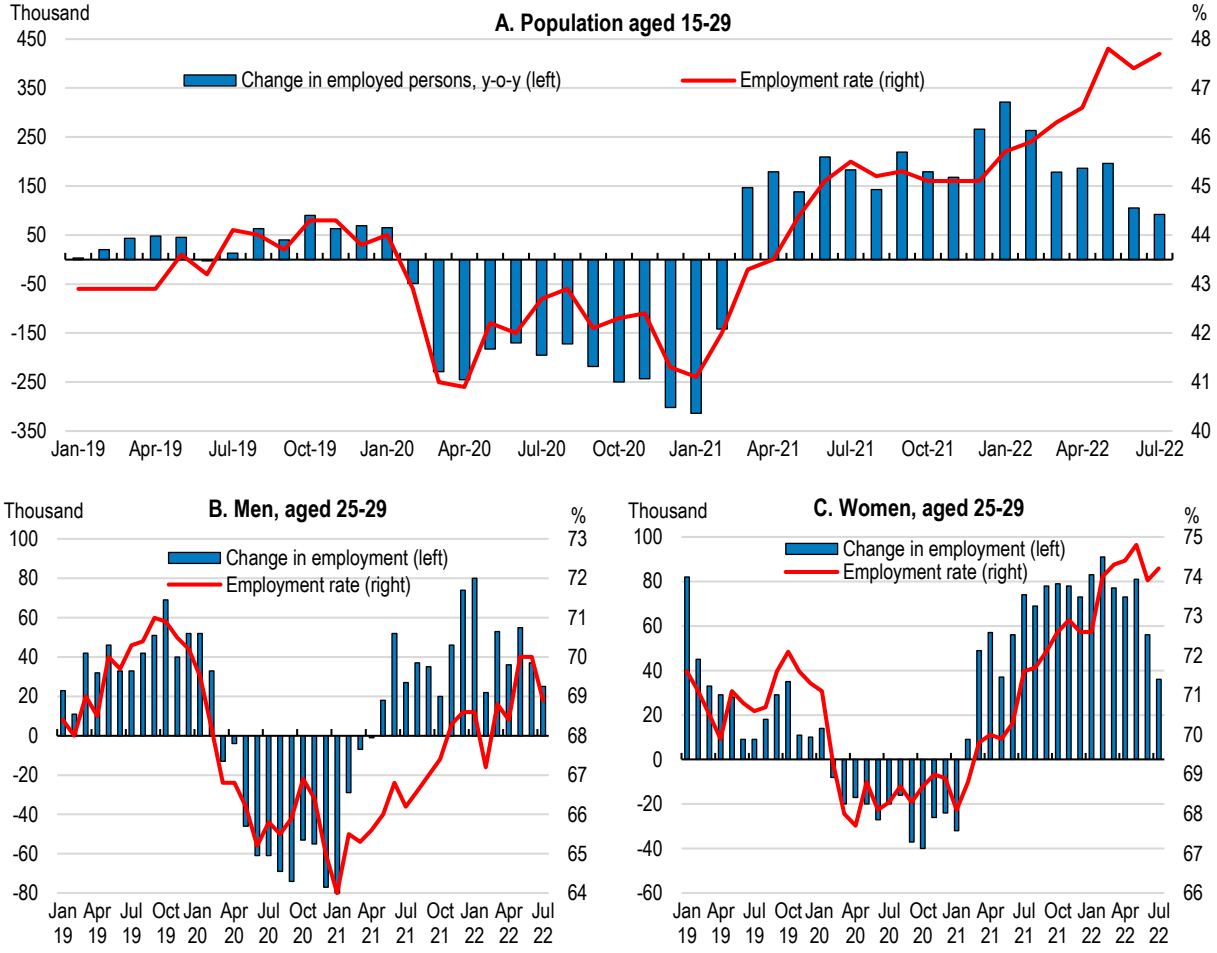
- An 18 percentage-point rise in the female employment rate in the 30-34 age group (which is included in the definition of youth in the 2020 Youth Framework Act) more than offset a decline in the rate for men over 2000-21 and brought this group close to the OECD average (Panel F).

Youth employment was affected by the COVID-19 pandemic

The youth employment rate is more sensitive to economic shocks than that of persons aged 30 and above. Young people are more likely to be dismissed during a downturn as they have had less time to accumulate firm-specific skills (World Bank, 2012). Moreover, more than 40% of youth in Korea are non-regular workers and thus have less employment protection (see below). Nevertheless, real GDP growth only explained about 20% of the variation in Korea's youth unemployment rate before the pandemic, which is a low share compared to other OECD countries (IMF, 2018).

However, the COVID-19 pandemic led to considerable volatility, as companies reduced new hires and cut employment in the service industry, where many young people work. The youth employment rate fell by 1.3 percentage points in 2020, a drop twice as large as for the population aged 30 and older (Figure 3.4, Panel A). It rebounded to its highest level since 2005 with the economic recovery in 2021.

Figure 3.4. The COVID-19 pandemic had a significant impact on youth employment



Source: Statistics Korea.

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The pandemic affected gender and age groups differently. In particular, while the employment rate for women in the 25-29 age cohort increased by 2.1 percentage points in 2021, the rate for men was unchanged (Panels B and C). However, the larger increase for women was accompanied by a rising share of temporary jobs, which provide less employment security and lower wages (see below). Indeed, the share of employed young women (aged 15-29) working in non-regular jobs (part-time, fixed-term and atypical employees) in August 2021 was 3.7 percentage points higher than a year earlier, compared to a 0.4 percentage-point increase for men (see below). Consequently, the share of youth who were non-regular workers jumped from 39.9% in 2020 to 42.1% in 2021 (Statistics Korea, 2021).

Government policies to improve life for youth

Past government initiatives

The government has focused extensively on youth employment during the past two decades. Each administration introduced policies, such as Comprehensive Measures for Youth Unemployment (2003), Project to Construct Tomorrow for Young People (2010), Comprehensive Measures to Remove Youth Employment Barriers (2015) and Measures for Youth Employment (2018). However, the president of the government's Korea Labour Institute stated that "there are over 200 job policies in place under different central Ministries and local authorities, using up an enormous budget, without providing employment or income solutions that are actually felt by young people". The goal should be to "reduce the redundancy and inefficiency in the youth employment policies that are instituted in a haphazard fashion" (S. Kim, 2017).

The government has implemented educational reforms to reduce mismatch, for example by expanding public funding for career guidance in secondary schools. The government, industry and educational institutions have developed National Competency Standards (NCS). The NCS, which define the knowledge, skills and attitude required to perform a job, have been incorporated into vocational high school curricula since 2018. As of February 2022, 1 064 NCS have been developed and they are annually updated to respond to demand from the labour market. The government introduced Meister high schools in 2010, which follow the German model of combining education and work experience in order to improve vocational education at the secondary level. Their curriculum is developed jointly with industry representatives, and internships are mandatory. Today, 52 Meister schools have been established and their graduates have achieved employment rates of more than 90% for five consecutive years (Yu et al., 2020). Only about one-third of graduates of regular vocational high schools enter the job market, while the remainder enrol in tertiary education. In addition, the 2013 Work-Study Dual Programme and the 2018 Work First-Study Later scheme have allowed students to combine study with internships. These initiatives are welcome, though relatively small in scale, as only 3% of all high school students attend a Meister school or participate in an apprenticeship programme, placing Korea at the bottom of OECD countries in this regard (OECD, 2019).

Government policies address labour demand and supply to reduce mismatch, including financial incentives to increase demand for young workers. In 2015, the government introduced a tax credit of KRW 5 million (USD 4 135) for SMEs for each young person hired as a permanent worker. In addition, SMEs receive 150% tax deductions for increases in wages paid to youth who are permanent employees. In 2017, an additional subsidy was introduced that pays KRW 20 million a year for up to three years to SMEs that hire three youth as regular workers. In 2022, this was replaced by a new programme that offers up to KRW 9.6 million for one year to SMEs who hire youth who have struggled to remain employed as regular workers. There is a risk that such policies encourage firms to replace older workers with younger workers, with limited effects on overall employment. Nevertheless, given that the subsidy programme requires that not only the number of young employees but also the total number of employees should increase in recipient SMEs, it can have positive effects on employment.

The 2018 Measures for Youth Employment marked a shift from indirect measures to policies that directly benefit youth, such as income tax exemptions, cash benefits and in-work benefits. The goal was to increase the supply of young workers by bringing the net earnings of SME employees closer to those of large

enterprise employees. The 2016 income tax exemption for young people employed at SMEs was expanded in 2018 by raising the exemption rate from 70% to 90%, the age limit from 29 to 34 years and the duration from three to five years. This resulted in more than a four-fold increase during 2018-21 in the amount of income exempted. The 2018 plan also introduced transport cards for young people working at SMEs and expanded a mutual savings plan in which SMEs and the government help young employees build up savings.

In 2019, the Earned Income Tax Credit (EITC), an in-work benefit introduced in 2008, was extended to workers under 30 without a spouse and dependent child. Consequently, the number of recipients in their 20s soared 40-fold from 30 000 in 2017 to 1.24 million in 2019. The benefit for a single person is relatively generous at 4.2% of average income, which may encourage more young people to accept low-paying jobs (OECD, 2019). However, tapering rules for employment insurance and Basic Livelihood Support benefits may erode work incentives (Chapter 2). Total outlays more than tripled during 2017-19 to KRW 4.5 trillion (0.2% of GDP). One study found that the 2019 expansion of coverage had a positive effect on the employment and working hours of single households (Kim and Kim, 2020).

The government also uses quotas to raise youth employment. Since 2014, the government has required that unemployed youth account for 3% of hiring by public entities and local public enterprises. There are discussions about raising the quota to 5%. As with other policies, quotas may encourage firms to replace older workers with younger workers, limiting overall employment effects. Youth entrepreneurship has also been promoted through the Young Entrepreneurs Start-up Academy, the Youth Development Fund, and the provision of seed money for youth enterprises.

During the past few years, Korea has shifted from short-term policies to help young people to a long-term strategy based on a comprehensive, whole-of-government approach. Policies implemented at the ministry level have been overseen by the Office for Government Policy Coordination (OGPC) since 2019 to ensure a more integrated approach. A key step was the 2020 Youth Framework Act, which laid the foundation for youth policy and set out central and local government responsibilities in implementing that policy. In addition, the government placed greater priority on incorporating the views of young people. The first point in its “1+4” approach was to “build governance through youth engagement”. To this end, a Youth Policy Coordination Committee, chaired by the Prime Minister and supported by a secretariat in the OGPC, was created. The 40-person Committee, which includes more than 10 young people, produced the “How to Improve Young People’s Lives” plans in 2020. The OGPC received 880 policy proposals through the meetings with young people (OGPC, 2020c).

Another notable development has been the shift from the job-oriented focus of past youth policies to a broader approach. The Five-Year Basic Plan was presented as “the first comprehensive plan that goes beyond job-driven youth policy and spans the entire life of young people” (OGPC, 2020a). In the 1+4 approach, the four points included living support, housing and education in addition to employment. “How to Improve Young People’s Lives” noted, for example, that a higher proportion of young people live in housing rated below the minimum residential standard compared to households of all age groups (OGPC, 2020b).

The policy measures in the first and second plans on How to Improve Young People’s Lives were included in the Five-Year Basic Plan for 2021-25. The Basic Plan contained a total of 270 measures. In addition, the August 2021 “Comprehensive Measures for Youth” included 87 measures to alleviate the adverse impact of COVID-19 on young people and narrow economic and social gaps within the young generation.

In sum, recent governments have introduced a wide range of policies to promote youth employment, including expanding the EITC, employment subsidies, tax benefits, hiring quotas, asset building programmes, housing and transport subsidies, etc. According to a study by a government research institute, it is very challenging to estimate the impact of a specific programme given the synergic effects of the wide range of policies, which influence both economic activities and non-economic activities (such as

marriage decisions). It is important to improve the effectiveness of existing programmes rather than continue creating new ones (Kim et al., 2020).

The youth employment policies of the new government

One of the promises made by Korea's new president, Yoon Suk-yeol, is to "build a bridge of hope to support young people's dreams" by achieving three objectives: i) custom support tailored to youth's housing, job, and learning needs; ii) fair opportunities for youth; and iii) creating greater opportunities for youth's participation and inclusion in policymaking (Table 3.1). The key objective is to give young people hope for the future, in part by addressing unfair practices and eradicating corruption in recruitment and hiring. In addition, the measures aim to expand opportunities for young people to participate in government. Increased employment of young people, combined with housing policy measures, is expected to promote asset accumulation for persons in their 20s and 30s, in part through home ownership and by reducing the burden of tuition.

Table 3.1. The new government's plan to help young people

Objectives	Key details
Custom support tailored to youth's housing, job and learning needs	
Restore a bridge to homeownership for younger generations through greater opportunities for them to own their home	• Expand youth's access to homeownership by providing 500 thousand units of sell-at-cost or other affordable housing for young, newlywed, and first-time homebuyers. • Ease the loan-to-value ratio on housing loans cap from the current 60%-70% to 80% for young people and first-time homebuyers. • Better reflect young people's future income prospects when calculating their debt service ratio.
Create job opportunities through greater youth-specific employment and entrepreneurship support	• Provide custom employment and career planning and consulting early on for young people still in education by creating new youth-specific employment support services. • Offer quality work experience opportunities through public-private cooperation, such as various work experience programmes and business-led programmes for local youth. • Nurture future entrepreneurs from an early age and develop a package of support measures to encourage youth's bold entrepreneurial initiatives and the growth of their enterprises.
Cultivate new tech talents and expand learning opportunities for youth	• Expand the cross-ministry talent cultivation programme that offers educational curricula specialised in new technologies and provide support for research activities to discover and develop top talents earlier. • Expand the number of universities that accept credit for learning acquired during military service. • Reduce the financial burden of education costs, including tuition, by improving the quality of state scholarship programmes and expanding loans for student loan repayment during employment.
Fair opportunities for youth to make a leap	
Bolster systematic support to ensure fair opportunities for younger generations	• Disseminate a culture of fairness by eradicating unfair recruitment and hiring. • Remove the unfair special advantages available in the national licensing examination system. • Root out corruption in public-sector recruitment and employment via ongoing monitoring and inspection, reporting, and self-initiated investigation as well as training and consulting through the 'Integrated Recruitment and Employment Corruption Report Centre'. • Expand one-stop remedy support to help young part-time workers experiencing an infringement of their rights at work. • Bolster public campaigns and awareness programmes to better monitor unfair practices and spread a culture of fairness in recruitment and hiring.
Provide asset-building support for young people experiencing difficulties building financial independence during their transition into the job market	• Launch Youth's Leap Savings Account (tentative title), a matching savings programme in which the government complements youth savings deposits. • Offer tax incentives for interest and dividend income from the savings programme. • Overhaul the vulnerable youth identification and support system. • Motivate young people who abandoned their job search, monitor the status of vulnerable young people (young people in transition to independent living, providing care for family members, or who are socially isolated and establish and expand custom support measures).
Create a larger platform for youth's participation and inclusion	
Expand the range of opportunities for young people to participate in policy development, establish a system to implement comprehensive youth policies, and overhaul the related social infrastructure	• Stimulate young people's economic activities by eliminating unreasonable legal hurdles against them and support their transition to early financial independence. • Revitalise the channels for reflecting youth's opinions in public administration and push for greater inclusion of youth and young advisors in central government committees (which total 190).

	• Improve an online and offline youth support system to provide a package of youth policy information, enable interactive communication, and promote youth activities. • Develop and support businesses that meet the needs of youth through collaboration between a central government department or agency and local governments and youth organisations. • Seek measures to raise funds for proactive and flexible responses to youth issues and consider establishing a research centre dedicated to developing the grounds for evidence-based policies.
Stimulate young people's economic activities by eliminating unreasonable legal hurdles against them and support their transition to early financial independence	• Improve licensing systems that are unfair to young people who are working while studying or enrolling in education after getting a job or that are blocking young people from achieving financial independence at an early stage.

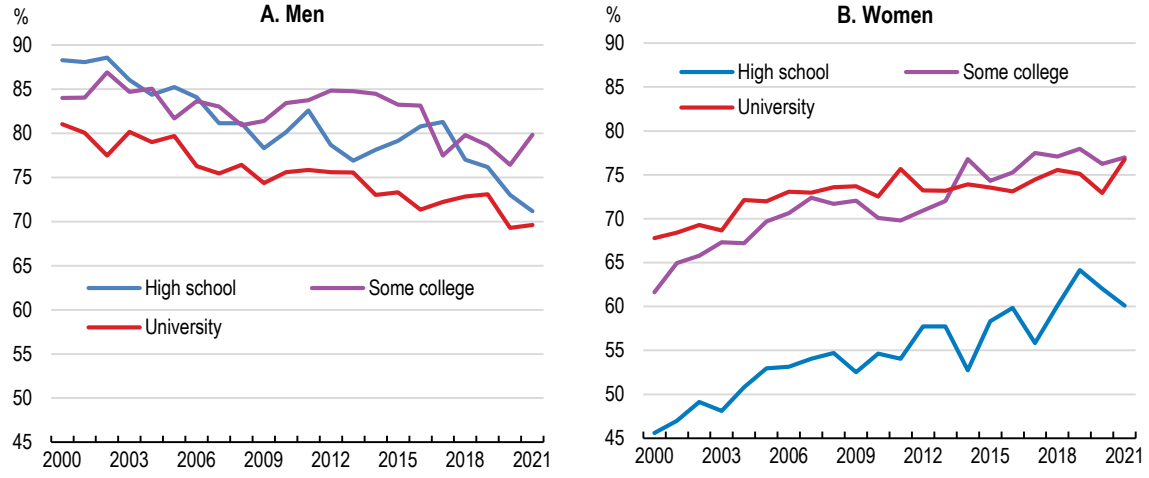
Source: Office for Government Policy Cooperation.

A race for educational credentials creates labour market mismatch

The employment rate for male high school graduates in the 25-29 age cohort fell from 88% in 2000 to 71% in 2021 (Figure 3.5, Panel A). The decline suggests that vocational education at the secondary level has become less effective in preparing students for the job market. This might be due in part to technological changes in Korea's increasingly knowledge-intensive economy. In addition, the employment rate for male university graduates in that age cohort dropped below 70%, reflecting several factors. First, the increase in new jobs requiring a university education has fallen behind the growth in the number of graduates. Second, lower-ranked universities expanded their enrolment, as the emphasis on higher education pushes students to attend even universities with low employment rates for graduates.

Figure 3.5. Employment rates by education level

Percentage of the 25-29 age group



Note: As a share of the population that has graduated (those still in school are excluded). High school refers to high school graduates or less. "Some college" is those with less than four years. University refers to graduates of four or five-year universities and graduate work.
Source: Calculations by Kyungsoo Choi from Statistics Korea, the Economically Active Population Survey, micro datasets.

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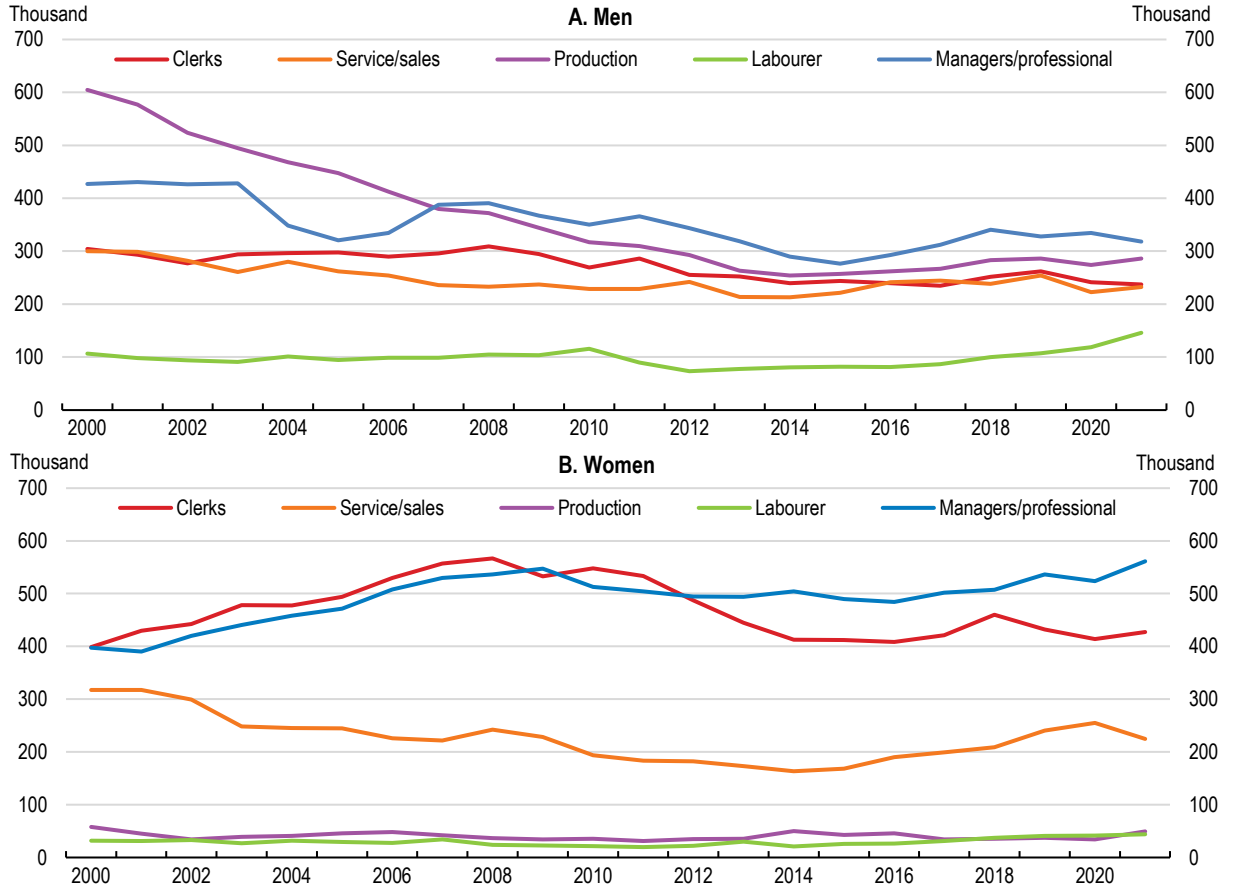
In contrast to men, the employment rate for women in the 25-29 age cohort has trended up for all levels of education (Figure 3.5, Panel B). As noted above, the trend toward later marriage and childbirth has more than offset the factors driving down male employment. In addition, structural changes have contributed to the divergent trends. The number of men (aged 25-29) working in production jobs – traditionally a major source of employment for young men but less important for women – more than halved from around 600 thousand in 2000 to less than 300 thousand in 2021 (Figure 3.6, Panel A). Meanwhile, young women's share of managerial and professional jobs jumped from 48% to 64%, driven by women's higher rate of university education. The gender gap in university graduation rates for those aged 25-29 increased from

approximately zero in 2012 to nine percentage points in 2021 in favour of women (Figure 3.7). However, this early career advantage for women is short-lived: the share of women who are non-regular workers is much higher than for men for those aged 30 and above (see below) and the share of managers in Korea who are women is the lowest among OECD countries.

Figure 3.6. Technological change is reducing the number of production jobs

Employment for those aged 25-29 by occupation



Note: Korea Standard Occupation Classification, revisions 5, 6 and 7.

Source: Calculations by Kyungsoo Choi from Statistics Korea, the Economically Active Population Survey, micro datasets.

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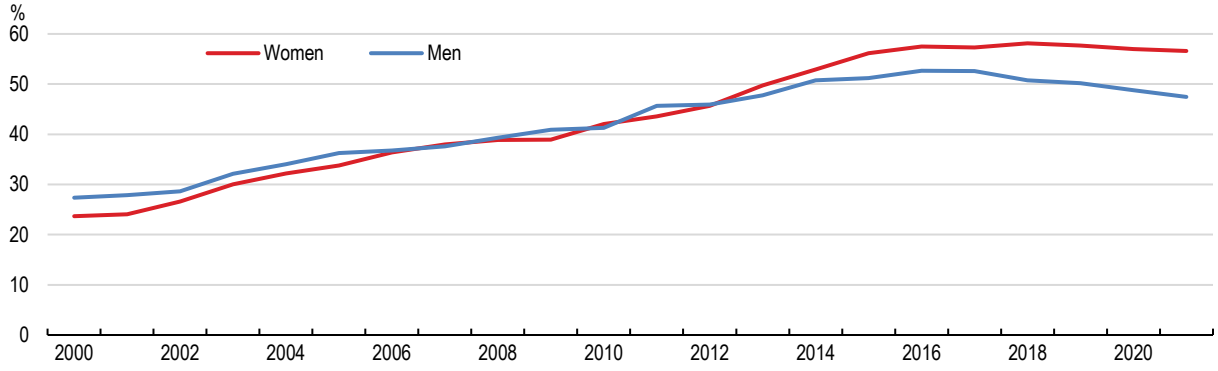
Figure 3.7. The share of women (aged 25-29) with a university degree is higher than for men



Source: Calculations by Kyungsoo Choi from Statistics Korea, the Economically Active Population Survey, micro datasets.

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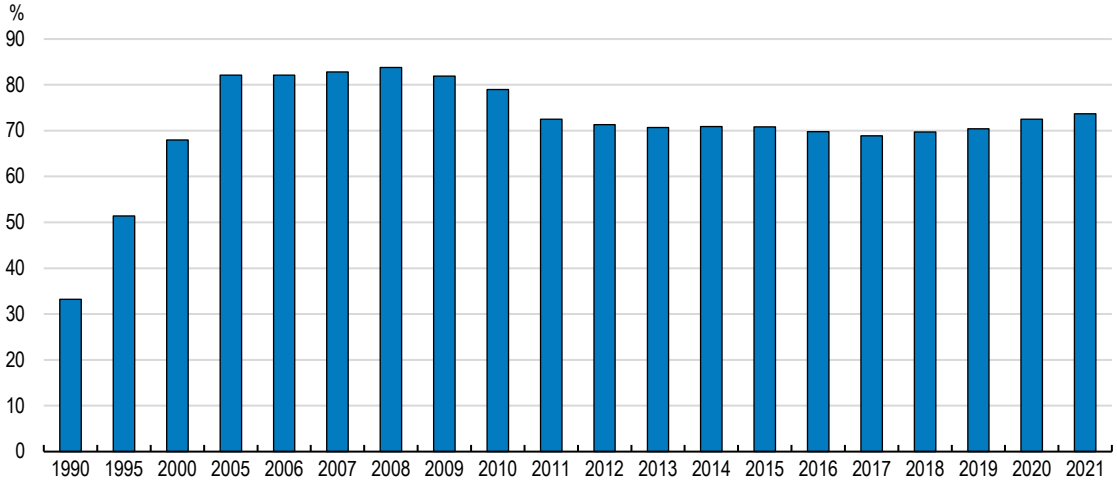
The focus on higher education and the decline in vocational education

The low rate of youth employment in Korea is primarily due to a mismatch between skills acquired in education and skills demanded by employers. Korea is known worldwide for its emphasis on education, which has played a major role in its economic development. In recent decades, a university degree has become the minimum academic achievement for a majority. More than 80% of teenagers plan to obtain at least a four-year university degree and 90% of parents share that ambition (Jones, 2013). Indeed, nearly three-quarters of high school graduates advanced to college or university in 2021 (Figure 3.8), and the proportion of the 25-34 age group with tertiary education is the highest in the OECD (Figure 3.9). In contrast, the share of older persons (aged 55-64) with tertiary education is below the OECD average, leaving Korea with one of the largest skill gaps between youth and older generations in the OECD (OECD, 2020a). Consequently, the jobs vacated by retiring older workers tend to poorly match the skills of more educated young people, even though technological progress is boosting skill requirements over time. The mismatch between the aspirations of young people and the jobs available is a serious impediment to youth employment.

Figure 3.8. Nearly three-quarters of high school graduates advance to tertiary education



Source: Statistics Korea, *Social Indicators*.

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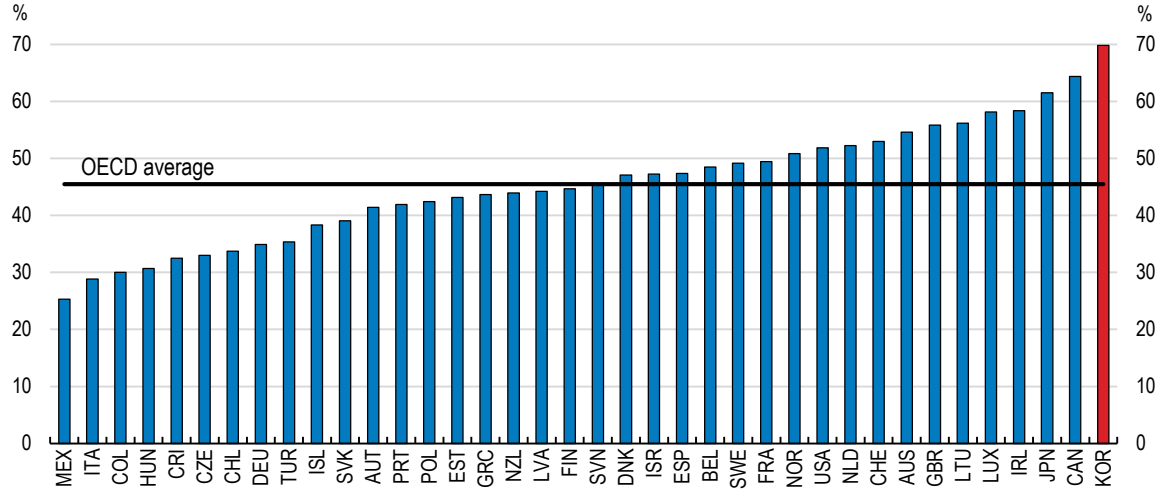
Korea faces an "education bubble" according to a former Minister of Education (Lee et al., 2014). Korea's extraordinary zeal for education has strengthened credentialism – a reliance on academic qualifications as the best measure of an individual's intelligence or ability to perform a particular job. Credentialism has led to "education inflation", which requires job candidates to obtain higher degrees for positions that formerly had lower requirements. This trend is in part reflected in the declining share of students in two-year colleges, traditionally significant providers of vocational education, and a larger share in four-year universities. For example, a two-year college degree in cosmetology faces competition from a four-year university (bachelor) degree in cosmetology (OECD, 2019). Education inflation has undermined the value of work experience and diplomas from all but the most prestigious universities (Choi, 2021).

One negative consequence of credentialism is that economic and social status is closely linked to one's educational achievements and the prestige of the university attended (Jones, 2013). Such a link reduces social mobility, as educational achievements depend increasingly on the socio-economic status of the parents. Indeed, the admission rate to Seoul National University, Korea's most prestigious university, for high school students in Seoul is nearly double the national average. Moreover, among its students from Seoul, the share who attended one of the 15 special-purpose high schools rose from 23% in 2002 to 41% in 2011. These high schools use their own admission procedures and predominantly accept students from

high-income families. About half of their students in 2011 were from households with a monthly income of more than KRW 5 million (about one-third above the national average). In contrast, 58% of students at vocational high schools were from households with a monthly income of less than KRW 2 million (about half of the national average) (H. Kim, 2015). Already in a 2011 survey of teachers, professors and researchers, 68% disagreed that "admission into a prestigious school can be granted based on personal skills and hard work, regardless of the family's economic status". Of those in their 20s and 30s, 83% disagreed with that statement (Ryu, 2011). In sum, admission to a prestigious university depends to an increasing degree on access to outstanding high schools and *hagwons* (private tutoring institutions), which are expensive.

Figure 3.9. The share of tertiary graduates among young Koreans is the highest in the OECD

Percentage of the 25-34 age group



Source: OECD (2021a), Education at a Glance.

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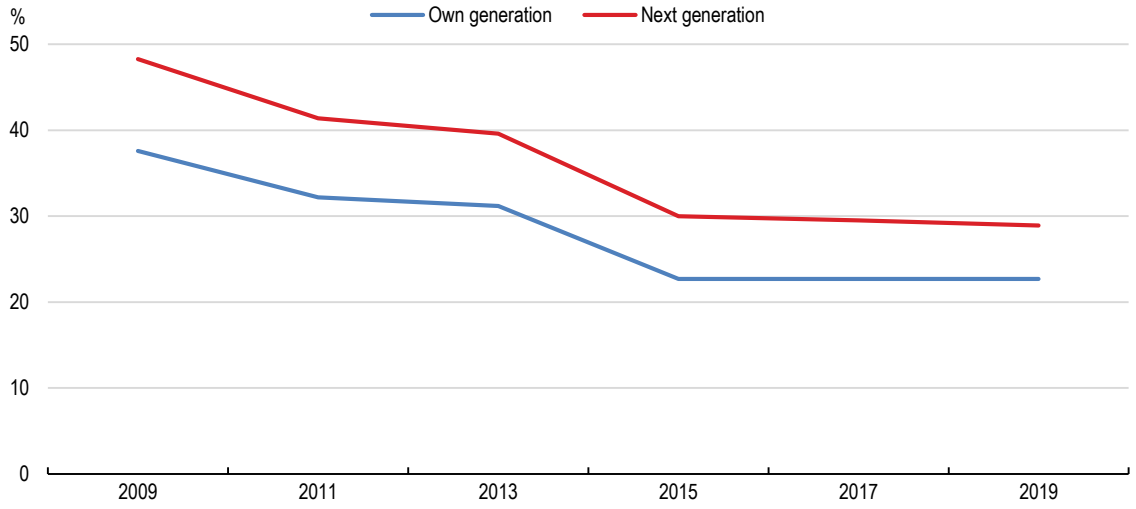
The wide education gap between different income categories is making education a means for intergenerational transfer of social status, in contrast to Korea's high-growth era when the expansion of primary and secondary schools promoted social mobility (H. Kim, 2009). A biennial government survey found that the share of the population that believes that the possibility of social mobility is high has declined (Figure 3.10). The reduced hope for upward mobility weakens faith in the rewards for individual efforts. According to a survey (Kim, 2015), 76% of those in their 60s believe that hard work – rather than personal connections or luck – is the key to success. That view was shared by only 51% of those in their 20s, a low score compared to similar surveys in China, Japan and the United States.

The emphasis on tertiary education as the key to success has diminished the role of secondary vocational education and training, which is crucial. Such schools have played an important role in Korea's economic development by providing useful skills to students that enabled them to enter the labour market directly after graduation. In 1995, nearly 40% of high school students attended vocational high schools and only 19% of their graduates entered tertiary education. Students aiming for higher education usually attended general high schools instead. However, with the rapid expansion of tertiary education, the share of high school students in vocational high schools fell to only 18% by 2021, well below the 44% OECD average. The government has responded to diminishing demand by converting some vocational high schools to general high schools and promoting the specialisation of vocational high schools to promote the employment of their graduates (OECD, 2019). Thanks to a policy designed to promote the employment of vocational high school graduates, their employment rate doubled from 26% in 2011 to 52% in 2017, but it fell to 29% in 2021 (Figure 3.11). However, the share of vocational high school graduates not employed or enrolled in higher education doubled from 13% to 26% over 2011-21. Participation in higher education

does not ensure higher wages and quality employment and can lead to lower youth employment. As noted above, a recent study found that students who advance directly from vocational secondary education to the labour market have more favourable outcomes on average (Choi, 2021), suggesting that too much emphasis is placed on university education.

Figure 3.10. Reduced hopes of upward social mobility



Note: Answers to a government survey that asked if individuals see a high possibility of social mobility for their own generation and the following generation.
Source: Statistics Korea, 2019 Social Survey.

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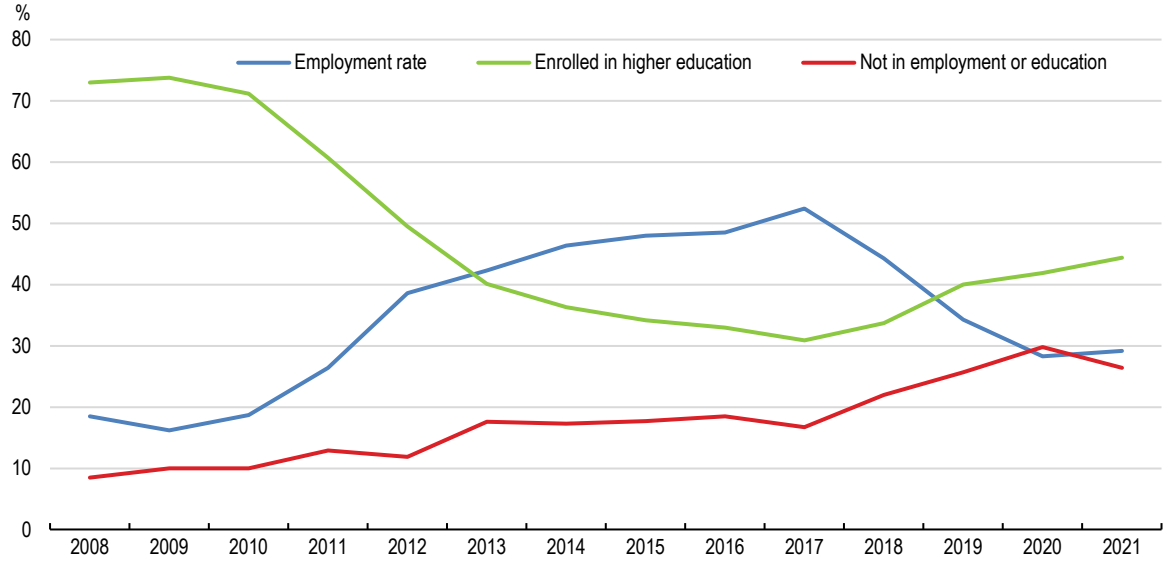
Figure 3.11. Career status after graduation from vocational high school



Source: J. Ahn and S. Kim (2022), "The Career Trends of Vocational High School Graduates and the Relationship with Economic Indicators", *KRIVET Issue Brief,* No.236, Korea Research Institute for Vocational Education and Training, Sejong (in Korean).

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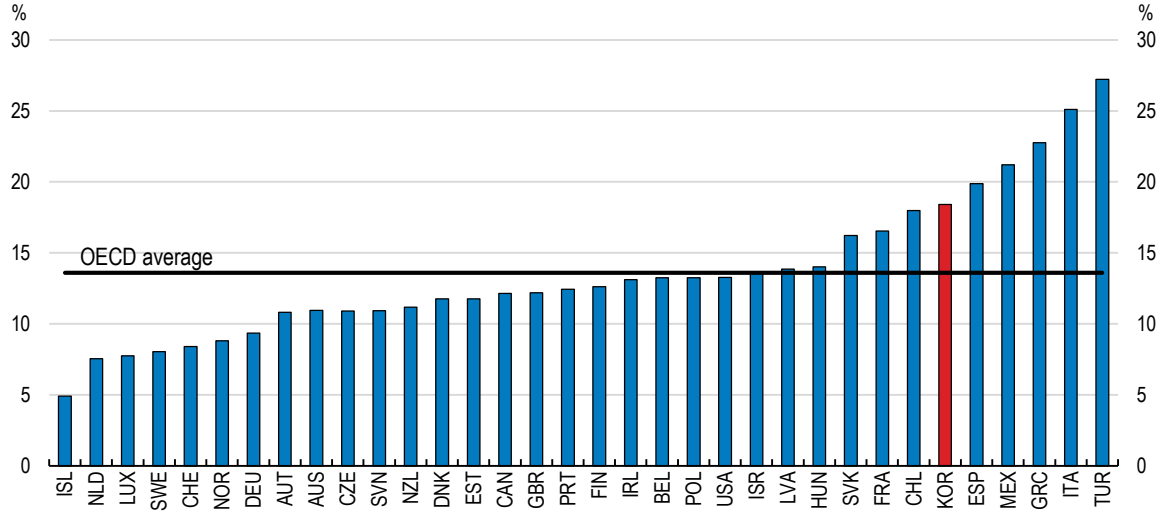
Skill mismatch helps explain youth's low labour market participation

The mismatch between the skills learned in education and those demanded by employers contributes to the high proportion of youth not in the labour market. The share of youth aged 15 to 29 who are neither employed, nor engaged in formal education or training (the so-called NEETs) was 18.4% in 2017, the sixth highest among OECD countries according to the OECD definition (Figure 3.12). The NEET rate is exceptionally high among college and university graduates; 45% of NEETs in Korea have a tertiary degree compared to 18% in the OECD area (OECD, 2019). In contrast, the share of NEETs is relatively low for youth with vocational education and training (Yoo, 2019). The share of NEETs in the 25-29 age group has risen significantly for men since 2000, but has been offset by the falling share for women as their employment rate rose significantly (Figure 3.13). By 2021, the NEET rate had converged at 21% for both men and women.

Education mismatches are driven in part by expectations mismatches. Young people who fail in their initial efforts to find a job often seek to improve their employment chances by pursuing additional education both formally and informally, such as foreign language classes, rather than accepting a job below their expectations. A 2017 government survey found that 17% of NEETs were preparing for company entrance exams, 6% were preparing for university entrance exams and 16% were engaged in other types of informal education (OECD, 2019). Such training does not increase wages, productivity or employability (H. Kim, 2015). Another study found that former NEETs have lower employment rates and wages and higher rates of unemployment and economic inactivity. Moreover, the longer the NEET experience, the stronger the negative impact (Nam and Kim, 2013). Repeated job-seeking delays the transition to the labour market and imposes high opportunity costs.

Figure 3.12. The share of NEETs in Korea is high

Percentage of the population aged 15-29 in 2017



Note: The Korean government considers that young people engaged in informal education should be excluded from the definition of NEETs. The OECD definition includes those in informal education, in part to ensure international comparability. The share of NEETs in Korea is calculated from the government's Economically Active Population Survey.
Source: OECD (2018), Education at a Glance; OECD (2019), Investing in Youth: Korea.

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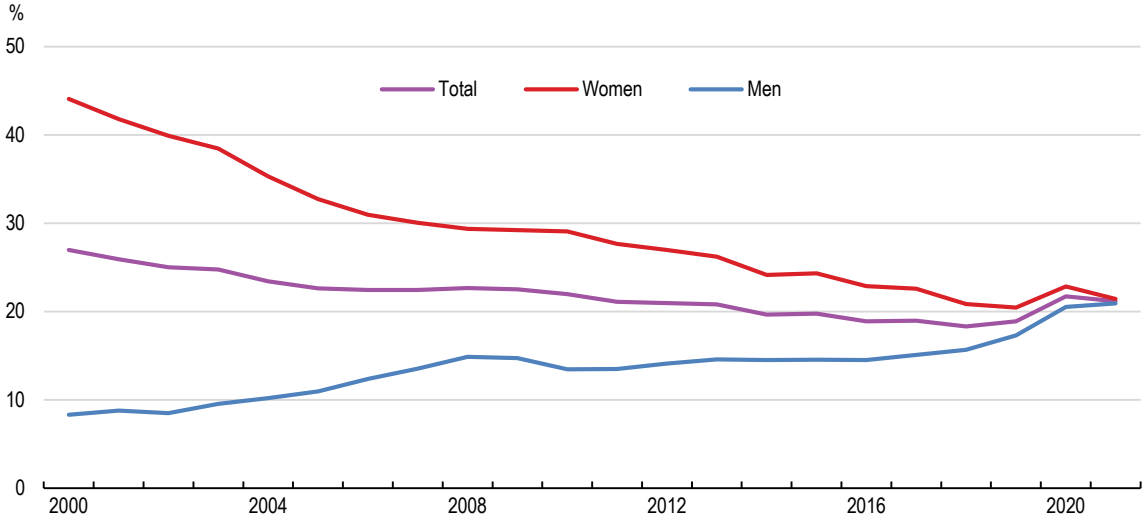
Figure 3.13. The share of NEETs among women in the 25-29 age group has fallen



Source: Calculations by Kyungsoo Choi from Statistics Korea, the Economically Active Population Survey, micro datasets.

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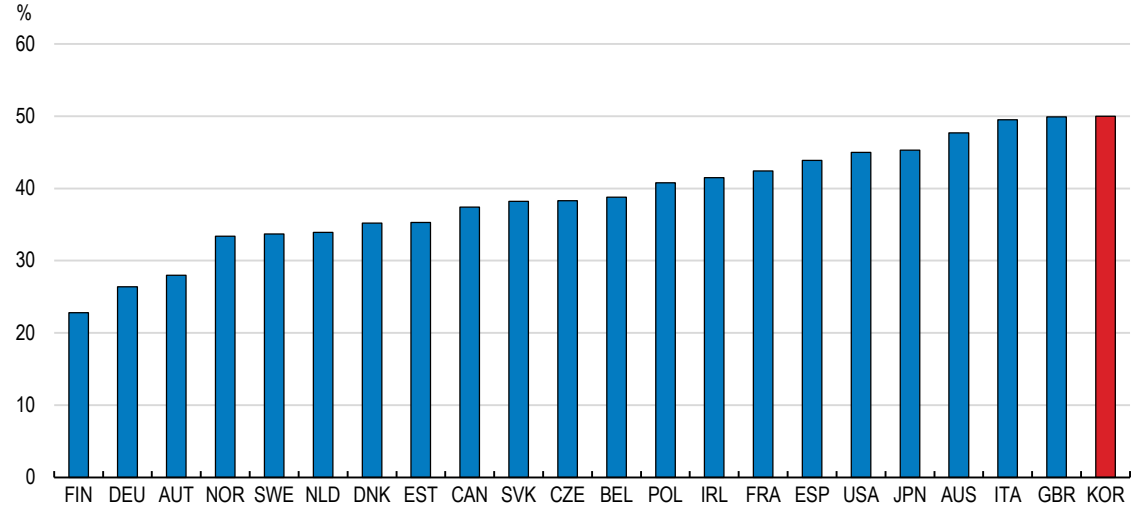
Labour market mismatch also hurts those who do find jobs. The field-of-study mismatch is relatively high in Korea: 50% of university graduates are employed in a field unrelated to their field of study (Figure 3.14). Credentialism contributes to mismatch by encouraging students to focus on attending the most prestigious university rather than on finding a programme that corresponds to their field of interest. College and university graduates spend around nine months on average searching for a job. Despite the lengthy job search, young Koreans stayed at their first job for only 1½ years on average in 2017. For the 20-24 age cohort, the average was only about nine months, half of the OECD average. Almost three out of five young people left their first job because they were dissatisfied with their work conditions or promotion chances. In 2015, 44.5% of university graduates and 78.5% of post-graduate degree holders reported that they were over-qualified for their job. In contrast, less than 10% of high school graduates felt over-qualified, while one-third reported that they were under-qualified, suggesting weaknesses in vocational high schools (OECD, 2019).

Figure 3.14. Field-of-study mismatch in Korea is relatively high



Note: Belgium includes only Flanders and the United Kingdom includes only England and Northern Ireland.
Source: Montt (2015).

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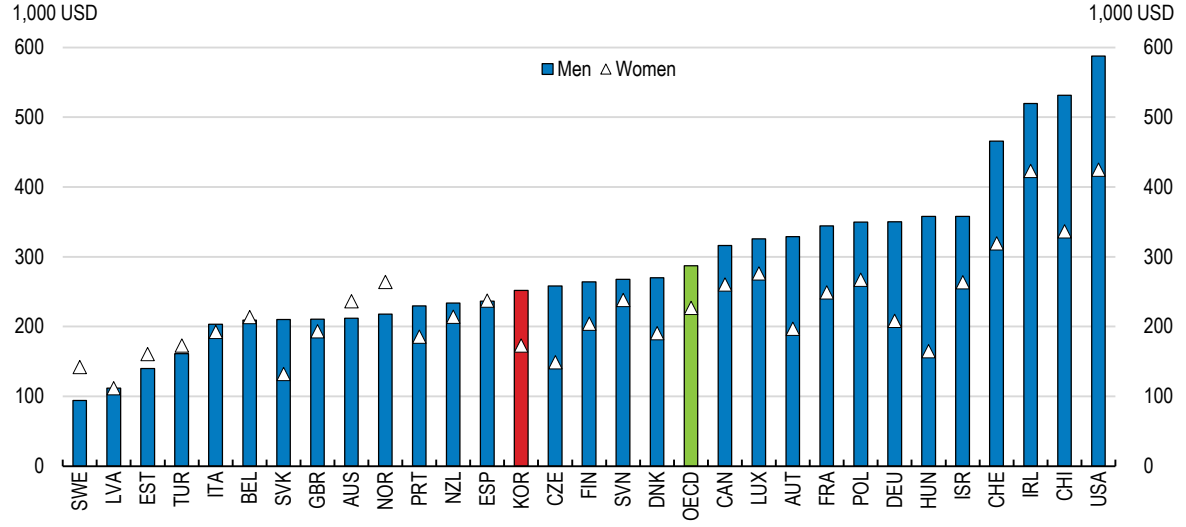
What drives the demand for higher education given the mismatch problem?

The high share of tertiary graduates compared to other OECD countries is not driven by financial returns to education, as the large supply of university graduates deflates the value of their degrees and earning prospects. In 2019, the wage premium for tertiary graduates relative to high school graduates was 20%, about half of the OECD average. In 2017, 29% of college and 18% of university graduates earned less than the average earnings of high school graduates (OECD, 2019). Consequently, the financial return to tertiary education, taking into account tuition fees and foregone earnings while in school, is relatively low (Figure 3.15) and varies widely depending on the institution attended. Indeed, the financial return is negative for a substantial share of university and college graduates. Tuition costs are relatively high, as the government provides only around 40% of the funding for tertiary institutions, well below the 66% OECD average. Tuition fees for bachelor's programmes at public institutions in Korea are the eighth-highest among the 27 countries with available data (OECD, 2021a). Moreover, four-fifths of students attend private universities, where tuition is 77% higher than in public universities (Han, 2022).

Young people and their parents thus invest significant time and money to gain educational qualifications that provide relatively meagre rewards by international standards in hopes of obtaining regular (i.e., permanent) employment in large firms or the government. Tertiary graduates who initially fail to find a job that matches their degree are often reluctant to accept other positions, reflecting high reservation wages and expectations regarding their careers. Moreover, accepting a job that is not commensurate with one's education can be a "trap", as it may send a negative signal to other potential employers, particularly in Korea's segmented labour market. In addition, on-the-job search intensity tends to decrease and the human capital gained in school diminishes. A study in Belgium found that accepting a job for which one is overeducated substantially delays the transition to an appropriate job (IMF, 2018). In sum, the decision to reject jobs below their education level contributes to low employment rates and high levels of NEETs but may be rational for many educated young people, despite the risk of a scarring effect from unemployment and inactivity.

Figure 3.15. Financial returns to tertiary education are relatively low

The net lifetime benefits of attaining a tertiary education compared to a high school education



Note: In USD converted using PPPs for GDP. Future costs and benefits are discounted at a rate of 2%.
Source: OECD (2021a).

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Reforming the education system to reduce mismatch with labour demand

Education reforms to ensure that education and the labour market work well together need to overcome the widely-held belief that the only path to success is a degree from a top university leading to a regular job at a large corporation or in the public sector. Education should encourage students to follow their own interests and develop their talents by providing a wider range of paths to success. Creating such paths requires shifting the focus of the education system from fostering competition to building human capital (Y. Kim, 2015). Such an approach would avoid excluding those who fail in the traditional path leading to prestigious universities (H. Kim, 2015). This would also promote social inclusion, as success in higher education is increasingly linked to socio-economic status. To be fully effective, educational reforms must be accompanied by measures to break down labour market dualism and raise SME productivity and wages, thereby encouraging young people with tertiary education to accept jobs in smaller firms rather than queueing for jobs in large firms and the public sector (see below).

Secondary education

Secondary education should provide a range of skills to boost students' employability and productivity but has instead become excessively focused on university admission. The emphasis on measurable skills, such as mathematics, Korean and English, comes at the detriment of less measurable skills such as creativity, critical thinking, collaboration and communication, which are sometimes referred to as the 4Cs (Han, 2020). The latter are equally valuable to employers and society and crucial to cultivating new competencies that meet future demands.

Changing secondary education requires reforming the university application process by reducing the importance of the College Scholastic Ability Test (CSAT), the critical university entrance exam given nationwide once a year. Most companies open late on exam day to minimise traffic and flights are grounded during the English listening comprehension test to reduce noise. Applicants dissatisfied with their results can take the test again. Around one-fifth of applicants sit out of formal education for a year in order to prepare to take the exam a second time and gain admission to a higher-ranked university (the so-called *Jaesoosaeng*). Some even take it three times, further delaying their entry to university and the job market. The intense pressure to gain admission to high-ranked universities and the long hours at school and *hagwon* to prepare students for the CSAT reduces the well-being of young people. In the 2015 OECD PISA study, Korean 15-year-olds had the lowest share reporting high life satisfaction among OECD countries and the second-highest share reporting low satisfaction (Figure 3.16). A lack of free time – reflecting the longest hours spent studying among OECD countries – contributes to low life satisfaction. Korea is the only OECD country where young people devote less time to leisure and personal care than adults.

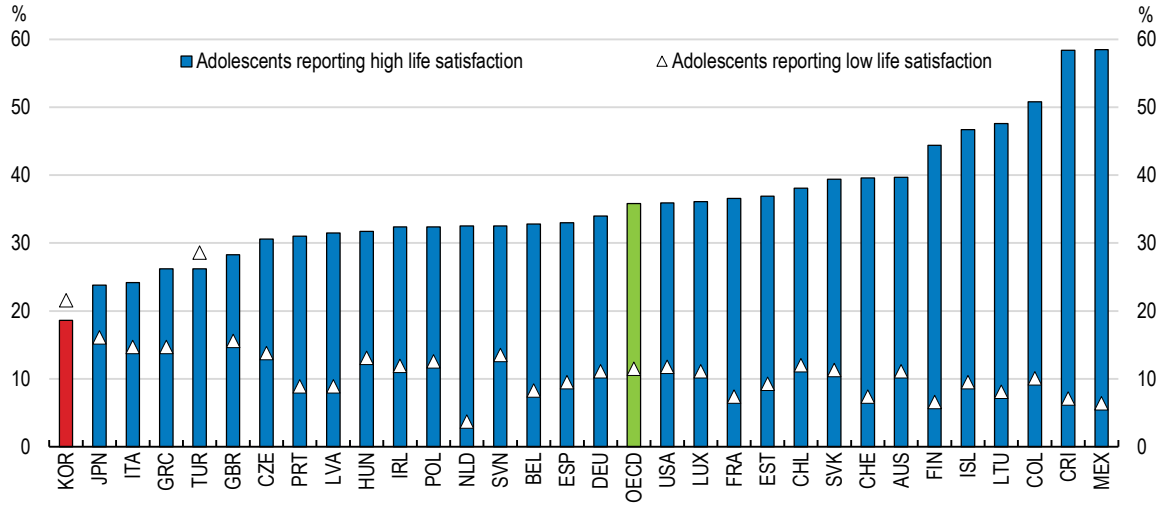
A number of countries have moved away from requiring that university applicants take standardised exams. In the United States, for example, Ivy League universities no longer require applicants to take standardised exams (the SAT and ACT). Korea moved in that direction in 2008 with the introduction of the "admissions officer system", which includes a number of criteria for admission including school grades, essays, interviews and recommendations from teachers, in addition to the CSAT. The new system was aimed in part at reducing the role of *hagwons*. However, *hagwons* have adapted by providing courses helping students with the additional criteria, such as essays and interviews. With about three-quarters of students from primary to high school participating in private education, spending reached a record KRW 23.4 trillion (USD 18.8 billion, 1.2% of GDP) in 2021. Moving further away from the CSAT would reduce the intense pressure on students while improving secondary education.

Enhancing career guidance and counselling is essential to improve students' educational choices and facilitate transition from school to work. At least one "career teacher" must be assigned to each primary, middle, and high school. By 2020, career teachers had been assigned to 91% of middle and high schools, and surveys of students suggest that it has been effective. Greater involvement of employers in student

career counselling, which has had positive effects in many countries, would be beneficial (OECD, 2019). It is also important to focus on disadvantaged students. In the 2015 Programme for International Student Assessment, 52% of Korean students from high socio-economic backgrounds had met with a career advisor compared to 42% from low backgrounds, who would likely benefit most.

Figure 3.16. Life satisfaction of Korean adolescents is low

15-year-olds in 2015



Source: Children Well Being: Activities and Life Satisfaction, OECD.Stat, accessed 23 February 2022.

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Vocational education should allow graduates to be hired directly from high school, thus avoiding excessive and unnecessary competition to obtain additional educational qualifications. Meister schools and the Work-Learning Dual System are important steps in that regard. However, as noted above, only 3% of high school students attend a Meister school or participate in an apprenticeship programme. Around 95% of firms participating in the Work-Learning Dual System are SMEs, indicating a lack of interest from large companies (OECD, 2019). Moreover, there is a lack of commitment by firms of all sizes despite government subsidies to participating firms (Y. Kim, 2015). The participation of firms could be increased by reducing the costs of apprenticeships through redesigning training requirements and arranging joint training (OECD, 2019).

Demand for admission to Meister schools is weak despite the high share of graduates employed after graduation. Moreover, students can use Meister schools as an alternative path to university under the "post-learning" system. Students who work for three years after graduation from a Meister school can enter university under alternative admission procedures. In 2017, about a quarter of students who had graduated from Meister schools in 2013-14 were attending tertiary education, primarily universities. The government could consider creating Meister schools in new industries, including in services. Meister schools should create more links to employers, including SMEs, and continuously update their curricula to meet changing industry demands (Yu et al., 2020). Such elements should be incorporated into regular vocational high schools.

Tertiary education

Many university graduates rely on additional informal education to land their first job, suggesting that universities do not provide the necessary skills to launch their careers. Moreover, large firms use their own entrance exams, indicating a lack of trust in degrees conferred by the education system. The rapid expansion of Korean universities has come at some expense to quality (OECD, 2012). The Global Competitiveness Report, which asks business executives and experts to rank the skillset of graduates,

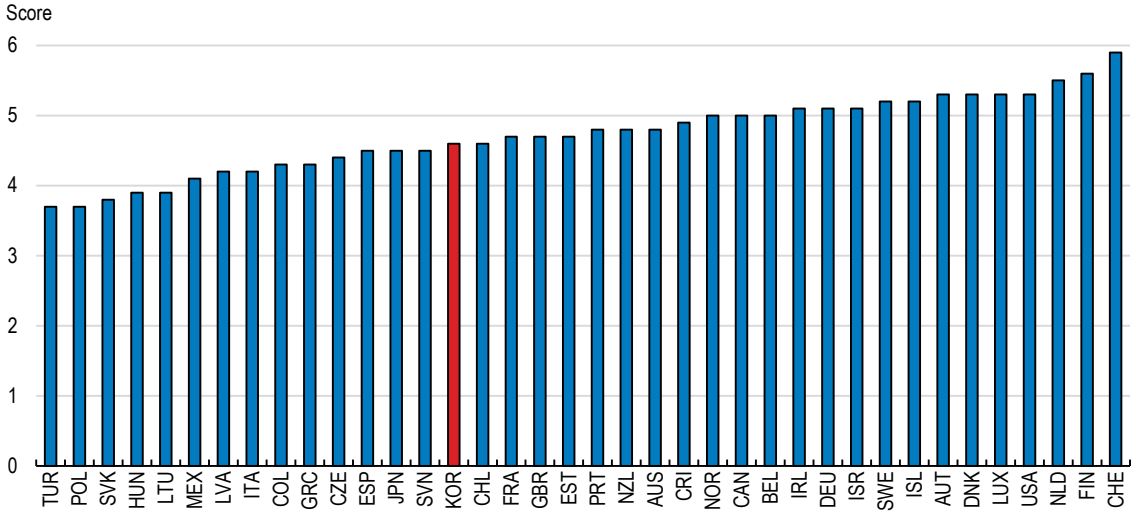
ranked Korea below the OECD average in 2019 (Figure 3.17). A 2014 government plan aims to reduce student enrolment in colleges and universities by 160 thousand during 2015-23 by requiring low-quality institutions to shut down or accept fewer students. However, the government's leverage is limited, as nearly four-fifths of university students attend private institutions, which are primarily funded through tuition fees. Korea could implement the US-style "gainful employment" regulation by refusing government loans and grants to students who attend institutions where the ratio between students' debt and their later earnings is large. With nearly one-third of tertiary students receiving a need-based grant and more than one-sixth receiving direct loans, this approach could be quite effective in improving the quality of universities (OECD, 2019).

The quality of university education could also be boosted by shifting some funding from primary and secondary schools, which receive a fixed proportion of internal taxes (all national taxes excluding customs duties and ear-marked taxes, such as the transportation tax and the education tax), despite the falling number of school-age children, to tertiary institutions. Korea's public spending per student (as a share of per capita GDP) is the highest in the OECD for primary and secondary students but ranks only 32nd for tertiary education. As the number of school-age children is projected to decline by almost one-half over 2020-60, the imbalance will widen. Under the current funding formula, spending per primary and secondary students would rise by 5.4 times by 2060, far outstripping GDP growth (H. Kim, 2021).

The continued decline in the number of high school graduates will drive the consolidation of colleges and universities going forward. Colleges and universities have to make public the employment rates of their graduates. Requiring tertiary institutions to enhance transparency by providing more information, such as salaries and employment rates by major, would enhance the effectiveness of consolidation as a tool for raising quality. However, capping student enrolment in universities in the Seoul metropolitan area (the cities of Seoul and Incheon and Gyeonggi province) weakens universities' incentives to improve their performance to attract more students. The government's power to regulate admissions in the Seoul metropolitan area under the Higher Education Act is a legacy of policies in place since the 1960s to limit the growth of the capital region, which accounts for about half of Korea's population and 40% of university students (Han, 2022). To improve the quality of universities, caps on student enrolment should be gradually phased out, combined with more effective measures to assist lagging regions. In particular, increased investment in universities outside of the Seoul metropolitan area would reduce the dominance of Seoul-based universities in the ranking of Korean universities (Eichengreen et al., 2015).

Figure 3.17. An international ranking of the skillset of graduates

Seven is best; zero is worst



Source: World Economic Forum, Global Competitiveness Report 2019.

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Universities' usual practice of admitting only a strictly fixed number of students per major also constrains university students' field-of-study choices. A survey of private universities in the Seoul area found that the ratio of applicants to admissions in the preceding year had almost no effect on the number of students by department, indicating little incentive to adjust that number in line with demand given the caps set by the government on the total number of students that they can accept. This is because of population concentration in the Seoul area, which is home to wide-ranging facilities and infrastructure. Thus, universities in the Seoul area have no difficulty recruiting applicants even if they do not adjust the admission cap on each department. In contrast, in private universities outside of Seoul, which do not face caps on total admission, and where population decline contributes to competition for students, the number of students by department was sensitive to student demand (Han, 2022). Caps set by the government on total enrolment are thus a factor explaining the relatively rigid distribution of university students by department despite significant changes in demands from employers, resulting in a mismatch between education and the labour market (Han, 2022).

The lack of flexibility in student enrolment per major thus makes it difficult for higher education to keep pace with technological change. Indeed, the distribution of students by major has remained rigid despite changing demand from employers (Han, 2022). During 2010-15, the number of students who graduated with a computer science major increased by 50% in the United States, while it decreased by 5% in Korea. In the Stanford University engineering school, 43% of students enrolled in computer science compared to only 7% in Seoul National University Engineering School (J. Kim, 2017). Another study found that the number of computer science graduates at Stanford increased by more than five-fold during 2008-20, reaching 745 graduates in 2020 compared to a 27% increase at Seoul National University to 70 graduates (Oh, 2020). Indeed, Korea's labour shortage in the ICT sector is estimated at 0.4 million people. A first step to make universities more responsive to market demands could be allowing universities to expand admission to departments related to emerging or expanding industries, as is currently being discussed by the government in the case of students for the semiconductor industry. However, additional policies to encourage universities to shift resources according to social and labour market demand may still be required.

Allowing students more flexibility in choosing and changing their major would also reduce mismatch. Students apply for a specific combination of a university and a department (major). Applicants thus face a trade-off between choosing a major in which they can be accepted by a prestigious university or a major in line with their individual talents and interests. Consequently, many students abandon their preferred field of study to enter a highly-ranked university. The result is a deviation from the social optimum that depends on placing the right person in the right major, leading to a more talented workforce (Han, 2020). More flexibility in the choice of a major might also reduce the wide variation in employment rates by field of study (Table 3.2).

Table 3.2. Employment rates vary widely by field of study

Field of study	Engineering	Social sciences	Arts and physical education	Humanities	Natural sciences	Medicine	Education	Total
Students (%)	26.6	25.6	11.2	10.8	10.0	9.6	6.2	100.0
Employment rates (%)	71.7	64.2	64.2	57.1	64.2	83.3	64.1	67.7

Note: Employment rates are for 2018 and the share of students by field is for 2021.
Source: Korea Educational Development Institute.

It is also difficult for students to change their field of study, resulting in mismatch as students expand their horizon and discover new abilities and interests. The distribution of bachelor's degrees conferred by four-year universities is very similar to the distribution of first-year students by department (with a four-year time

lag). The dropout rate is typically low, and the possibility of changing majors by transferring to other departments or universities is very limited (Han, 2022). A 2018 survey found that 28.2% of students wanted to change their field of study, with the highest proportions in humanities (42.5%), natural sciences (35.7%) and social sciences (30.0%). A relatively large share of students who had chosen their field of study by following others or by seeking to gain admission to a prestigious university regretted their choice (46% and 37%, respectively), compared to only 15% of students who chose their field of study based on their aptitude (Han, 2020).

Continued improvement in career counselling would help high school graduates in their choice of a university and a field of study. Universities should allow students time to explore a range of fields after they are admitted. Most importantly, as noted above, lifting the government-set cap on total student enrolment would promote flexibility in department size, thereby allowing students to change their field of study as they discover their aptitudes (Han, 2020). Such flexibility, combined with greater collaboration between firms and universities, would help universities respond more quickly to emerging workplace trends. The ultimate goal should be an education system in which institutions distinguish themselves more by their educational specialties than their overall rank. This would also weaken students' focus on attending the most prestigious institutions.

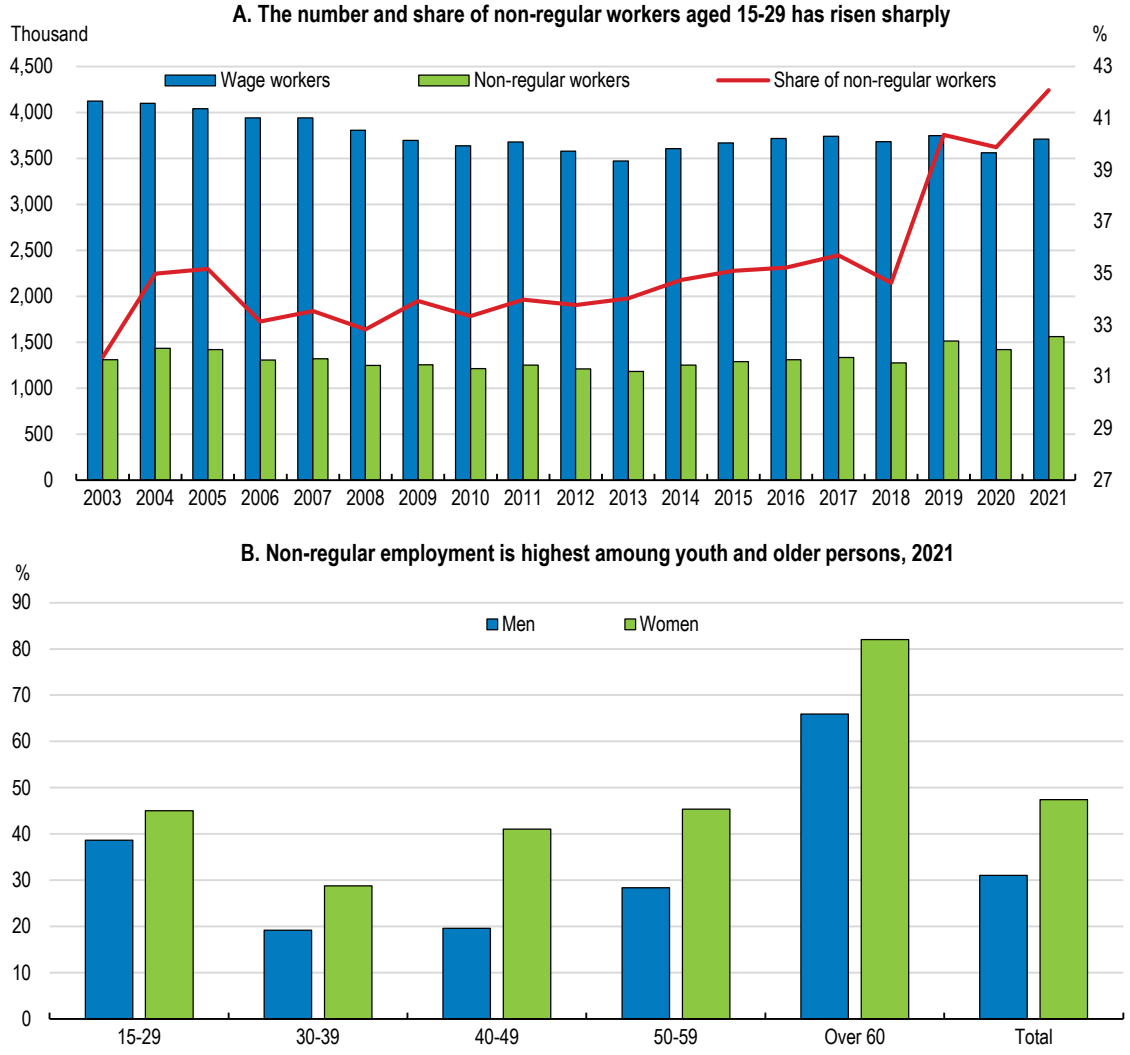
Labour market dualism is deeply entrenched

The mismatch in young people's educational and career aspirations and the demands of employers is driven by the polarisation of the Korean economy. Reform of the education system alone will not resolve that mismatch. The report on the first meeting of the Youth Policy Coordination Committee in 2020 (OGCP, 2020c), chaired by the Prime Minister, stated that "It is difficult to expand youth employment and improve the quality of jobs due to changes in the industrial structure and the dualistic structure of the labour market such as regular jobs versus non-regular jobs and large enterprises versus small firms" (Figure 3.18). This and the following section address these two obstacles.

Dualism is deeply entrenched in Korea's labour market. Regular workers receive high wages and social insurance coverage and strong employment protection (see below). Non-regular workers receive lower wages, are less likely to be enrolled in social insurance and work in precarious jobs. Non-regular workers, which includes fixed-term, part-time workers and atypical workers, edged up from 33% of wage-earners in the 15-29 age group in 2008 to 35% in 2018. A broadening of the definition of fixed-term workers boosted non-regular workers' share to 40% in 2019 and it jumped another 2 percentage points to 42% in 2021 (Figure 3.18, Panel A). In 2021, 45% of young female employees and 39% of young male employees were non-regular, the highest of any group except the elderly (Panel B). The increase may reflect firms' preference for the flexibility of non-regular workers to cope with possible new waves of the virus and uncertainty about the new normal as the pandemic fades.

The incidence of non-regular employment is higher for young people without tertiary education. Indeed, 72% of college graduates and 78% of university graduates were employed as regular workers in 2017, compared to less than 40% of high school graduates (Figure 3.19, Panel A). This contributes to higher incomes for those with tertiary education. Only 12% of university graduates were in the lowest income quartile in 2017, while 38% were in the highest quartile (Panel B). In contrast, nearly half of high school graduates were in the lowest quartile. The low income from non-regular employment, the weaker social insurance coverage (see below and Chapter 2) and the limited opportunities to move from non-regular to regular employment are key drivers of high enrolment in tertiary education, the high rate of NEETs and the low youth employment rate.

Figure 3.18. The share of non-regular workers is high for young people



Note: Non-regular workers are defined as fixed-term (i.e., non-permanent), part-time and non-typical workers (including on-call, contingent and subcontracted workers). The results are for August of each year. In 2018, the definition of part-time workers was revised and hence the data for 2019-21 should not be compared to the data up to 2018.

Source: Supplementary results of the Economically Active Population Survey by Employment Type.

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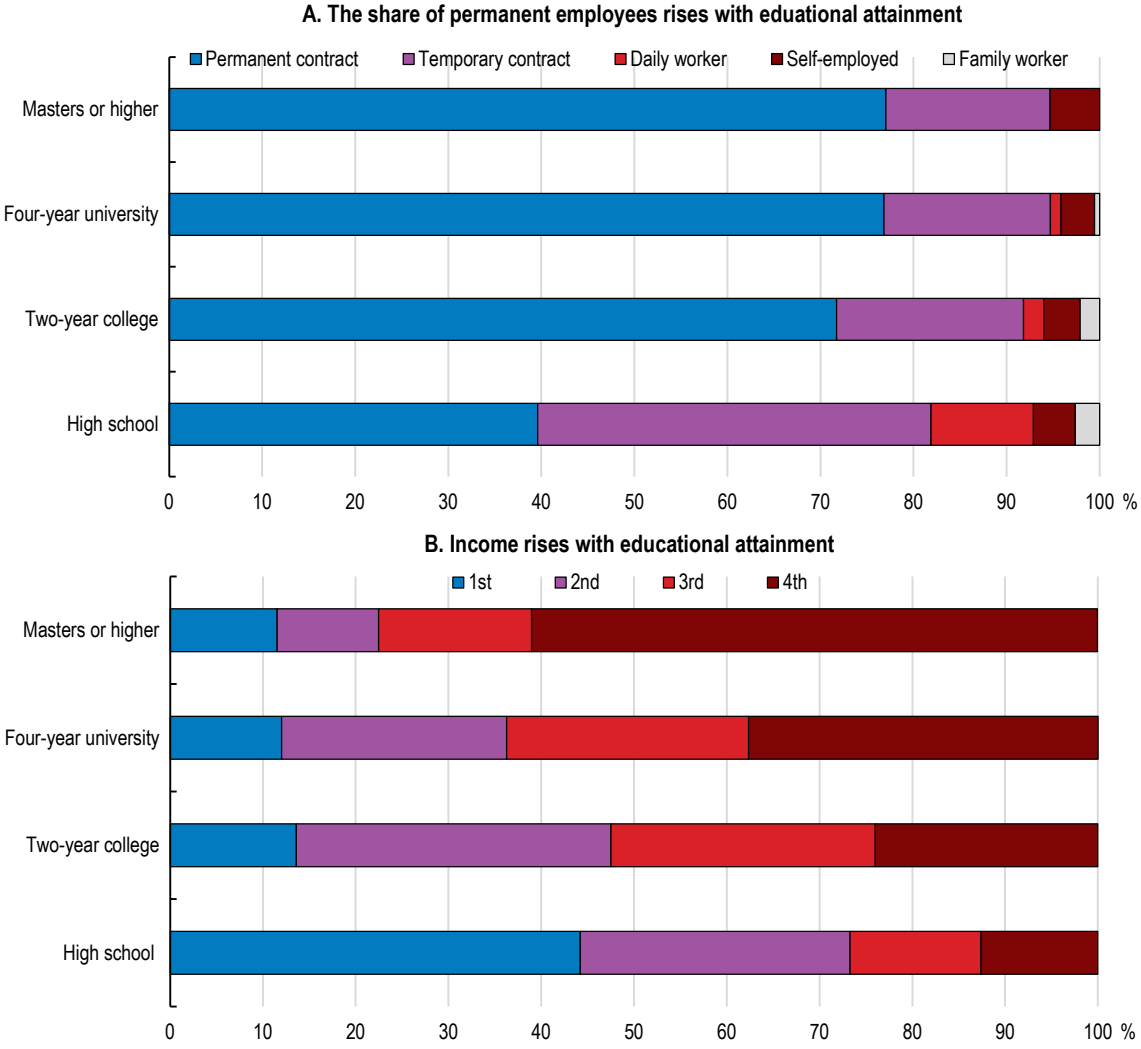
About two-thirds of non-regular workers (of all ages) are fixed-term. Consequently, the share of temporary employment in Korea was 26% in 2020, the second highest in the OECD and more than double the 11% OECD average. In 2006, fixed-term contracts were limited to two years, at which point workers are considered to be regular (permanent) and covered by standard job protection. In practice, most fixed-term workers are dismissed and replaced by new fixed-term workers within two years, as granting them regular status significantly increases costs to employers and limits their flexibility to adjust their workforce over the business cycle. The 2006 reform, aimed at promoting the transition of workers from fixed-term to regular status, has instead increased precariousness by forcing many fixed-term workers to change employers every two years.

The 2006 reform also prohibited discrimination against non-regular workers who perform similar tasks to regular workers in the same firm. The earnings gap between regular and non-regular workers, however, remains large. In 2020, the hourly wage of non-regular workers averaged KRW 15 015 (USD 13.2), 72% of that of regular workers (Figure 3.20, Panel A). The earnings gap is even larger in practice, as 62% of

regular workers received company bonus payments, which account for around a quarter of annual earnings, compared to 21% of non-regular workers (Panel B). Fixed-term workers are penalised by their relatively short tenure, given the strong link between tenure and wages in Korea. While only around 2.4% of permanent employees left their jobs in 2016, 18.8% of temporary and daily workers did so (Schauer, 2018). The large wage gap appears to be inconsistent with employees' skill levels. The OECD's 2013 Survey of Adult Skills found that the literacy skills of temporary workers in Korea were equivalent to those of permanent workers in the 25-64 age group and even higher in the 16-24 age group (OECD, 2013c).

Figure 3.19. Tertiary education increases the chance of regular employment and higher wages

For the 15-29 age group in 2017



Note: The share of graduates at each level by employment status and income quartile. The "less than high school" category is excluded because of the small number of observations. Each income quartile in Panel B represents approximately 25% of employed youth.
Source: OECD (2019), Investing in Youth.

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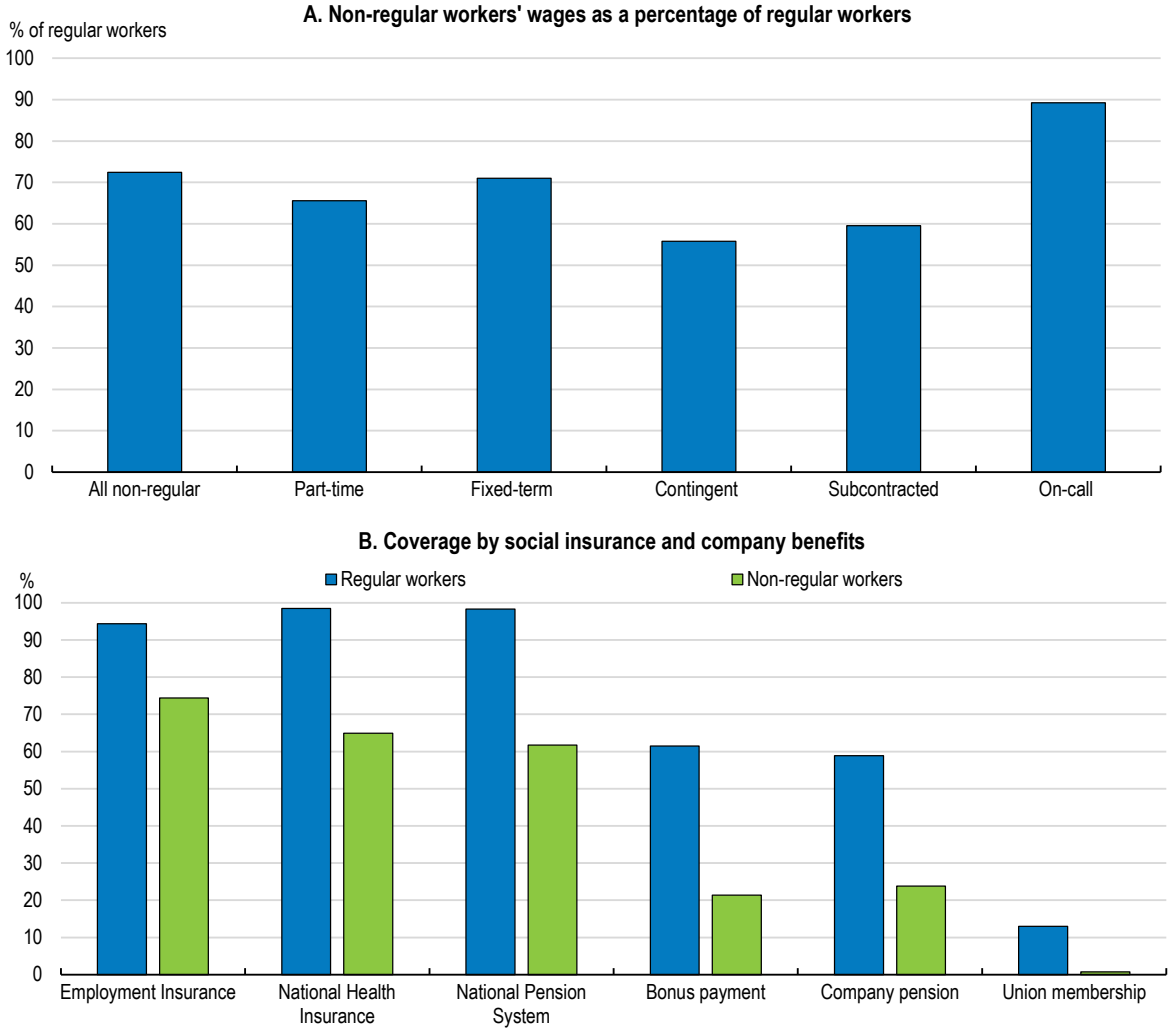
The proportion of non-regular workers enrolled in the National Pension System (62%), National Health Insurance (65%) and Employment Insurance (74%) in 2020 was well below the more than 90% for regular workers despite subsidised contributions for low-income workers (Figure 3.20, Panel B). Moreover, less than a quarter of non-regular workers were enrolled in company pension systems compared to 59% of regular workers (Ha and Lee, 2013). Finally, less than 1% of non-regular workers belong to labour unions compared to 13% of regular workers and more than one-third of regular workers in large firms. The labour

unions' focus on the interests of regular employees, particularly those in large companies and the public sector, has accelerated the dualization of the labour market (H. Kim, 2015).

Figure 3.20. Wages and social insurance coverage are lower for non-regular workers

In 2020 for all age groups of workers



Source: Ministry of Employment and Labour, Survey Report on Labour Conditions by Employment Type, http://laborstat.moel.go.kr/hmp/tblInfo/tblInfoPopup.do?listId=118_161.

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The large wage gaps between regular and non-regular workers are a major source of income inequality and poverty in Korea. In 2020, 47% of female employees (all ages) were non-regular workers compared to 31% of men (Figure 3.18, Panel B), making dualism a major cause of Korea's gender wage gap, which is the largest in the OECD. Moreover, non-regular workers have lower marriage and fertility rates (Jones and Fukawa, 2016). Dualism has long-lasting equity implications for future generations, as education spending in households of non-regular workers is only about half of that in regular worker households. Labour market segmentation also limits social mobility, as non-regular jobs are often traps that keep workers in low-quality jobs rather than stepping stones to regular employment (OECD, 2016). The transition rate from non-regular to regular jobs has been falling (H. Kim, 2015). Temporary and part-time workers in Korea are less likely to move to a regular job during the following year than unemployed people with similar characteristics (OECD, 2015), reflecting the stigma attached to non-regular employment. Labour market segmentation between regular and non-regular jobs tends to entrench the initial conditions

of young workers' entry into the labour market (Han, 2018). The transition from non-regular to regular jobs is most likely for highly-educated workers with longer tenure in unionised (typically large) firms, thus reinforcing the emphasis on education and large firms (Ha and Lee, 2013).

In addition to the impact on social inclusion, labour market dualism slows output growth. First, the high level of temporary employment and short average tenure discourages firm-based training, with negative consequences for productivity growth. Non-regular workers receive only 1.8% of the training opportunities provided via employers (Yun, 2016). Second, it could also encourage firms to rely on low-wage workers rather than invest in innovative technologies (Schauer, 2018). Third, the high rate of non-regular employment among youth, women and older persons discourages labour force participation. Removing obstacles to employment is a priority as Korea faces rapid population ageing.

Policies to break down labour market dualism and boost youth employment

The government has implemented many policies during the past 15 years to address labour market dualism (OECD, 2016), but as noted above, the share of non-regular workers remains high and continues to increase. Breaking down dualism requires addressing the fundamental factors that encourage firms to hire non-regular workers. Government surveys of employers report that they hire non-regular workers to ensure labour market flexibility to respond to market fluctuations, thereby avoiding the cost of laying off regular workers (OECD, 2013a). A second reason for hiring non-regular workers is their low labour costs, which are due in part to their low enrolment rate in social insurance. Breaking down labour market dualism requires a comprehensive strategy of relaxing employment protection for regular workers and increasing the enrolment rate in social insurance and training for non-regular workers.

The OECD Action Plan for Youth stated that "strict and uncertain procedures concerning the firing of permanent workers along with high severance payments tend to make employers reluctant to hire youth on an open-ended contract" (OECD, 2013b). In other words, it is not the cost of hiring or employing workers but the cost of dismissal that limits the availability of regular employment. Employment protection for regular workers is thus an important cause of low youth employment in Korea (IMF, 2018).

Weakening firms' incentives to hire non-regular workers requires relaxing employment protection for regular workers to reduce the cost and uncertainty of dismissal. Regular workers are protected from dismissal by labour laws, court decisions, business practices, social customs and labour unions (Koh et al., 2010). In terms of legislation, employment protection for regular workers in Korea was the 13th strictest in the OECD in 2019 (OECD, 2021c). In 2017, Korea was ranked at 106th in the world in labour market flexibility and 112th in the cost of redundancy in the Global Competitive Index (World Economic Forum, 2017). Dismissals for managerial reasons require many procedures, including consultations with workers, criteria for selecting the employees to be dismissed and 60 days advance notice. Dismissals above a certain threshold must be reported to the government. In addition, there must be "urgent managerial reasons", which are set by the court and firms must make every effort to avoid dismissals. Thus, the high costs of dismissal are accompanied by significant uncertainty of long and complex court rulings. Furthermore, Korea has a high frequency of reinstatement orders in cases of unfair dismissals (OECD, 2016). Consequently, the share of permanent workers laid off in 2016 was only 0.4%, compared to 14.2% for temporary and daily workers (Schauer, 2018).

At the same time, relaxing restrictions on the use of non-regular workers would expand opportunities for those who prefer more flexible working hours and conditions. For example, regulations limit the employment of temporary workers and dispatched workers (i.e., workers sent from temporary employment agencies) to a maximum of two years and dispatched workers are limited to 32 specific job categories and prohibited from production jobs. In Korea, as in other countries, the share of young people who prefer greater job flexibility and more leisure has increased.

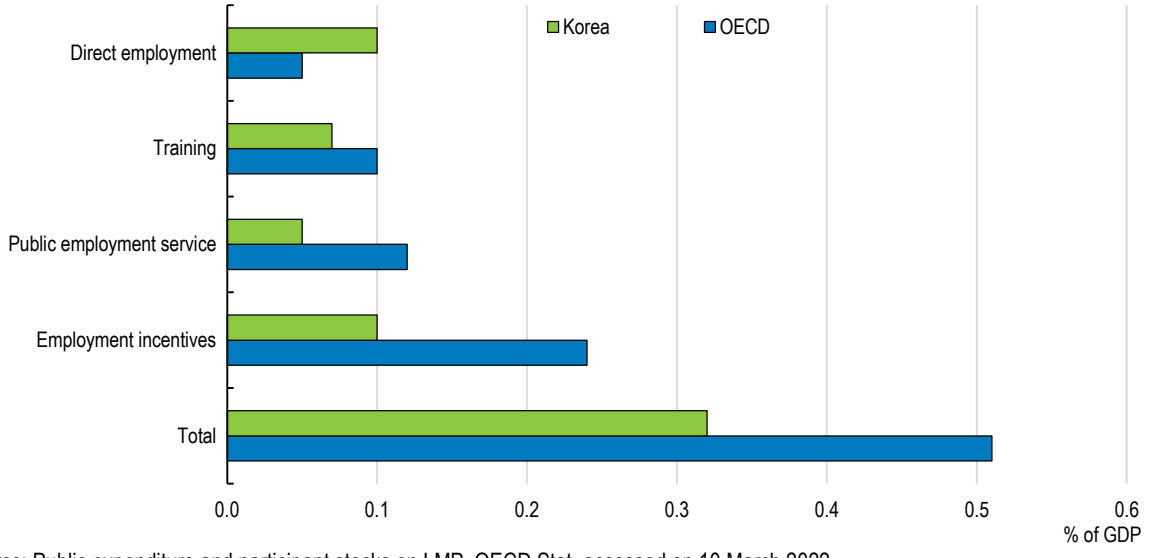
A second motivation for hiring non-regular workers is to reduce labour costs. As noted above, their wages are significantly lower than those of regular workers and they are less likely to be enrolled in social

insurance (Figure 3.20). Hiring workers who are not enrolled in national pension, health and unemployment insurance lowers employers' labour costs by about 8-9% (OECD, 2016). Increasing the enrolment rate, in part through the plan to centralise the collection of contributions in the National Tax Service, is a priority (see Chapter 2).

Training for non-regular workers is important to facilitate the shift of non-regular workers to regular status. As noted above, very few non-regular workers receive firm-based training. Moreover, government spending on training is well below the OECD average as a share of GDP (Figure 3.21). Total spending on active labour market policies (ALMPS) was 0.3% of GDP in 2019 compared to the 0.5% OECD average. The only category of ALMPs where Korea surpasses the OECD average is direct job creation, which accounted for a third of ALMP spending in 2019 and increased further during the COVID-19 pandemic. In 2019, 47% of the spending for direct job creation was used to create jobs for older persons and the average age of participants in the programmes for older persons was about 75. However, a summary of over 200 recent studies of ALMPs finds that direct job creation programmes are generally ineffective in the short and longer term and might even have negative employment effects (Card et al., 2018). Possible reasons include the lack of transferable skills acquired, the stigma of public jobs, a reduction in job search efforts and a crowding out of private-sector job creation. In an effort to improve direct job creation programmes, the government evaluates programme outcomes based on information on participants submitted by relevant ministries, examining their rate of private sector employment within six months of leaving the programme, job retention length, and job placement period. The government has also been improving efficiency by cutting the budget of, or scrapping, programmes ranked in the bottom 10-20% of evaluations.

The relaxation of employment protection for regular workers and expansion of the enrolment rate in the social safety net and training for non-regular workers are essential steps in a shift from protecting jobs to protecting workers, an approach often described as "flexicurity". Further development of the social safety net (see Chapter 2) is also a key element of moving towards flexicurity. Such a strategy would boost the employment of young people, as well as women and older persons, and reduce income inequality. Flexicurity would enhance resource allocation and thereby increase productivity and accelerate structural change by reducing product market dualism – the wide productivity and wage gaps between SMEs and large firms (see below) – which is linked to labour market dualism. However, additional spending on social insurance and ALMPs must be financed, and increased social protection balanced against potential negative impacts on work incentives from raising the tax wedge on employment (see Chapter 2).

Figure 3.21. Spending on active labour market policies in Korea is relatively low (in 2019)



Source: Public expenditure and participant stocks on LMP, OECD.Stat, accessed on 10 March 2022.

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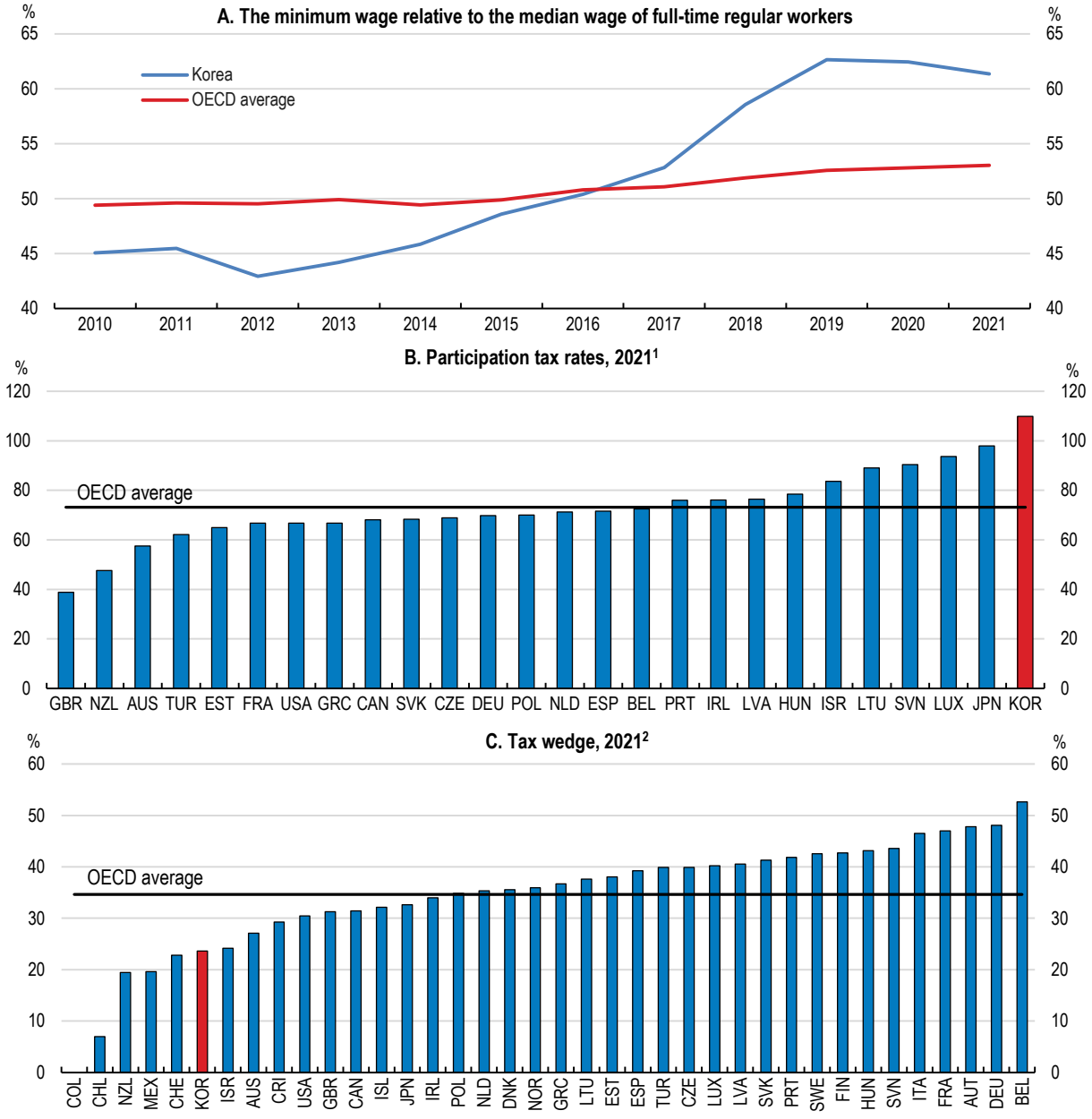
Other labour market policies to promote youth employment

Korea's minimum wage has increased sharply, from 43% of the median wage of full-time regular workers in 2012 to 63% in 2019 (Figure 3.22, Panel A). The increase has reduced the incidence of low pay (the share of workers earning less than two-thirds of median earnings) from 24% to 17%, bringing it closer to the 14% OECD average. Raising the minimum wage may contribute to productivity growth by making labour unaffordable in low-productivity firms, thus shifting workers to higher level activities.

Figure 3.22. Korea's minimum wage and participation tax rates are very high



1. The fraction of income which is deducted by the combined effect of taxes and benefit withdrawals when entering or returning to work. Calculations based on a single person without children who was working full-time in a job that pays the minimum wage.
2. Calculated as the sum of personal income tax, employee and employer social security contributions plus any payroll taxes, minus any benefits received by the employee, as a percentage of labour costs for a single person earning the average wage.
Source: "Minimum relative to average wages of full-time workers", OECD.Stat, accessed 9 September 2022; OECD Tax and Benefit Models; OECD (2022), Taxing Wages 2022.

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However, if raised too quickly, it may entail sudden cuts in employment. The 29% hike in the minimum wage during 2018-19 led to a slowdown in overall employment growth despite five sets of measures to help small firms cope with the increase and a sharp rise in public employment (OECD, 2018). The government conducted in-depth surveys in 2018-19 of vulnerable industries, such as wholesale and retail, food and lodging, and small and medium-sized manufacturing industries, to analyse the impact of the minimum wage hike. To cope with the hike, firms reduced employment and working hours, changed the wage structure, in part by including bonuses in basic salary, and took steps to improve productivity and management. Subsequently, the minimum wage increased by less (+2.9% in 2020, +1.5% in 2021 and +5.0% in 2022). Going forward, continued moderate minimum wage increases are called for to avoid pricing lesser-skilled young people out of the labour market and take into account conditions in vulnerable industries, particularly SMEs, where 90% of youth are employed.

In addition, the incentives for low-wage workers to return to work are weakened by the high level of employment insurance benefits (Chapter 2). Benefit recipients who take a job paying the minimum wage face a "participation tax rate" that was the highest among OECD countries in 2021 and the only one that exceeds 100% (Figure 3.22. Panel B). The negative effect on employment is likely to be largest for young people, who have lower wages on average.

The tax wedge measures the difference between labour costs to the employer and the net take-home pay of the employee. A higher tax wedge weakens incentives to work and lowers employment. The tax wedge for a single person in Korea earning the average wage is one of the lowest in the OECD and thus has little impact on young people's incentives to work (Figure 3.22.Panel C). Limiting the rise in the tax wedge as social spending rises with population ageing is important to sustain employment.

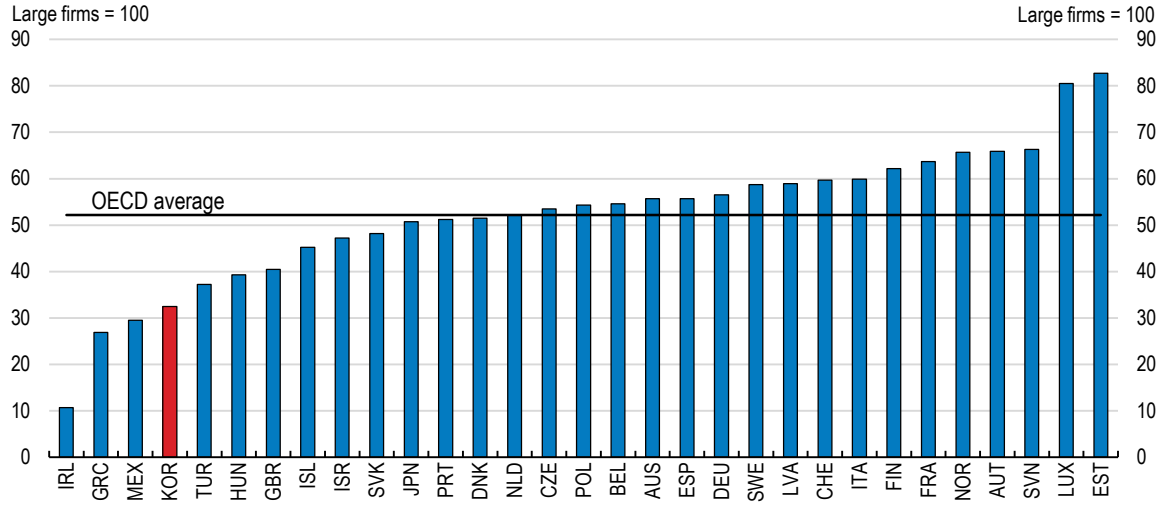
Product market dualism: the gap between SMEs and large firms

Employment policies for youth "are rarely effective because they cannot go to the heart of the problem, which is creating decent jobs in the private sector" (S. Kim, 2017). Youth employment is likely to depend increasingly on SMEs. During Korea's high-growth era, job creation was driven by large firms, particularly those associated with the business groups (known as *chaebols*). However, large firms are increasingly internationalised, have shifted to a more capital and technology-intensive product mix and rely more on outsourcing (OECD, 2018). By 2016, Korean SMEs – defined as firms with less than 300 employees – accounted for 80% of business sector employment, the second highest share in the OECD, and well above Japan (53%) and the United States (42%) (OECD, 2020a). When large firms do increase employment, they tend to hire experienced workers rather than new graduates, given uncertainty about their skills. Increasing youth employment therefore depends largely on the growth of innovative SMEs. However, productivity in Korean SMEs is only one-third of that in large firms compared to the OECD average of over one-half (Figure 3.23). This is linked to low productivity in Korea's service sector, where SMEs account for about 90% of employees.

The large productivity gap holds back economic growth and is an important factor behind wage inequality. Firms with at least 300 employees pay youth 50% higher wages than those with less than ten (Figure 3.24). The gap widens to 140% among workers aged 55 to 64. Relatively low productivity makes it difficult for SMEs to offer high-quality and well-paid regular jobs. Consequently, the share of non-regular workers was 48% at firms with less than five workers, 32% at those with five to 300, and 14% at those with more than 300 (OECD, 2016). SMEs are trapped in a vicious circle; they face labour shortages because their low productivity and wages mean they cannot attract high-quality workers and end up with less-skilled non-regular workers, while the failure to acquire high-quality workers prevents SMEs from raising productivity and wages. SMEs report skill shortages, including for skills that only require high school degrees. Labour market dualism is thus linked to the dualism between large firms and SMEs, and youth employment cannot be increased in a sustainable way without addressing this dualism.

Figure 3.23. The productivity gap between SMEs and large firms in Korea is wide

Value added per employee in SMEs relative to large firms in 2015 or latest year



Source: OECD (2018), OECD Economic Survey of Korea 2018.

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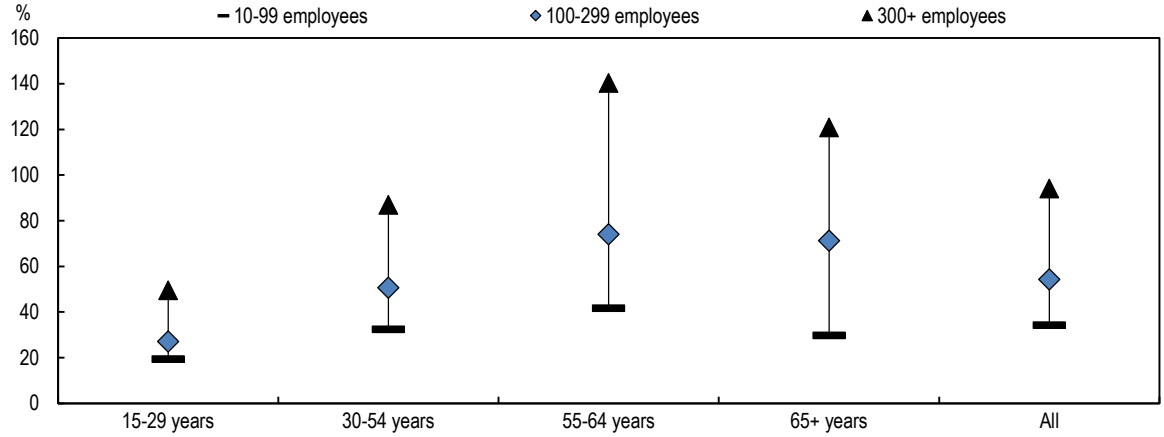
Figure 3.24. Large firms pay a significant wage premium in Korea

Percentage difference in wages in large firms compared to firms with less than ten employees (2017)



Note: The sample is restricted to full-time employees only, defined as those working 30 hours or more per week.
Source: OECD (2019), Investing in Youth: Korea.

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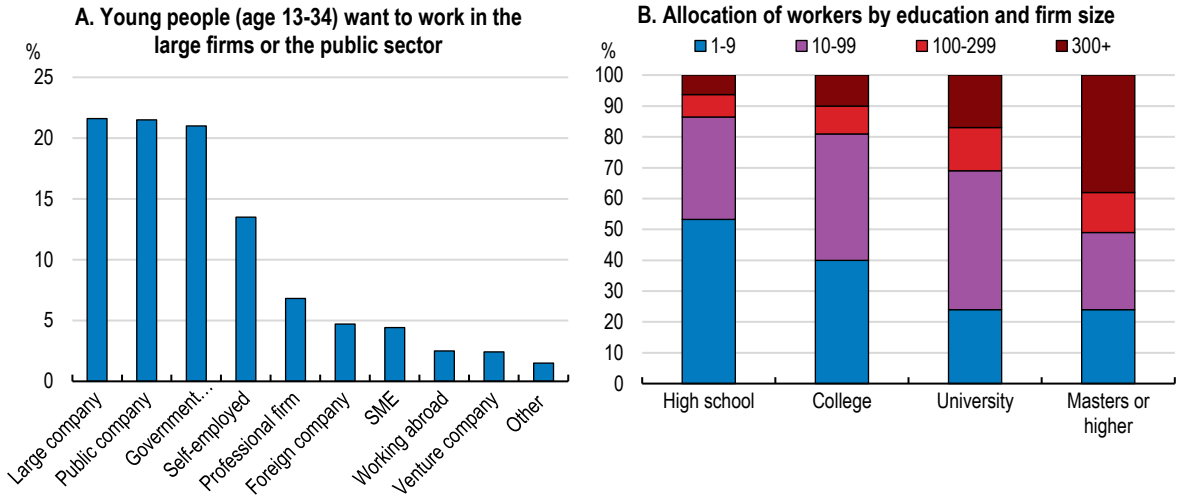
Only 4% of young people want to work in an SME, given the low wages, according to a 2021 government survey of people aged 13 to 34 (Figure 3.25, Panel A). Many SMEs employees face a "double penalty": a high risk of being a non-regular worker and being paid less than non-regular workers in large firms (Ha and Lee, 2013). Instead, nearly two-thirds of young people hope to work at large firms, government agencies or public companies. The probability of working at a large company rises with educational attainment, fuelling the drive for tertiary education. In 2017, 38% of workers with a master's degree or higher worked in companies with at least 300 employees, compared to only 10% and 6% for college and high school graduates, respectively (Panel B). In contrast, 86% of high school graduates worked in firms with less than 100 workers. Tertiary graduates who are initially unsuccessful in obtaining a job in the public sector or large companies tend to queue for such jobs rather than fill labour shortages at SMEs.

Figure 3.25. Education increases the chance of working at large firms



Source: Statistics Korea, 2021 Social Survey; OECD (2019), Investing in Youth: Korea.

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Innovative SMEs are an important source of job creation for young people

A study of all firms included in the employment insurance database each year during 2014-17 ranked firms by their total employment growth. The top 15% of firms increased their youth employment by 270 thousand, an annual increase of 33% (Table 3.3, Panel A). However, the bottom 35% of firms reduced youth employment by 588 thousand. Firms in the top 15% stood out in several aspects: i) they were relatively small, with an average of fewer than five employees in 2014, compared to 22.6 employees for the bottom 35%; ii) they were relatively young; and iii) their R&D spending increased extremely rapidly, while that in the bottom 35% declined. Small, innovative firms are thus a key driver of youth employment.

This conclusion is supported by comparing firms by the number of employees (Table 3.3, Panel B). Large firms (300 employees or more) expanded their youth employment by 16 thousand over 2014-17. However, young people accounted for only 4.7% of their increased employment, as large firms prefer to hire experienced employees rather than new graduates. In SMEs (less than 300 employees), youth employment fell by nearly 88 thousand, reflecting young people's aversion to working at SMEs given their low wages and the prevalence of non-regular employment. However, there exists considerable heterogeneity among SMEs. The sharp decline in youth employment in micro-firms (fewer than ten employees) was partially offset by an increase in firms with ten to 299 employees.

Table 3.3. The sources of job creation for young people

A. A small share of firms account for a large part of the growth in youth employment (2014-17)[1]

	Change in employment			Business characteristics		
Percentile	1 000 workers	Annual growth (%)	Share of the increase (%)	Employment in 2014	Years in business	R&D spending (annual % growth)
95-100	157.0	54.3	30.4	3.1	6.1	40.3
85-95	112.6	21.5	21.8	4.7	7.3	29.2
75-85	191.8	12.3	37.2	13.7	9.1	18.3
35-75	54.4	3.7	10.5	14.4	9.6	9.4
Growing firms	515.9	13.3	100.0		10.2	
0-35	-587.8	-22.2		22.6	9.3	-0.4
Total	-71.9	-2.3		15.6		10.2

B. Innovative small firms are driving youth employment (2014-17)[1]

Type of firm	Share of firms (%)	Change in employment		Youth's share (%) of total hires	Total 2017 employment (in 1 000)	Years in business	R&D spending (annual % growth)
		Total (1 000 workers)	Youth (1 000 workers)				
300+ employees	0.5	344.3	16.0	4.7	1,077.2	14.7	34.2
1-9 employees	75.0		-119.3		3.4	8.8	32.2
10-299 employees	24.4		31.3		32.7	10.9	37.9
1-299 employees	99.4	136.3	-88.0		10.6	9.3	33.6
Venture firms[2]	3.0	103.6	27.5	26.5	29.1	9.0	61.1
Inno-Biz firms[3]	1.9	46.9	10.7	22.8	49.3	13.8	38.1
Innovative firms[4]	3.9	114.9	29.1	25.3	33.9	10.4	50.7
Total	100.0	480.6	-71.9				

1. Includes all firms included in the employment insurance database each year from 2014-17 (892 561 firms in total).
2. SMEs that have received investment from a venture capital fund.
3. SMEs that have been in business for at least three years and have received a high score from the Korean Technology Finance Corporation.
4. Firms classified as venture and/or Inno-Biz (the categories overlap). In 2016, there were 51 322 such firms.
Source: Yoon et al. (2019).

The key driver of youth employment has been "innovative SMEs" (firms certified as venture and/or Inno-Biz firms by the government). During 2014-17, young people accounted for a quarter of hiring by innovative SMEs. Consequently, their increase in youth employment was 1.8 times larger than in large companies (Table 3.3, Panel B). Venture businesses, in particular, stand out for their relatively small size, young age and investment in R&D, which increased at an annual rate of 61% over 2014-17.

Policies to promote innovative SMEs and start-ups as drivers of youth employment

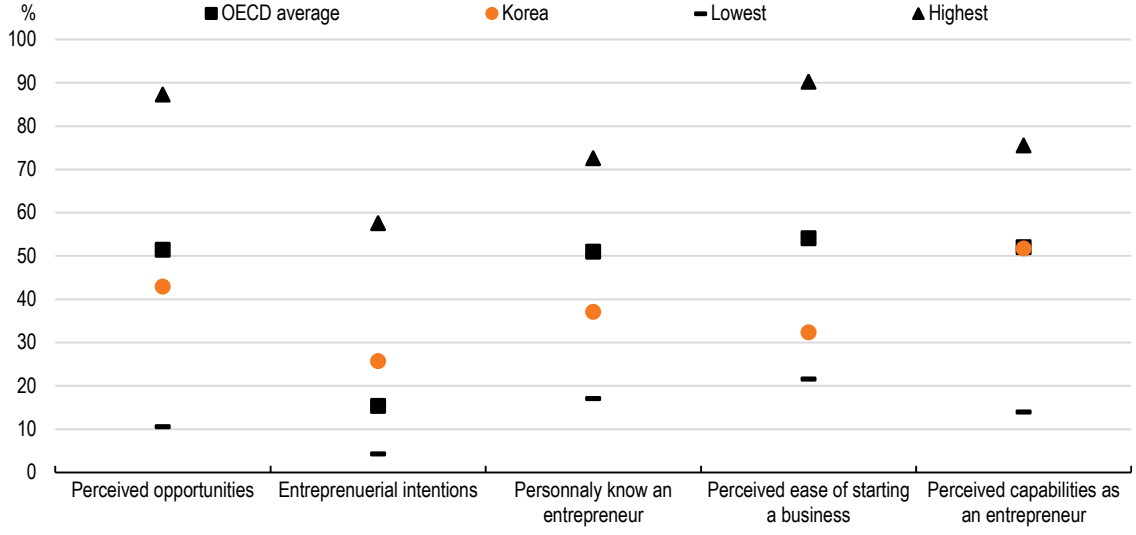
Past *OECD Economic Surveys of Korea* have focused on policies to raise productivity in SMEs and facilitate the creation of innovative start-ups:

- Innovation: narrowing productivity gaps between large firms and SMEs and between manufacturing and services requires greater diffusion of technology. While Korea is a global leader in digital technology and infrastructure, small firms in particular have significant scope for digitalisation. However, SMEs show limited capacity to invest in new technologies, such as cloud computing, big data, and AI, reflecting obstacles such as inadequate funds to invest in innovation and a lack of human resources (OECD, 2018). Implementing the Digital New Deal and the project to increase the number of smart SME factories should help narrow the gap between SMEs and large firms (OECD, 2020b).
- Public support for SMEs: Korea provides a high level of support to SMEs relative to the OECD average, including public loan guarantees that are among the highest in the OECD. Around 43% of SMEs in Korea receive government support (OECD, 2021). Studies have found that government support for SMEs has lowered the productivity of recipient firms and increased the survival probability of incompetent ones (Chang, 2016a; Chang, 2016b). To tackle these challenges, the government introduced a graduation scheme for policy loans in 2019 and in 2020, limited the number of support programmes that an SME can benefit from to three during the preceding five years. In 2018, the government reduced the use of technology credit guarantees of a corporate

business to a maximum of seven years. Finally, in 2019, the government introduced an evaluation scheme, the SMEs Integrated Management System, to track SME central government support programmes of KRW 5 billion or more, in order to enhance the effectiveness of such policies.

- Regulatory reform: the OECD's 2018 product market regulation index shows that Korea's regulations are the sixth-most stringent among OECD countries. Moreover, regulations impinge more heavily on services, with adverse impacts on SMEs given their concentration in that sector. Further tailoring regulations to company size would help reduce the burden on SMEs, which tend to have less capacity to conform to regulatory standards. Regulatory reform should include a comprehensive negative-list system and expanded use of regulatory sandboxes, which facilitate the creation of firms using new technologies and producing new goods and services (OECD, 2018).
- Reduce obstacles to SME financing: SMEs rely primarily on bank loans that are guaranteed by collateral, typically real estate. Firm failure thus imposes heavy burdens on SME owners and limits second chances. Increasing lending based on firms' technology by expanding public institutions that provide technical analysis to private lending institutions would reduce the reliance on loan collateral. Further development of venture capital, in part through the Korea New Exchange (KONEX), founded in 2013 to help attract financing for early-stage SMEs and start-ups, would promote entrepreneurship and the creation of innovative SMEs (OECD, 2018).
- Entrepreneurship: Koreans rank above the OECD average in the Global Entrepreneurship Monitor survey (Figure 3.26) in terms of interest in starting a company and average in terms of their perceived capabilities as an entrepreneur. However, they rank relatively low in the perceived ease of starting a business, opportunities for starting a business, and the percentage that know an entrepreneur. Promoting female entrepreneurs is a priority, given that the gender gap in entrepreneurship (defined as self-employed persons with employees) in Korea was the third highest in the OECD in 2016 (OECD, 2018).

Figure 3.26. Korea's attitudes toward entrepreneurship show scope for improvement



Note: The figure is based on 25 OECD countries included in the survey.
Source: GEM (2020), Global Entrepreneurship Monitor 2019/2020 Global Report, London Business School, GEM Global Entrepreneurship Monitor (gemconsortium.org).

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- Competition from firms in the large business groups (*chaebols*): although *chaebols* have played a key role in Korea's development, the concentration of economic power is often blamed for stifling firm creation and the growth of small firms. Improving corporate governance, phasing out existing

circular shareholding by firms belonging to the same business group and monitoring intra-group transactions would bring more transparency to the business groups and promote fair competition. In addition, preventing unfair subcontracting practices by large firms would benefit SMEs (Jones, 2018).

- Less training: SMEs provide less training for their workers than large firms. In 2015, only 43% of small firms provided training (other than mandatory), compared to 53% of medium-sized firms and 64% of large firms. The major constraints on training in smaller companies is a lack of time for employees, in the context of labour shortages, and the financial costs. Policies to reduce the cost of training for SMEs would be beneficial. In addition, further increasing the employment insurance enrolment rate (see Chapter 2) would allow more SME workers to benefit from the financial incentives for training that are conditional on employment insurance coverage. Using the National Competency Standards would improve the quality of training (OECD, 2020a).

Recommendations to increase youth employment

FINDINGS (Main findings in bold)	RECOMMENDATIONS (key recommendations in bold)
Improving policies for youth	
Youth employment remains consistently low despite the implementation of more than 200 initiatives to boost employment.	Consolidate the already large number of programmes to boost youth employment and focus on improving the effectiveness of existing schemes.
Breaking down labour market dualism	
Over 40% of the employed 15-29 year-olds are non-regular workers. The low wages and low legal and effective social insurance coverage of such jobs prompt young people to queue for regular jobs rather than accept non-regular jobs.	**Break down labour market dualism by relaxing employment protection for regular workers and making it more transparent, while expanding social insurance enrolment and training for non-regular workers.**
Breaking down product market dualism	
The productivity gap between large and small firms is among the largest in the OECD, reflecting stringent product market regulation. Firms with at least 300 employees pay youth 50% higher wages than those with less than ten, and the gap widens with age.	**Reduce the stringency of product market regulation by shifting to a comprehensive negative-list regulatory system, expanding the use of regulatory sandboxes and generalising reforms successfully trialled.**
Government support for SMEs is higher than the OECD average. To enhance the effectiveness of supporting policies, the government introduced a graduation scheme for technology credit guarantees in 2018 and for policy loans in 2019. It introduced an evaluation scheme, supported by the SMEs Integrated Management System (SIMS), in 2019.	**Expand the coverage of the SME Integrated Management System to ensure that public support for SMEs encourages the growth of innovative firms rather than the survival of non-viable ones, while supporting affected workers and providing training and employment services.**
SMEs lag far behind large companies in the use of digital technologies.	Provide more basic ICT courses to SME employees and older persons and reduce training costs for SMEs by increasing the coverage of Employment Insurance in small firms.
Less than half of venture capital investment is in firms at an early stage. The reliance on bank lending based primarily on collateral discourages the creation and growth of start-ups.	Activate the KONEX market, which focuses on SMEs, to increase venture capital in start-ups. Expand lending based on firms' technology.
Large business groups may be in a position to unfairly squeeze their small and medium-sized suppliers.	Intensify enforcement by the Korea Fair Trade Commission and encourage subcontracting firms to diversify, including by going international.
Reforming the education system	
The priority on admission to top universities leads to intense pressure on students, large outlays on private tutoring and a relatively low employment rate for tertiary graduates, while reducing interest in vocational education.	**Allow students more scope to develop their individual interests and talents, notably by reducing the emphasis on the standardized university entrance exam.**
Universities' practice of admitting only a strictly fixed number of students per major weakens competition among universities, a sector facing over-capacity, and slows their response to rapidly changing labour market demands.	Phase out the total enrolment caps imposed on universities in the Seoul metropolitan area to incentivise universities to eliminate their student enrolment limits by major to promote competition, quality improvement and labour market relevance.
Graduates of Meister schools and the Work-Learning Dual System have high employment rates after leaving high school, but they account for only 3% of all high school students.	Expand the designation of Meister high schools and the Work-Learning Dual System, and revitalise school-industry links to foster talent meeting various industry demands and encouraging successful labour market entry.
The share of students attending vocational high schools fell from 40% in 1995 to 18% in 2021. Moreover, the share of vocational high school graduates entering tertiary education rose from 19% to 44%..	Improve the quality of regular vocational high schools by incorporating elements of Meister schools, notably their strong connection with the business sector.
Nearly three-quarters of high school graduates advance to tertiary education, the highest share in the OECD.	Further expand and improve career counselling in secondary schools to shift students' focus on gaining admission to prestigious universities to developing a career path based on their talents and interests.
To gain admission to top-ranked universities, many students apply to departments that do not correspond to their interests and capabilities, resulting in sub-optimal use of talent.	Allow university students more flexibility in choosing and changing their field of study to reduce mismatches between the education system and the labour market.
Other labour market policies	
Government spending (as a share of GDP) on direct job creation is double the OECD average, while outlays on training and the public employment service are below it. Non-regular workers receive little firm-based training as most are hired on fixed-term contracts.	Reduce spending on direct job creation, while expanding other active labour market policies, notably training and job counselling.
Korea's minimum wage was hiked by 29% during 2018-19, raising it to 63% of the median wage of full-time workers, compared to the 50% OECD average. Given the COVID-19 pandemic and economic and employment situations, the minimum wage increased by only 2.9% in 2020, 1.5% in 2021, and 5.0% in 2022.	Use caution in setting the minimum wage to avoid pricing lesser-skilled young people out of the labour market, while taking into account conditions in vulnerable industries.

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KOREA

Sound health management and supportive policies helped Korea emerge swiftly from the pandemic. The recovery is set to continue as pandemic-era restrictions on contact-intensive services are shelved, despite the Russia-Ukraine war raising inflation and highlighting the need to increase supply chain resilience. Reducing dependence on fossil fuels can boost resilience, but is also necessary to reach ambitious climate targets. Fiscal policy support will need to be scaled back and should focus on supporting people and business dynamism rather than firm survival. The productivity gap between small and large, highly productive companies is reflected in labour market dualities of income, job quality and social protection. Gaps in the social safety net largely follow the same fault lines, and a large share of elderly are left with very low retirement income. These inequalities spur fierce competition among young men and women to enter prestigious universities and good jobs and slows down youth's labour market entry and family formation against a backdrop of a very low fertility rate.

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