OECD Reviews of Pension Systems

KOREA



OECD

OECD Reviews of Pension Systems: Korea



This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of the Member countries of the OECD.

This document, as well as any data and map included herein, are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

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

Please cite this publication as:
OECD (2022), *OECD Reviews of Pension Systems: Korea*, OECD Reviews of Pension Systems, OECD Publishing, Paris, https://doi.org/10.1787/2f1643f9-en.

ISBN 978-92-64-82120-0 (print)
ISBN 978-92-64-77949-5 (pdf)
ISBN 978-92-64-49014-7 (HTML)
ISBN 978-92-64-31976-9 (epub)

OECD Reviews of Pension Systems
ISSN 2616-4108 (print)
ISSN 2616-4116 (online)

Photo credits: Cover © CJ Nattanai/Shutterstock.com.

Corrigenda to publications may be found on line at: www.oecd.org/about/publishing/corrigenda.htm.

© OECD 2022

The use of this work, whether digital or print, is governed by the Terms and Conditions to be found at https://www.oecd.org/termsandconditions.

Foreword

This OECD Pension Review provides an assessment of Korea's retirement income provision from an international perspective and focuses on the capacity of the pension system to deliver adequate retirement income in a financially sustainable way. The review highlights OECD best practices for the design of pensions by covering public pensions and private funded plans. The analysis is based on both OECD flagship pension publications, Pensions at a Glance and Pensions Outlook, and country-specific sources and research.

The report was prepared by a team of pension analysts from the OECD's Directorate for Employment, Labour and Social Affairs (ELS) and the Directorate for Financial and Enterprise Affairs (DAF): Hervé Boulhol and Andrew Reilly (ELS) and Pablo Antolin, Diana Hourani and Romain Despalins (DAF). Editorial assistance was provided by Lucy Hulett and Natalie Corry (ELS).

The OECD is very grateful to numerous officials at the Ministry of Health and Welfare, the Ministry of Employment and Labour, the National Pension Service (NPS), the National Pension Research Institute, the Government Employees Pension Service (GEPS), the Korean Insurance Research Institute, the Korea Institute for Health and Social Affairs, the Financial Supervisory Service (FSS) and the Financial Services Commission (FSC) amongst others and in particular Hyungyung Moon from the NPS who co-ordinated the OECD exchanges with Korea. The report benefited greatly from discussions with a wide range of experts and officials during two OECD missions held virtually.

The authors are also grateful to Stefano Scarpetta (ELS Director), Mark Pearson (ELS Deputy Director), Monika Queisser (ELS Head of Social Policy Division) for their useful comments.

The opinions expressed and arguments employed herein should not be taken to reflect the official views of the Government of Korea.

Table of contents

Foreword 3

Executive summary 9

1 Introduction to the Review of the Korean pension system 11
1.1. OECD Reviews of Pension Systems 12
1.2. Why review the Korea pension system now? 13
1.3. Historical background 14
1.4. Economic and demographic context 15
References 30
Notes 30

2 Description of the Korean public pension system 31
2.1. Introduction 32
2.2. Old-age stylised facts in Korea 32
2.3. National Pension Scheme 41
2.4. Pension schemes covering specific occupations 51
2.5. Old-age income protection for the self-employed 55
2.6. Survivor pensions 57
References 61
Notes 63

3 How to improve the public pension system in Korea 64
3.1. Introduction 65
3.2. Comparison of pension replacement rates for private-sector workers 65
3.3. Special regimes 82
3.4. Pension finances of the National Pension System 85
3.5. Pension finances of the special regimes 94
3.6. Policy options 95
References 99
Notes 100

4 Governance, investment policy and risk management of the National Pension Fund 102
4.1. History of Korea's reserve fund 103
4.2. Governance of the National Pension Fund 106
4.3. Investment and risk management policies of the National Pension Fund 111
4.4. Concluding remarks and policy recommendations 119
References 120

Notes 121

5 Funded private pension arrangements in Korea 122
5.1. Structure of private pension arrangements 123
5.2. Coverage 125
5.3. Contributions 129
5.4. Tax treatment of retirement pension plans and personal pension plans 129
5.5. Assets and investment 135
5.6. Solvency and funding requirements 142
5.7. Pay-out phase 144
5.8. Market structure and competition 147
5.9. Fees 151
5.10. Supervision 154
5.11. Public education and attitudes towards retirement 154
5.12. Complementarity of public and private pension systems 156
5.13. A framework for assessing retirement income adequacy in Korea 163
5.14. Policy options 164
References 169
Notes 170

FIGURES

Figure 1.1. Korea's population will shrink the working-age population peaks 16
Figure 1.2. Life expectancy at age 65 will remain among the highest in the OECD 17
Figure 1.3. Korea has the lowest fertility rate in the OECD 18
Figure 1.4. Population ageing is very fast 19
Figure 1.5. The old-age to working-age ratio will nearly quadruple in Korea by 2060 19
Figure 1.6. The decrease in the working-age population will be the strongest in the OECD 20
Figure 1.7. GDP growth is consistently above the OECD but the gap is closing 21
Figure 1.8. Public debt has been increasing 22
Figure 1.9. Employment rates are below-average due to low employment among women 23
Figure 1.10. Employment rates for older workers are much higher than the OECD average 23
Figure 1.11. Employment differences between men and women are much higher in Korea than in most countries 24
Figure 1.12. Growth of employment rates of older workers has been strong 25
Figure 1.13. Average effective age of labour market exit in 2020 26
Figure 1.14. Retention rates are low and hiring rates are high among older workers 27
Figure 1.15. Many Korean workers are self-employed in their later working years 28
Figure 1.16. The incidence of temporary work is the highest in Korea 28
Figure 1.17. Many older workers in Korea are unable to participate in education or training 29
Figure 2.1. Public and private expenditures on old-age and survivors benefits, percentage of GDP 32
Figure 2.2. Pension expenditure by component 33
Figure 2.3. Employment rates are high for much older workers 34
Figure 2.4. The seniority wage practice is most prevalent in Korea 35
Figure 2.5. Income sources of older people, latest available year 38
Figure 2.6. Average income of older people 39
Figure 2.7. Old-age income inequality is high in Korea 40
Figure 2.8. Korean relative old-age poverty rates are the highest in the OECD 40
Figure 2.9. Old-age suicide rate is very high in Korea but has been declining 41
Figure 2.10. Number of self-employed by payment status 43
Figure 2.11. The number of women contributing has more than doubled in the last 20 years 44
Figure 2.12. Minimum years of contributions required to be eligible to a pension 45
Figure 2.13. The normal retirement age is low and will remain below the OECD average 46
Figure 2.14. Mandatory effective pension contribution rates 47
Figure 2.15. Ceiling for pensionable earnings in mandatory earnings-related schemes 48

Figure 2.16. Average annual accrual rate from the individual-earnings component 49
Figure 2.17. Future effective accrual rate for average earners 50
Figure 2.18. Self-employment rates have decreased in Korea, but remain well above-average 56
Figure 2.19. The gender pension gap is very large 58
Figure 2.20. Gender wage gap 58
Figure 2.21. Survivor pension as a share of the deceased's pension 59
Figure 2.22. Survivor pension relative to the contributory pension of the deceased spouse 60
Figure 3.1. NPS replacement rates by year of retirement at the normal retirement age 66
Figure 3.2. Future net pension replacement rates for average earners 67
Figure 3.3. Net replacement rates: Low and high earners 68
Figure 3.4. Early retirement age by gender, 2020 69
Figure 3.5. Negative impact on pension benefits when claiming pensions by up to five years before the normal retirement age, per year of early retirement 70
Figure 3.6. Impact on pension benefits when working and deferring pensions by up to five years after the normal retirement age, per year of deferral 71
Figure 3.7. Pension reduction based on employment income 72
Figure 3.8. Gross pension entitlement of low and average earners with a 5-year unemployment break relative to that of a worker with a full career, % 73
Figure 3.9. Relative level of pension benefits for an incomplete career (%) 74
Figure 3.10. Gross pension entitlements of low and average earners with a 5-year childcare break versus worker with an uninterrupted career 75
Figure 3.11. Gross pension entitlements of low and average earners with a 10-year childcare break versus worker with an uninterrupted career 76
Figure 3.12. Theoretical relative pensions of the self-employed as percentage of those of employees 77
Figure 3.13. Non-contributory first-tier benefit levels 78
Figure 3.14. Monthly entitlement to non-contributory basic pension by level of NPS pension, 2021 79
Figure 3.15. Old-age safety-net benefits compared to GDP per capita, PPP, 2020 80
Figure 3.16. Future net pension for low earners (half of average wage) by contribution years 81
Figure 3.17. Gross replacement rates by pension scheme and earnings for full-career workers 83
Figure 3.18. Gross replacement rates for civil servants compared to private-sector workers 85
Figure 3.19. Recent National Pension Fund surpluses have been between 1% and 5% of GDP 87
Figure 3.20. The size of the National Pension Fund as a share of GDP has doubled 87
Figure 3.21. Revenue and expenditure projections for NPS, 2018-88 88
Figure 3.22. Projection of the National Pension long-term financial balance, 2018-88 90
Figure 3.23. Tax wedge for an average earner is low in Korea 93
Figure 4.1. Selected in- and outflows of the national pension scheme and Assets of the National Pension Fund, 1998-2020 104
Figure 4.2. Fourth actuarial projection of the assets of the National Pension Fund 105
Figure 4.3. Committees and sub-committees supporting the governing body 109
Figure 4.4. Evolution of the target and actual asset allocation of the National Pension Fund 114
Figure 4.5. Proportion of assets of the National Pension Fund invested in the financial sector outsourced for external managers 115
Figure 4.6. Asset allocation of selected reserve funds, latest year available 116
Figure 4.7. Range of annual real investment rates of return of selected reserve funds over 10 years (between Dec 2009 and Dec 2019) 117
Figure 5.1. Coverage of quasi-mandatory and voluntary occupational plans in selected OECD countries, 2018 or latest year available 125
Figure 5.2. Percentage of firms offering occupational plans by size, 2019 127
Figure 5.3. Coverage of voluntary personal pension plans in selected OECD countries, 2018 or latest year available 128
Figure 5.4. Tax advantage from occupational pension schemes for countries with quasi-mandatory or voluntary schemes 132
Figure 5.5. Tax advantage from private pension schemes in countries with voluntary schemes 133
Figure 5.6. Overall tax advantage for contributions, by income level 134
Figure 5.7. Total assets in retirement savings plans, in 2009 (or first year available) and 2019 (or latest year available) 135
Figure 5.8. Assets in retirement pension plans, 2005-2020 136
Figure 5.9. Assets in voluntary personal pension plans, 2010-18 136
Figure 5.10. Allocation of assets in funded and private pension plans in selected asset classes and investment vehicles, 2020 or latest year available 137

Figure 5.11. Real geometric average annual investment rates of return of funded and private pension plans over the last 15 years 140
Figure 5.12. Real annual investment rates of return of voluntary pension insurance plans in Korea and pension providers in the OECD, 2003-18 141
Figure 5.13. Split of occupational plan assets 148
Figure 5.14. Assets backing occupational pension plans 149
Figure 5.15. Survey results about retirement preparedness 155

TABLES

Table 1.1. Workers in Korea separate from their main job at a relatively young 26
Table 2.1. Wage subsidies for older workers in Korea 36
Table 2.2. Overview of main reforms within the National Pension 42
Table 2.3. Number of insured by classification 43
Table 2.4. Duru Nuri beneficiaries and pay-outs 45
Table 2.5. Retirement age is increasing 46
Table 2.6. Reforms to the government Employees Pension 52
Table 2.7. Institutional arrangements for pensions covering civil servants vs. private sector workers 54
Table 2.8. Insured monthly earnings 57
Table 3.1. Long-term parameter values by pension scheme 82
Table 3.2. The main economic assumptions 89
Table 3.3. The main Demographic assumptions 89
Table 3.4. The main Labour market assumptions 89
Table 3.5. The pay-as-you-go rate ensuring the short-term balance will increase sharply 91
Table 3.6. Required contribution rate for sustainability 92
Table 3.7. History of financial projections for PSTPS 94
Table 4.1. Implementing guidelines of the OECD Core Principle of Private Pension Regulation on governance 106
Table 4.2. Public disclosure on the National Pension Fund 111
Table 4.3. Implementing guidelines of the OECD Core Principle of Private Pension Regulation on investment and risk management 112
Table 5.1. Structure of the funded pension system in Korea 123
Table 5.2. Share of personal plans by income groups, 2018 129
Table 5.3. Average contributions to occupational and personal plans, 2015 129
Table 5.4. Tax treatment by source 130
Table 5.5. Tax treatment of pension income by source and pay-out type 131
Table 5.6. Asset allocation of retirement pension plans in Korea, by type of plan, 2020 138
Table 5.7. Investment restrictions for pension providers by type of plan 139
Table 5.8. Investment rates of return of occupational plans, 2015-20 141
Table 5.9. Minimum funding ratio by year 142
Table 5.10. Eligibility requirements by scheme and type of pay-out 145
Table 5.11. Pay-out choice of members of occupational plans in 2018 145
Table 5.12. Conditions for early release 146
Table 5.13. Total cost ratio by type of retirement pension plan 151
Table 5.14. Total cost ratio by retirement pension plan provider 151
Table 5.15. Fee structures in OECD countries 153

Follow OECD Publications on:



https://twitter.com/OECD

https://www.facebook.com/theOECD

https://www.linkedin.com/company/organisation-eco-cooperation-development-organisation-cooperation-developpement-eco/

https://www.youtube.com/user/OECDiLibrary

https://www.oecd.org/newsletters/

This book has...

StatLinks

A service that delivers Excel® files from the printed page!

Look for the StatLink at the bottom of the tables or graphs in this book. To download the matching Excel® spreadsheet, just type the link into your Internet browser or click on the link from the digital version.

Executive summary

This review provides a detailed analysis of the different components of the Korean pension system, which consists of public pensions, occupational pensions and voluntary individual schemes. It assesses the system according to the OECD best practices and guidelines, and draws on international experiences to make recommendations for improvement.

Korea has made tremendous progress towards improving social security in old age over the last decades, but the pension system has not reached maturity yet. The introduction of the National Pension Scheme (NPS) in 1988 was a major achievement. The initial values of pension parameters raised the income prospects of the first cohorts of NPS retirees well beyond what their contributions could have financed. This also means that these parameter values could not be maintained over time, and substantial reforms have been implemented to improve long-term financial sustainability. Major reforms included: higher contribution rates, lower benefit promises and higher retirement ages. Moreover, the 1998 reform of the management of the National Pension Fund (NPF) led to significant upgrades in its governance and financial investment policy. Overall, the assessment of NPS income and financial prospects is backed by solid analyses conducted in regular actuarial reviews. Furthermore, the introduction of safety-net pensions since 2007 has provided small benefits to the most needy.

Despite significant progress, much more needs to be done. The current defined benefit system generates low pension levels, leading to significant income vulnerability in old age. One severe difficulty arises from the exceptionally fast demographic changes facing Korea, which implies that even these low future pension levels cannot be financed in a sustainable way without further important reforms. This means that Korea has to tackle the formidable joint challenge of raising pension levels while enhancing pension finances. As both contribution levels and coverage rates are low, and the pension system remains fragmented, there is a number of reform options to make the Korean pension system better fit for purpose, raising old-age social protection in a sustainable way.

This review focuses on pension policies to improve contributory pensions, with two implications. Even though contributory pensions interact with the means-tested basic pension component, this review does not include recommendations to improve old-age safety nets. In addition, the effectiveness of some of the proposed policy measures would be enhanced by labour market changes, primarily related to the practice of enforced retirement before the statutory retirement age, itself closely related to seniority-wage practices. Yet, labour market reforms are not within the remit of this review.

Korea also has an occupational benefit system, where employers have to either provide a severance pay plan or a retirement pension plan to their employees, and voluntary personal pension schemes that complement the mandatory public National Pension Scheme. Ensuring greater reliance on complementary pension schemes is a good way to boost incomes from the public system and diversify sources of retirement income. However, to better serve this complementary role, the take-up of the schemes should be improved. This can be achieved by increasing the use of retirement pension plans in the workplace, making private pension schemes more financially attractive, and improving public understanding about saving for retirement.

Recommendations to improve public contributory pensions

- Increase NPS contribution rates considerably and as soon as possible. Use additional resources to increase accrual rates in a financially sustainable way and to preserve at least a small reserve fund
- Extend the contribution period after age 60 such that pension entitlements continue to accrue until at least the statutory retirement age
- Ensure a gradual convergence of pension rules covering different occupations towards a full integration of all schemes
- Raise the wage ceiling to contributions substantially
- Finance some pension redistributive components from the state budget
- Ensure active participation in the pension system of all eligible individuals, by improving co-ordination with tax authorities to verify income levels for the individually insured and increasing penalties for employers who do not enrol their workers
- Link the retirement age to life expectancy, reduce the current 5-year gap between the early and the statutory retirement ages and consider moving faster to age 65
- Fully permit combining work and pension receipt from the statutory retirement age by removing the earnings ceiling beyond which pensions are reduced
- Extend the duration of both unemployment and childcare credits and include the first child in the latter

Main recommendations to improve funded private pensions

- Fully transition from severance pay schemes to retirement pension plans
- Limit exemptions to occupational pension plan coverage
- Boost tax incentives and introduce non-tax financial incentives
- Simplify the pension tax system
- Lift investment restrictions and encourage more suitable investment strategies
- Restrict permitted cases of early withdrawal
- Encourage people to purchase annuity products to protect them against longevity risks
- Increase the age of access to private pension plans to align it to the retirement age of the public system

1 Introduction to the Review of the Korean pension system

This chapter introduces the Review of the Korean pension system. After a quick introduction, it describes the historical background of the pension system in Korea, before providing the current demographic and economic contexts. Finally, labour market indicators are used to compare Korea and other OECD countries. In the other chapters, building on the OECD's best practices in pension design, this review will provide deeper analyses of the various pension components in Korea as well as policy recommendations to improve the system.

1.1. OECD Reviews of Pension Systems

The OECD Reviews of Pension Systems deliver an in-depth analysis of the pension system in selected countries. They focus on the pension system's capacity to provide adequate retirement income in a financially sustainable way. The reviews examine how demographic, social and economic developments affect pension benefits and pension spending. They cover all components of the pension system, both old-age safety nets and earnings-related schemes, public and private pensions, and special regimes for specific occupations. The analyses heavily draw on OECD flagship publications (*Pensions at a Glance* and *Pensions Outlook*) and use country-specific sources and research.

OECD Reviews of Pension Systems: Korea is the eighth in the series, after Ireland (2014), Mexico (2016), Latvia (2018), Portugal (2019), Peru (2019), the Czech Republic (2020) and Slovenia (2022). It is financed by the Korean Government and is jointly produced by the OECD Directorate for Employment, Labour and Social Affairs and the Directorate for Financial and Enterprise Affairs. This review provides policy recommendations on how to improve the Korean pension system, building on the OECD's best practices in pension design. The review describes the Korean pension system in great detail and identifies strengths and weaknesses based on cross-country comparisons.

This introductory chapter starts by succinctly discussing why now is a good time for an OECD review of the Korean pension system. It then very briefly describes the historical background of the Korean pension system before concentrating on Korea's broader economic, labour market and demographic backgrounds.

The second chapter describes the main earnings-related schemes that exist in Korea. The general scheme covering private-sector workers is the National Pension Scheme (NPS). Entitlement to the NPS pension requires at least 10 years of contributions,[1] and pension can be taken from the age of 62 years in 2020, increasing to 65 for those born in 1969. Early retirement is possible with a penalty, up to five years before the normal retirement age. The chapter then moves to the special regimes, namely the Government Employees Pension Scheme (GEPS), the Private School Teachers Pension Scheme (PSTPS), the Special Post Office Pension Scheme (SPOPS) and the Military Personnel Pension Scheme (MPPS).

The third chapter compares the adequacy of the Korean pension system with that in other OECD countries. This comparison includes safety-net benefits – the non-contributory basic pension. The financial sustainability of the NPS is also analysed taking into account funding projections of the National Pension Fund based on various national sources. The chapter then moves to analysing the financial position of the special schemes for government workers, military personnel and private school teachers. The chapter then concludes with policy recommendations to improve public pensions.

The fourth chapter analyses Korea's private pension schemes. Korea has a mandatory employer-funded scheme which can either be a retirement pension or severance pay scheme, and a voluntary personal pension scheme as a third tier. The chapter and evaluates these schemes with reference to other OECD countries. It explores coverage, contribution levels, the tax treatment of private pensions, trends in assets under management and investment returns, solvency and funding requirements, the pay-out phase, market structure and competition, supervision, and governance. It then provides policy recommendations to improve Korea's funded pension schemes with reference to the OECD Core Principles of Private Pension Regulation and international best practice.

1.2. Why review the Korea pension system now?

The pension coverage of private-sector workers only started in 1988 in Korea. This is very late in comparison to other OECD countries, the majority of which had pension systems in place in the first decades of the 20th century. When the pension system was introduced, the population structure was very young, but has since been ageing at an unprecedented rate.

Ageing pressure and current high levels of poverty amongst the elderly generate major challenges for the retirement system in Korea. To deal with ageing, many countries have reformed their pension system over the last decades, trying to keep up with demographic, financial market and labour market developments. Needed measures taken in response to the COVID-19 crisis may generate additional pressures on public finances over time, especially if interest rates were to increase.

In which way and how strongly have pension system reforms varied across countries? Changes in retirement ages, contribution rates and pension benefit levels have been common. Moreover, some countries decided to introduce automatic adjustment mechanisms into their pension systems, based on demographic and economic developments (OECD, 2021[1]). While these innovations aim at reducing political risks in particular to deal with population ageing trends, their correct design and implementation are challenging.

Korea has been particularly active in reforming its pension system since its introduction in 1988, mainly focusing on improving financial sustainability as initial pension promises could not be maintained over the long term. Among the main reforms since the 1990s (Chapter 2) were: increasing the total contribution rate from 3% to 9%; decreasing the pension promise for a 40-year career from 70% to 40% of past wages; increasing the statutory retirement age from 60 to 65 years; and, introducing a means-tested safety-net pension for the most vulnerable.

Korean pensions consist of a partially funded public defined benefit system, old-age safety nets, an occupational scheme, and voluntary private savings. The defined benefit system has two main schemes: the general social security scheme (*National Pension Scheme* or NPS) and the civil servants pension scheme (*Government Employees Pension Scheme* or GEPS). The rules for the latter are also partially applicable for the pension schemes covering the military personnel (*Military Personnel Pension Scheme* or MPPS), special post office workers (Special Post Office Pension Scheme or SPOPS) and private school teachers (*Private School Teachers Pension Scheme* or PSTPS). The safety net consists of a means-tested non-contributory basic pension targeted at the poorest 70% of those aged 65+ supplemented by several other means-tested components covering basic livelihood and housing amongst others. Under the Korean occupational benefit system, employers have to either provide a severance pay plan or a retirement pension plan to their employees. In 2018, 27% of workplaces in Korea had retirement pension plans for their employees (Korea, 2018[2]). Individuals can also access voluntary personal pension plans to help them save for retirement.

Now is the time to take stock of where these measures have taken the whole system. There is limited short-term pressure on the finances of the NPS as the number of eligible retirees is still low. However, old-age poverty rates are very high causing social and intergenerational solidarity issues. Moreover, improvements in the long-term sustainability of the NPS are necessary as the pace of ageing will be very fast in Korea, with demographic projections pointing to a sharply decreasing size of the working-age population combined with a rapidly increasing number of retirees. This will create imbalances in pension financing and might ultimately put downward pressure on retirement income. Projections also suggest that public pensions will be transformed from partially funded to pay-as-you-go within 40 years, as the National Reserve Fund may be fully depleted. This Review analyses: whether the parameters of the public pension scheme are set in a way that makes the core of the system well equipped to face both ageing challenges and possibly deep changes in the functioning of the labour market; and, how private pension schemes can be improved to provide complementary income.

1.3. Historical background

Korea did not introduce a mandatory pension system until 1960, and then only for government employees. The following section describes the historical setting of the different schemes that currently exist within Korea. Reform details and current rules and regulations are provided in Chapter 2.

1.3.1. Introduction of the Mandatory Pension System

The first mandatory pension scheme was introduced in 1960 and covered only government employees (GEPS). As in many countries, introducing GEPS helped attract talented people to the public service, thereby raising staff retention of civil servants.

In addition to the old-age pension benefit in the GEPS, there was also a disability benefit and lump-sum survivor benefit amongst others. Within the first few years after inception several other benefits were added – medical expense subsidy, childbirth expense subsidy, invalidity allowance, childbirth allowance and funeral service expense subsidy – to expand the coverage and scope of the schemes available to government employees. This led to a wide-ranging pension and employment package that covered all aspects of government employee's lives, which became increasingly costly to finance. Reforms have therefore concentrated on trying to ensure the long-term financial stability of the system by increasing contributions, lowering entitlements and tightening eligibility criteria (Chapter 2).

In the beginning, the scheme included both public officials and military personnel. However in 1963, a separate pension system for the military (MPPS) was created. In 1975, a pension system for private school teachers (PSTPS) was launched, and in 1982 a pension system was launched for special post office workers (SPOPS) and as with the MPPS previously the structure of both was very similar to that of public officials. The current rules are provided in Chapter 2.

1.3.2. Transformation of the private voluntary scheme into a severance scheme

The first retirement benefit scheme – the voluntary retirement allowance – was actually introduced in 1953, but it was only voluntary for employers to contribute. In 1961, it was changed into a severance payment system and made mandatory for firms with at least 30 employees, gradually expanded until including workplaces with at least 5 employees since 1989. Severance payments are made when leaving an employer at any stage of the career and so are not necessarily used during the retirement phase.[2]

In 2005, the occupational pension system was introduced as an alternative to the severance payment system. Employers could choose to keep the existing severance scheme or to convert it to a tax-advantaged defined benefit or defined contribution plan with the consent of employees. The new system introduced a portable individual retirement account (IRA) for workers who change jobs.

The occupational pension system became available for all firms regardless of their size in December 2010. The IRA system was reformed further in 2011 being replaced by Individual Retirement Pension (IRP) plans. IRP plans allowed workers (full-time employees only) to voluntarily set up their own accounts. Accrued retirement benefits are mandatorily transferred to individual retirement plan accounts (where applicable) at retirement or when changing employment. In 2017, the coverage of IRP was expanded to include the self-employed, part-time workers, public servants, military personnel and private school teachers.

1.3.3. Coverage of private-sector workers by public pensions

Although the National Pension Act was legislated in 1973 to cover private-sector workers, its enforcement was delayed due to the world economic recession triggered by the first oil shock. After the revision of the act in 1987, the National Pension Scheme (NPS) was implemented in 1988.

When establishing a pension system countries normally make a choice within a range of options, from a Beveridge approach, paying flat-rate benefits to all, to a Bismarckian scheme where benefits are directly linked to past earnings. Many countries actually follow a combination of these two models, as does the Korean NPS system in that half of the reference earnings for pension purposes is based on individual earnings with the other half based on the average earnings of all those contributing. This second component thereby effectively pays a flat-rate benefit based on each year of contribution with no direct link to individual earnings.

In addition, when the scheme is introduced, countries have to decide on how to treat those of pensionable age. The first cohorts of retirees under the new scheme have been unable to contribute during their working lives as there was no pension system in place at the time. Whilst the Korean scheme did not initially provide any compensation to those who were older than the retirement age, a means-tested non-contributory basic pension was introduced in 2007, two decades after the start of the NPS (Chapter 3). Moreover, closely related to the idea of a "gift" being given to the first cohorts of retirees upon the introduction of the pension scheme, those who initially contributed were entitled to a future pension promise that far exceeded the level obtained from compounding their contributions. While contribution rates were raised and future benefit promises were lowered, initial promises for the first generations remain a liability that is contributing to the gradual projected depletion of the National Reserve Fund.

At the beginning, the NPS covered workers in workplaces with 10 or more employees. In 1992, the compulsory coverage was expanded to firms with 5 or more employees. It was further expanded in 1995 to farmers, fishermen and the self-employed who reside in rural areas, and finally in April 1999 to those in urban areas, thereby finally covering the total labour force between the age of 18 and 59.

The NPS started with just over 4 million insured workers in 1988, but coverage expanded quickly, reaching over 16 million by the end of 1999. In principle, the NPS should now cover the entire working population that is not covered by the other mandated pension programmes (GEPS, PSTPS, SPOPS and MPPS). However, there are a large number of employees who are not making regular contributions. The main reason is because they are classified as incapable of making a contribution as either there income is below the earnings floor to contributions, around 10% of average earnings, or because of business failures leading to a temporary suspension of payment. Both of these reasons are particularly relevant among the self-employed and as a result only about half of the urban self-employed population actually contributed to the scheme immediately after they were eligible (Moon, 2001[3]). Coverage has since increased. The current rules and regulations of the system as well as coverage levels, including amongst the self-employed, are discussed in Chapter 2.

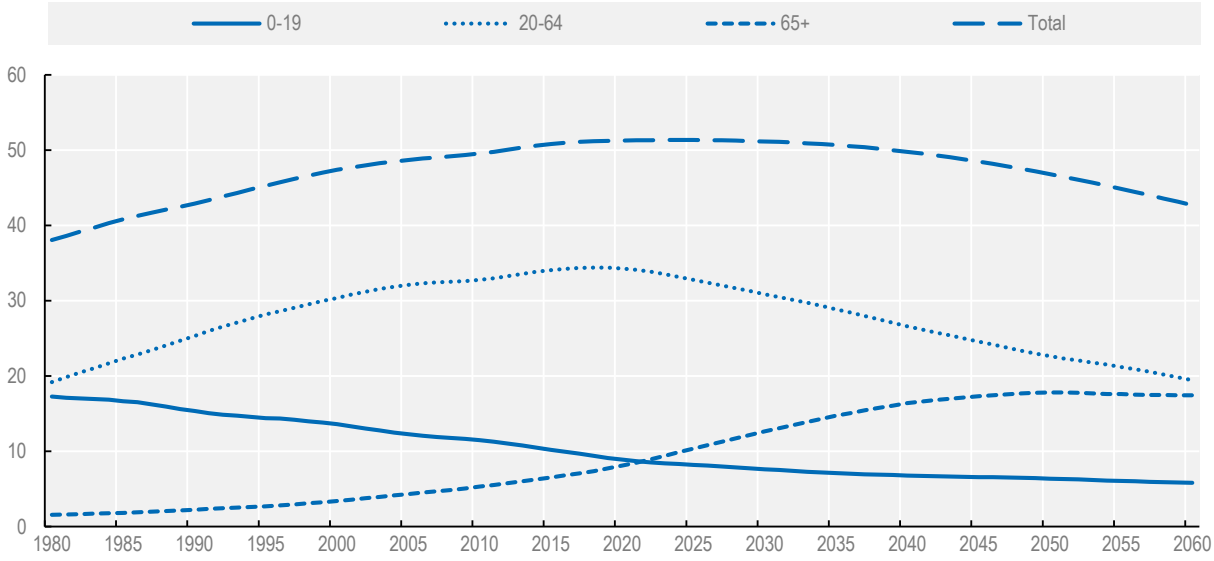
1.4. Economic and demographic context

1.4.1. Demographics

Within the next five years Korea's population is going to start shrinking. The population is projected to peak at 51.3 million around 2024-25, and would then decline to 49.8 million in 2040, 46.8 million in 2050 and to 42.7 million by 2060 (Figure 1.1). The overall decrease is due to a sharp drop in the number of working-age adults and to the still declining number of young people which started in the late 1970s. While there were 12.3 million under-20-year-olds in Korea in 2005, their number fell to 8.9 million in 2020 – a drop of 28% – and is expected to fall further to 6.8 million in 2040 and 5.8 million in 2060 – a further drop of 35% since 2020. As for 20-64 year-olds, there were 32.1 million in 2005 increasing to 34.3 million in 2020, but their number is projected to decline to 26.6 million by 2040 and to 19.4 million by 2060 – a drop of 43% since 2020.

Figure 1.1. Korea's population will shrink the working-age population peaks

Total population and population by age-group, historical values and projections, in millions



Source: United Nations, World Population Prospects – 2019 Revision.

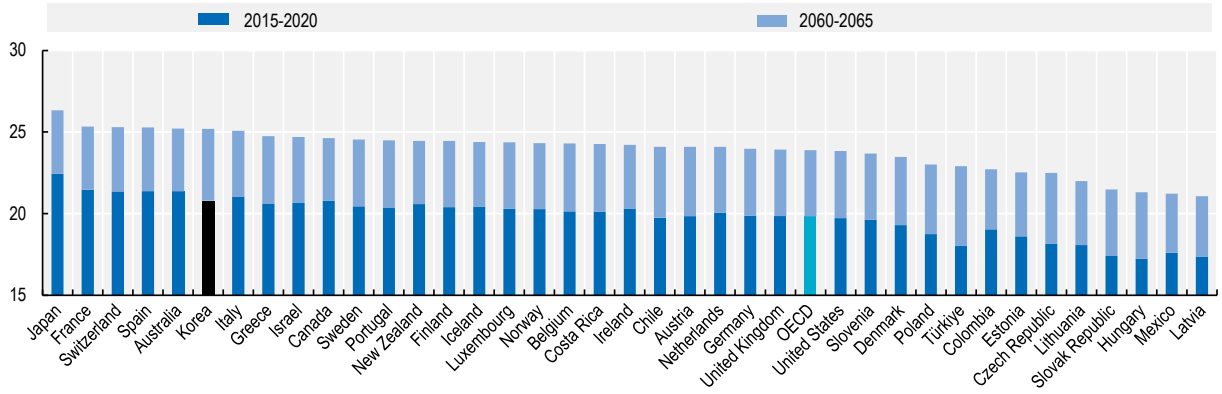
StatLink https://stat.link/mu5ygn

Conversely, the upward trend in the number of people 65 and older has started to accelerate. It stood at 8.1 million in 2020, up from 2.1 million in 1990, and is projected to reach a peak of 17.8 million in 2050 before plateauing. Hence, the combination of the sharp decline in the size of both the working-age and the young populations with the sharp increase in the old-age population triggers very fast ageing in Korea. While there were more than 11 young people under 20 for every person aged 65 or above in 1980, the 65+ will outnumber the under 20-year-olds from 2022 and there will be three people over 65 for every young person under 20 by 2060. Lower mortality rates at older ages and record-low fertility rates are the key drivers.

People who reach 65 in Korea currently have a remaining period life expectancy – i.e. based on current mortality rates – of 20.8 years, placing Korea one year above the OECD average of 19.9 years, but nearly two years behind top-ranked Japan (Figure 1.2). By 2060, it is projected that those aged 65 will have a much higher remaining life expectancy of 25.2 years in Korea against 23.9 in the OECD, with only Japan having more than 0.2 years higher at 26.3 years.

Figure 1.2. Life expectancy at age 65 will remain among the highest in the OECD

Remaining period life expectancy at age 65



Note: Shown is period life expectancy that is based on mortality rates in a specific period, here 2015-20 and 2060-65, rather than to a specific birth cohort.
Source: United Nations World Population Prospects: The 2019 Revision.

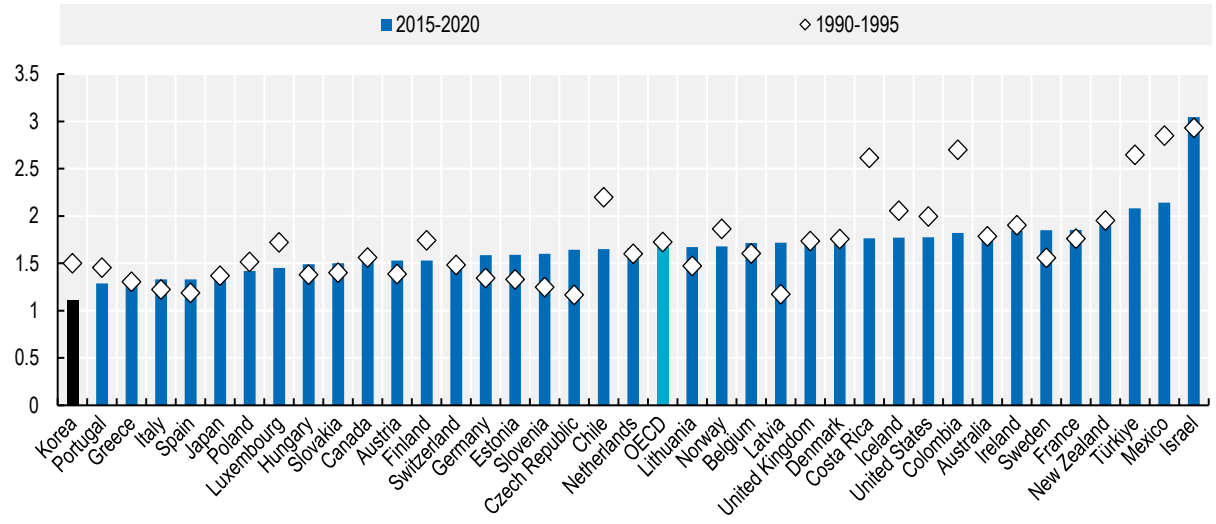
StatLink https://stat.link/01a37b

Korea currently reports the lowest fertility rates among all OECD countries, at only 1.11 children per woman of age 15 to 49, with Greece, Italy, Portugal and Spain next lowest at around 1.3, while the OECD average at 1.67 is well below what is needed to stabilise the size of the population in the long run (Figure 1.3). Across all OECD countries, only Israel, Mexico and Türkiye have fertility rates of at least 2.1. While fertility rates in Korea were still relatively high in the early 1980s, they plummeted to about 1.5 children per woman in the early 1990s and have kept shrinking further until today.

Measures of fertility can differ across different organisations. The above figures refer to the estimates from the United Nations Population Prospects data to enable a consistent international comparison from a common source. Statistics Korea data are higher, estimating current fertility at 1.24 in both 2015 and 2020. Statistics Korea forecasts that the fertility level will decrease to 1.14 in 2030 before increasing to 1.27 in 2050 and beyond against 1.09 and 1.39 based on UN projections, respectively.

Figure 1.3. Korea has the lowest fertility rate in the OECD

Total fertility rate, children/woman



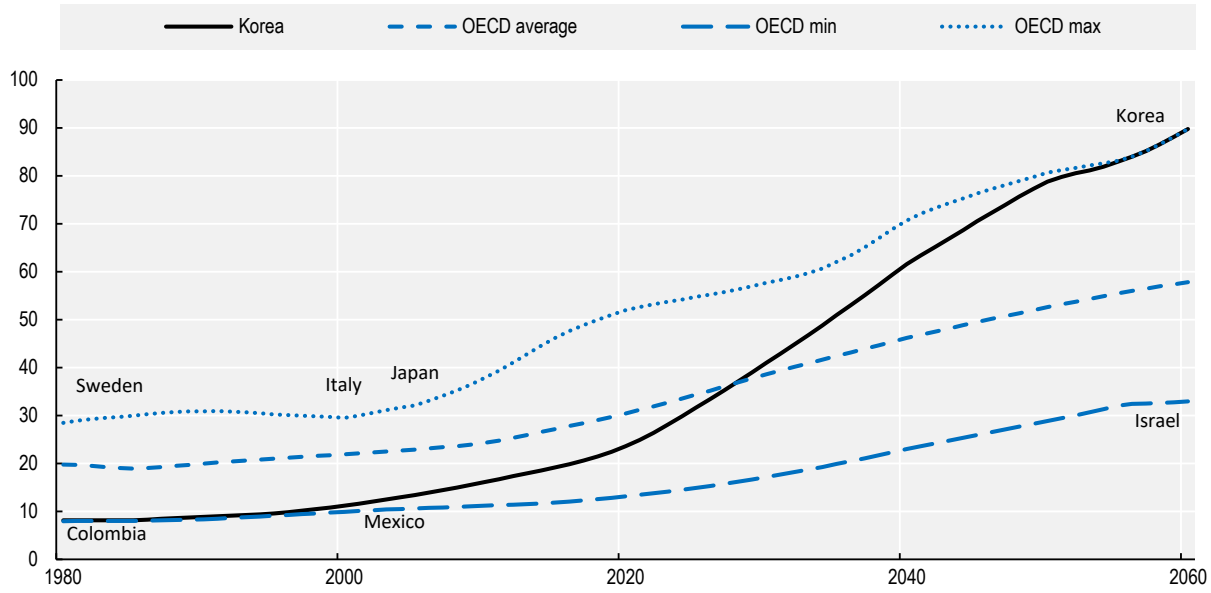
Source: United Nations, World Population Prospects – 2019 Revision.

StatLink https://stat.link/uywh5n

Those trends lead to a rapid pace of ageing in Korea that is unprecedented in the OECD. In 1980, Korea and Colombia had the youngest population of any OECD country when considering the number of people aged 65+ compared to those aged 20-64 (Figure 1.4 and Figure 1.5). Currently, there are 23.6 people in Korea aged 65 or over for every 100 people aged 20 to 64, still maintaining Korea well below the OECD average of 30.4, within a range of 13.2 in Mexico and 52.0 in Japan. In the next few decades the pace of ageing will accelerate rapidly so that in 2060 Korea will be the oldest OECD country based on this metric at 89.7, just above Japan at 83.3 and over 30 percentage points above the OECD average of 57.8. Korea will therefore have gone from being the youngest country in the OECD to the oldest. While longer lives are undoubtedly a positive development the financial pressure on both Korea's pension and health care systems will intensify.

Figure 1.4. Population ageing is very fast

Number of people aged 65+ per 100 people aged 20-64

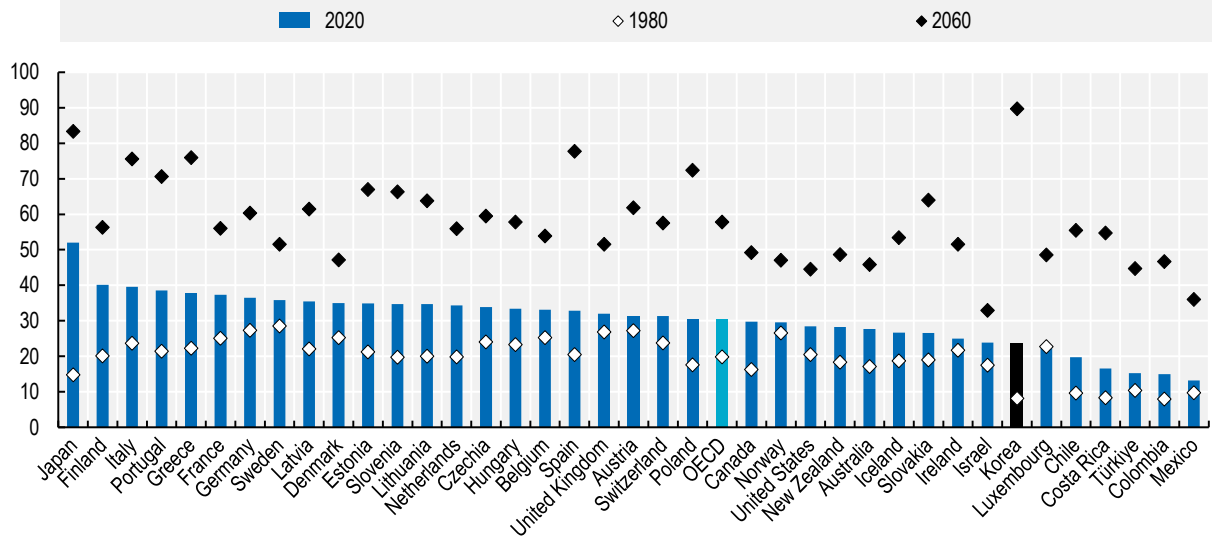


Source: United Nations, Department of Economic and Social Affairs, (2019). World Population Prospects 2019, Online Edition.

StatLink https://stat.link/s3gdry

Figure 1.5. The old-age to working-age ratio will nearly quadruple in Korea by 2060

Number of people older than 65 years per 100 people of working age (20-64), 1980-2060



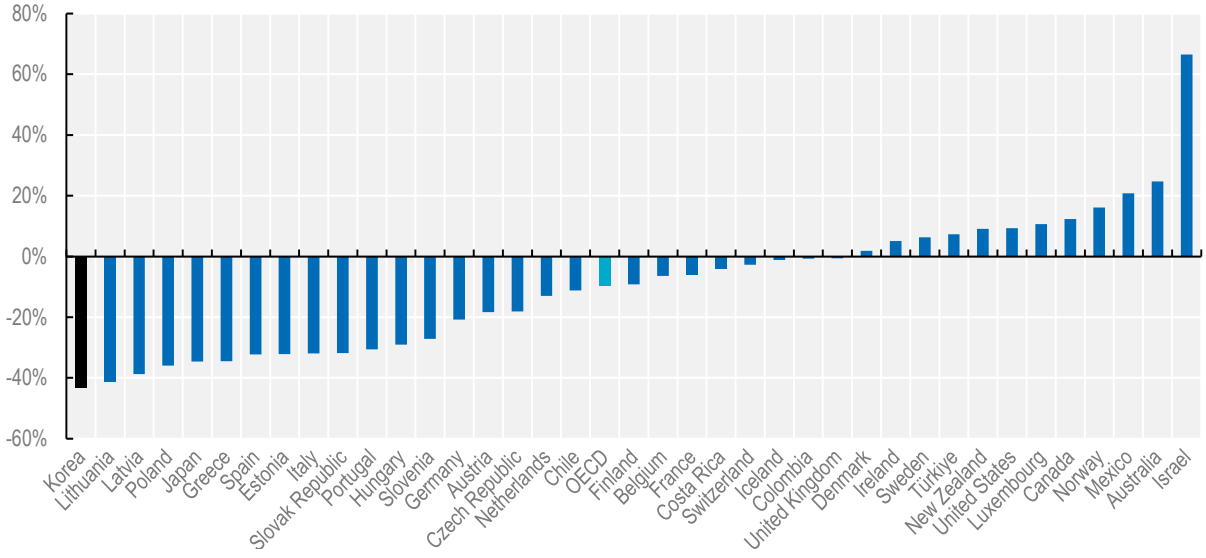
Source: United Nations World Population Prospects: The 2019 Revision.

StatLink https://stat.link/nljs4f

Among all OECD countries, Korea is the country with the largest projected decline in the size of the working-age population (in percentage) between 2020 and 2060 (Figure 1.6). The projected 43%-drop in the number of 20-64 year-olds compares with 35% in Japan and 10% on average in the OECD. By contrast there will be an increase in 12 OECD countries, with a maximum of almost 67% in Israel with Australia and Mexico being the only other countries over 20%. The falling number of working-age adults in Korea will have major consequences for the labour market, GDP and pensions.

Figure 1.6. The decrease in the working-age population will be the strongest in the OECD

Projected change in the population aged 20-64 in OECD countries between 2020 and 2060



Source: United Nations, World Population Prospects – 2019 Revision.

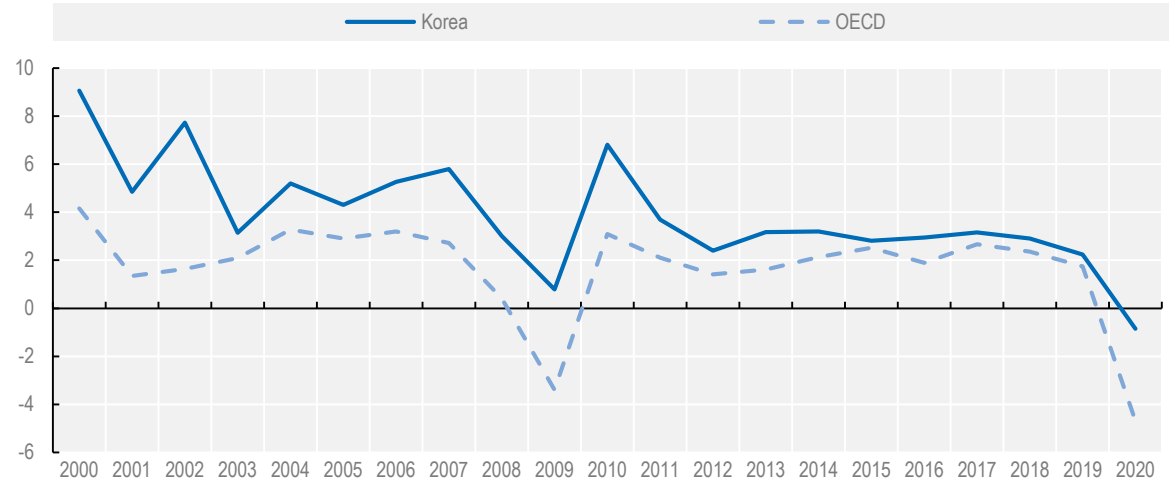
StatLink https://stat.link/wv04k2

1.4.2. Economic context

Economic differences between Korea and the most developed OECD countries have been sharply reduced over the last 20 years, with GDP consistently growing above the OECD average even though recently the difference in real GDP growth rates has been declining (Figure 1.7). Over this period real GDP growth has averaged 3.9% per year in Korea compared to 1.7% across the OECD as a whole.

Figure 1.7. GDP growth is consistently above the OECD but the gap is closing

Real GDP growth, by year, in percentage



Source: OECD Economic Outlook: Statistics and Projections, https://stats-2.oecd.org/Index.aspx?DataSetCode=EO101_INTERNET#.

StatLink https://stat.link/q1hu42

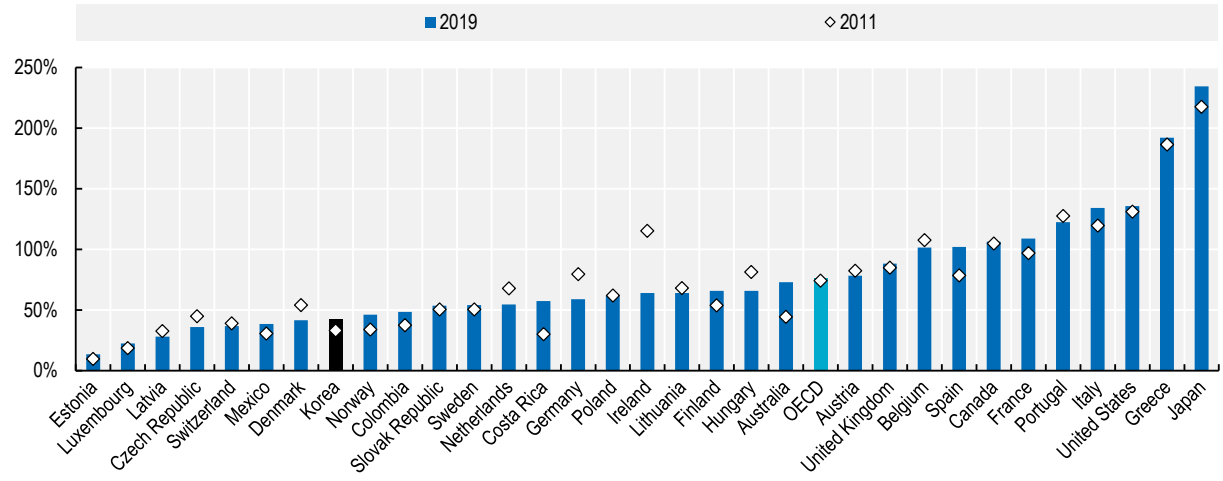
Based on long-term projections, future GDP growth will be lower than in the past in Korea, with the declining working-age population being an important contributing factor. According to the latest estimates from the Korean Development Institute, real GDP growth will gradually decline to around 1.4% per year in the 2030s, 1.0% in the 2040s, 0.8% in the 2050s and then around 0.5% thereafter. OECD long-term projections are less optimistic, with growth at just under 1.0% per year in the 2030s on average, falling to 0.3% and 0.1% in the next two decades (OECD Economics Department long-term projections, Autumn 2019). This compares with 1.3% on average across the OECD in the 2030s and 1.2% thereafter.

Rapid population ageing in Korea is likely to have an adverse effect on government's net financial position. Assuming that the NPS legislation remains unchanged, the reserve fund for the NPS is projected to peak in 2034 as a share of GDP, and be insufficient to cover pension spending from 2042. The fund is projected to be depleted in 2057 based on the 4th Actuarial Review (2018) of the NPS (Chapter 3).

The level of public debt in Korea is low compared to other OECD countries, although it has increased over the last few years (Figure 1.8). Before the COVID-19 crisis, general government debt currently stood at around 42% of GDP, with only five OECD countries recording lower levels. By comparison the debt ratio in Japan was nearly six times higher at just under 234% of GDP, with Greece also just under 200%.

Figure 1.8. Public debt has been increasing

Gross general government debt as percentage of GDP



Source: OECD National Accounts.

StatLink https://stat.link/m8cs06

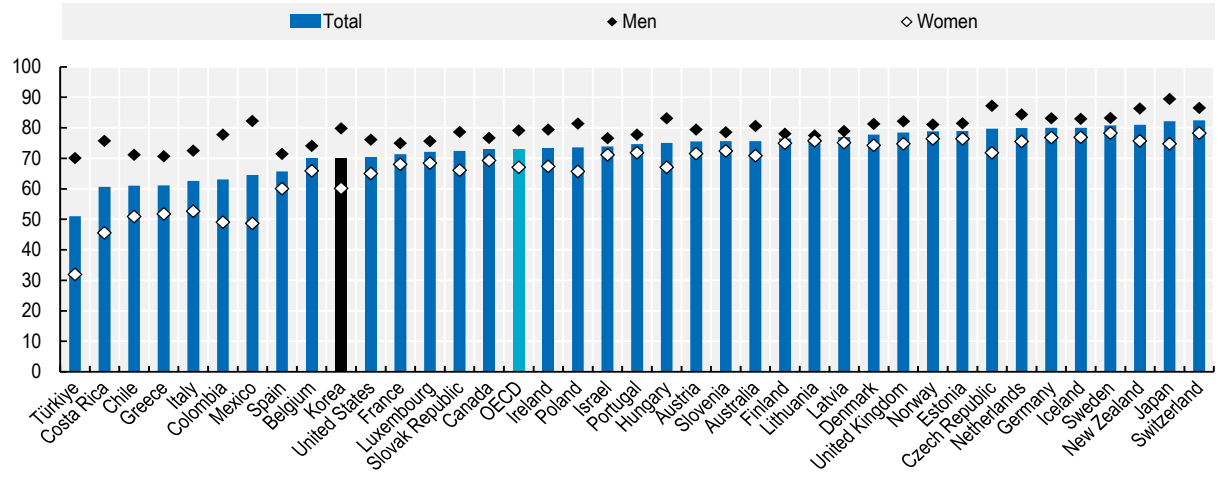
1.4.3. Labour market

There is substantial room to improve employment performance in Korea. In 2020, 70.1% of 20-64 year-olds worked in Korea, against 73.1% in the OECD (Figure 1.9). While the total employment rate is higher than for example in Spain (65.7%) and Italy (62.6%), it is still one of the lowest in the OECD and well below top-performing countries, such as Japan (82.2%) and Switzerland (82.5%).

The employment gender gap is wide compared to other countries, with a 19.6 percentage point gap between men and women against 12.1 percentage point on average in the OECD. Only, Chile, Colombia, Costa Rica, Italy and Türkiye have a larger gap. Employment rates among women in Korea are thus considerably below the OECD average (60.2% against 67.0% in the OECD).

Figure 1.9. Employment rates are below-average due to low employment among women

Employment rates, 20-64 year-olds, 2020, percentage.



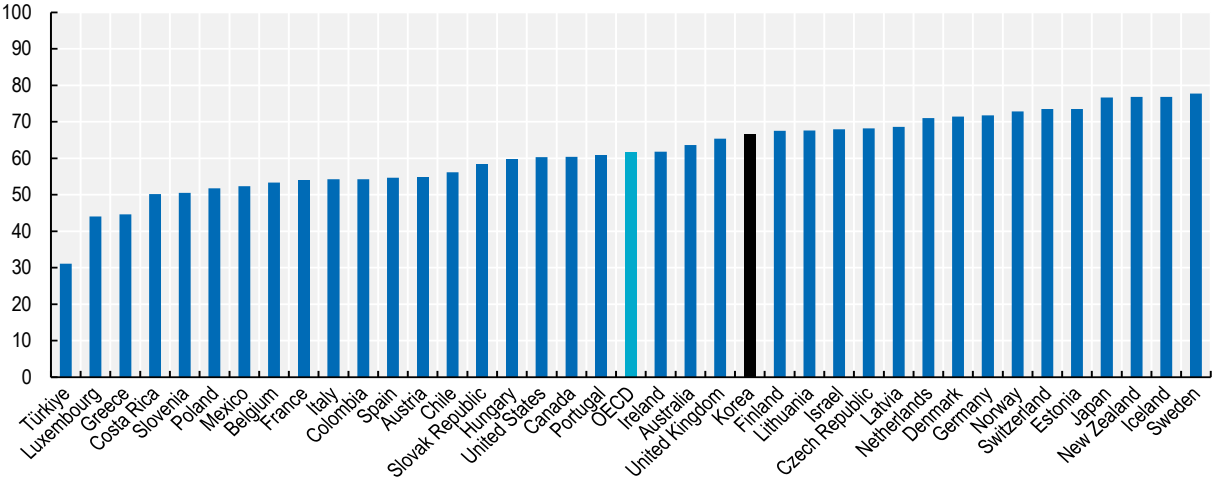
Source: OECD Labour Force Statistics.

StatLink https://stat.link/e5tsh0

Relatively low employment in Korea is heavily influenced by low rates for younger age groups while the employment rates for older workers are well above the OECD average, at 66.6% and 61.7%, respectively, among the 55-64 age group (Figure 1.10).

Figure 1.10. Employment rates for older workers are much higher than the OECD average

Employment rates, 55-64 year-olds, 2020, percentage.



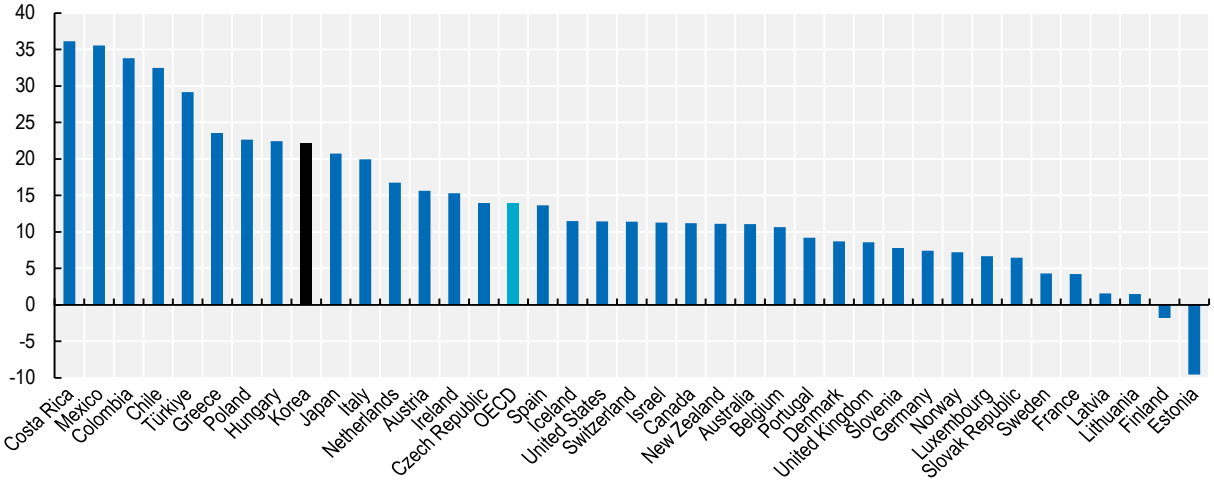
Source: OECD Labour Force Statistics.

StatLink https://stat.link/oibec1

Among this older age group, the gender gap is also one of the highest in the OECD (Figure 1.11). Employment rates among women are 22 percentage points lower in Korea than among men compared to an OECD average of 14 percentage points, and with only eight countries having a larger gender gap. Of all OECD countries only Finland and Estonia have higher employment rates for women than for men in this age group.

Figure 1.11. Employment differences between men and women are much higher in Korea than in most countries

Gender gap in employment rates, 55-64 year-olds, 2020, percentage points



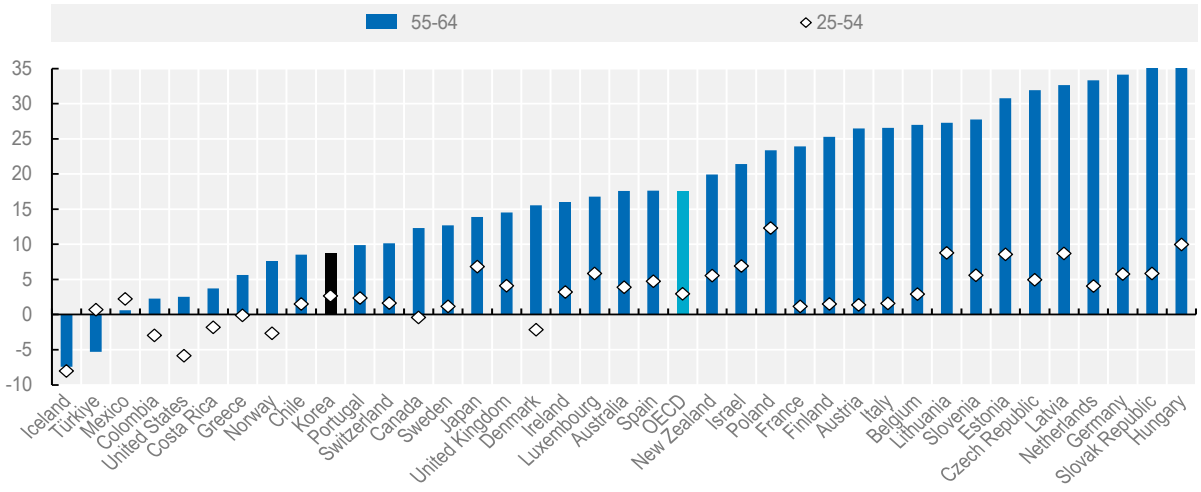
Source: OECD Labour Force Statistics.

StatLink https://stat.link/sn36jm

The employment rate of the 55-64 age group increased by 9 percentage points between 2000 and 2020 in comparison to 3 percentage points for the 25-54 age group. While this is encouraging, the increase for the 55-64 age group was about twice larger in the OECD on average where the employment rate grew from 44.1% in 2000 to 61.7% in 2020 (Figure 1.12).

Figure 1.12. Growth of employment rates of older workers has been strong

Change in employment rates, 2000-18, percentage points



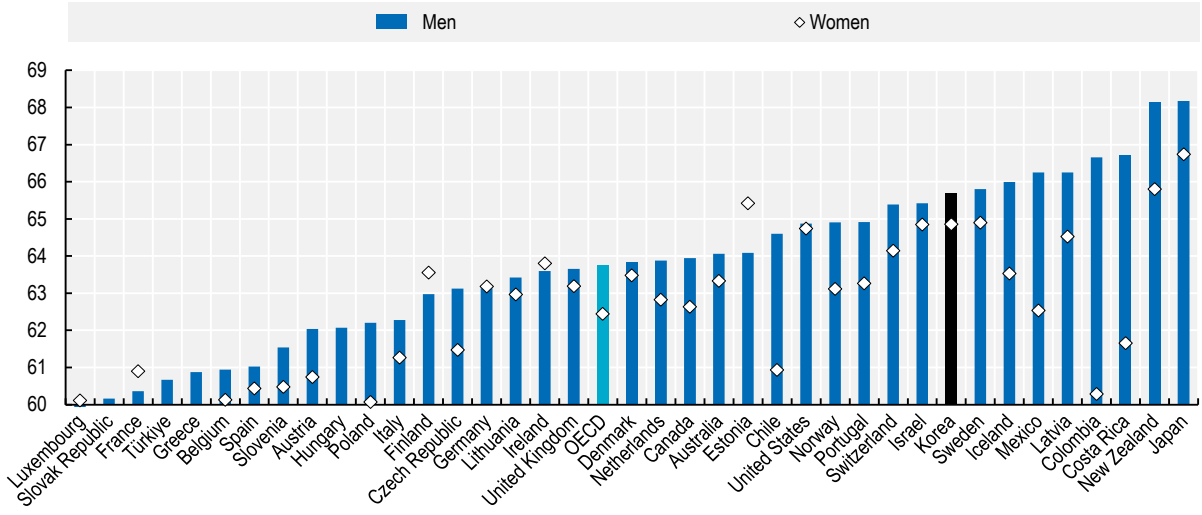
Source: OECD.Stats database, Labour Force Survey by gender and age.

StatLink https://stat.link/vn9as5

In Korea, employment after age 65 remains high relative to that in other OECD countries: 49% of people aged 65 to 69 are employed in Korea, second only to Japan at 50% and well above the OECD average of 23% (Chapter 2). For those aged 70 to 74 the employment rate is now the highest in the OECD at 37% against an OECD average of 11%, with Colombia, Israel, Japan, Mexico and New Zealand being the only other countries above 20%.

High employment for older workers in Korea partly reflects individual income constraints triggered by very low old-age benefits, as these older workers have only been able to contribute to the pension system for a short period of time. With the pension system yet to mature, most of today's older workers in Korea hence need to continue working at a much older age than in many OECD countries. They effectively finally leave the labour market at an average age of 66 years for men and 65 years for women, at least two years above the OECD averages and ranking Korea 9th and 4th highest for men and women, respectively (Figure 1.13).

Figure 1.13. Average effective age of labour market exit in 2020



Note: Effective labour market exit age is shown for the five-year period 2015-20.
Source: OECD estimates based on the results of national labour force surveys and the European Union Labour Force Survey.

StatLink https://stat.link/8ahmpd

Furthermore, many workers have "retired" early from their main job (for most before reaching age 55), after which they have had to find alternative employment, often in lower paid employment or self-employment, resulting in lower contribution levels to the pension system. The average age of separation from the main job (i.e. the job the worker has held for the longest duration) for workers aged 55-64 (including the self-employed) was as low as 51.2 years for men and 47.7 years for women in 2021 (Table 1.1). This practice of being "retired" early is covered in more detail in Chapter 2.

Table 1.1. Workers in Korea separate from their main job at a relatively young

Age of separation from the main job for workers aged 55-64 in Korea by gender, 2021 (years).

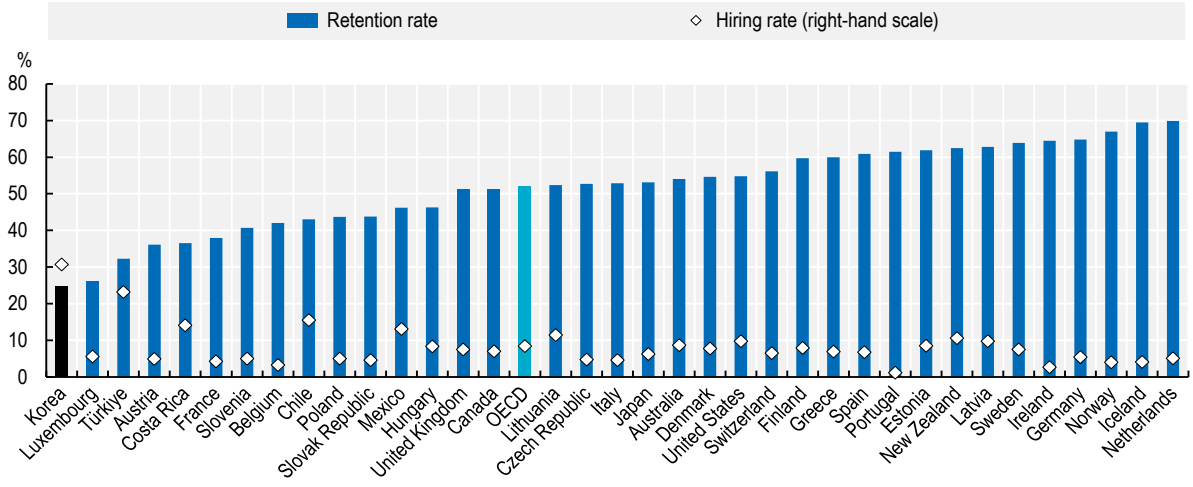
	Share of workers (%)					Average age of separation (years)
	Below age 30	Ages 30-39	Ages 40-49	Ages 50-59	Ages 60-64	
Men	0.9	8.1	23.7	51.5	15.8	51.2
Women	11.9	9.2	18.9	50.3	9.7	47.7

Source: Statistics Korea, Additional Economically Active Population Survey for the Elderly.

Given "mandatory retirement" practices, only 25% of Korean workers aged 55-59 in 2020 were working with the same employer they had five years before – just under half the OECD average of 52% (Figure 1.14). Although hiring rates of older workers are by far the highest of any OECD country, at 31% compared to 8% on average, the quality of the jobs is generally much lower than that of previous employment, as shown below.

Figure 1.14. Retention rates are low and hiring rates are high among older workers

Hiring[1] and retention[2] rates of older workers in OECD countries, 2020 or latest



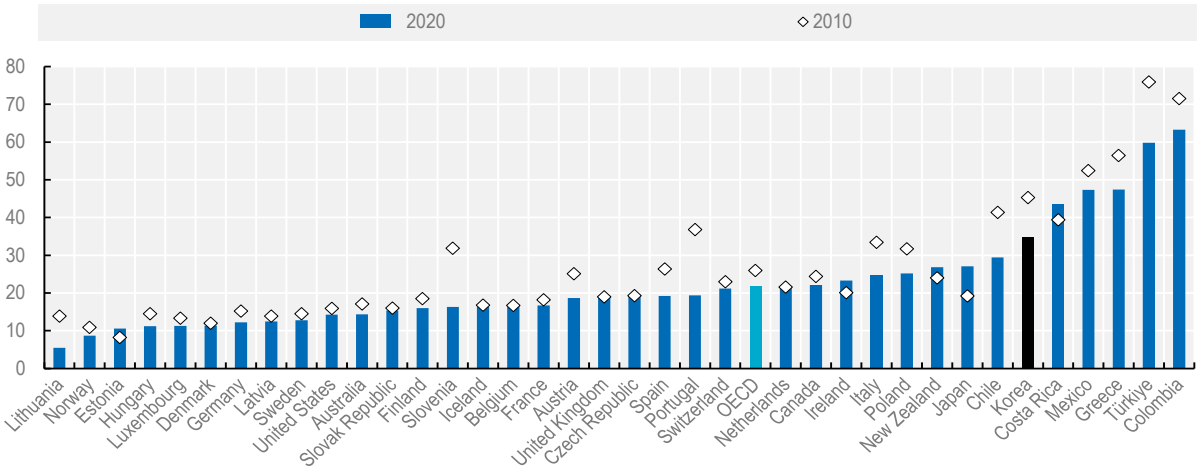
1) Employees aged 55-64 with job tenure of less than one year as a percentage of total employees.
2) All employees currently aged 60-64 with job tenure of five years or more as a percentage of all employees aged 55-59 5-years previously (4-years for the United States).
Source: OECD Older Worker Scoreboard, 2020, http://www.oecd.org/els/emp/ageingandemploymentpolicies.htm.

StatLink https://stat.link/c9so5y

Consistent with the decline in job security with age, the level of self-employment amongst older workers is much higher than among the total working-age population and one of the highest in the OECD. In 2020, 35% of those aged 55 to 64 in employment were self-employed compared to 22% on average across the OECD (Figure 1.15). Only Colombia, Costa Rica, Greece, Mexico and Türkiye have higher levels among older workers. For all workers, the share of the self-employed in total employment is equal to 25% against an OECD average of 17%.[3] The prevalence of self-employment has, however, been declining in Korea in recent years among older workers, as in 2010 45% of them were self-employed, 10 percentage points higher than currently, with only Chile, Portugal, Slovenia and Türkiye having a larger decline over the same time period.

Figure 1.15. Many Korean workers are self-employed in their later working years

Rate of self-employment for those aged 55 to 64 as a percentage of total employment, 2010 and 2020



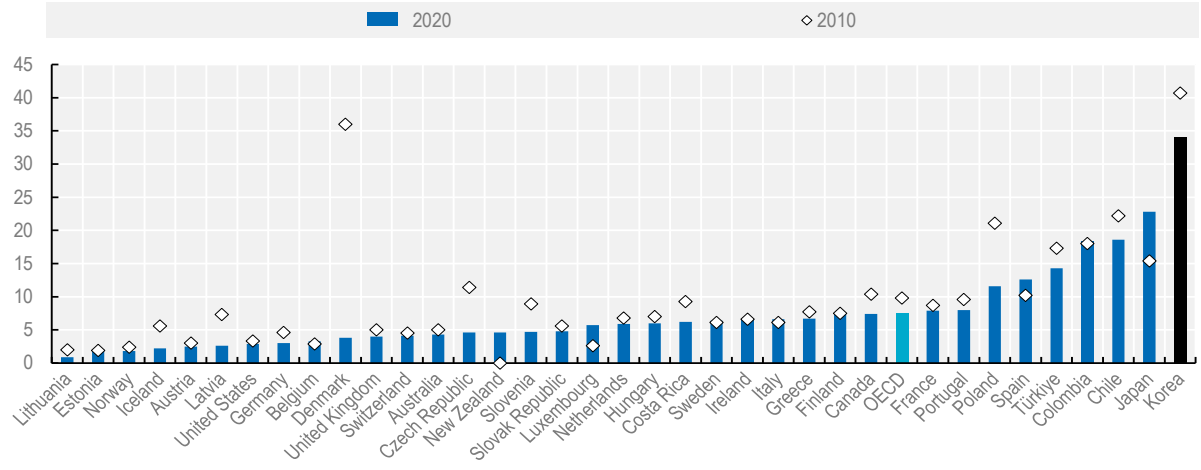
Source: OECD Older Worker Scoreboard, 2020, http://www.oecd.org/els/emp/ageingandemploymentpolicies.htm.

StatLink https://stat.link/9gsx2m

Moreover, often the new jobs are poor-quality, highly insecure and low-paid jobs. Just over one-third of workers aged 55-64 in Korea hold a non-permanent job, compared with an OECD average of under one-twelfth (Figure 1.16). There has been a downward trend in Korea over recent years as in 2010 the incidence was four out of ten workers, with the OECD average also falling from one-tenth. Precarious work is even more common among older workers, with six out of every ten of those aged 65-69 in non-permanent positions, i.e. roughly three times the OECD average (OECD, 2018[4]).

Figure 1.16. The incidence of temporary work is the highest in Korea

Incidence of temporary work, 55-64 (% of employees)



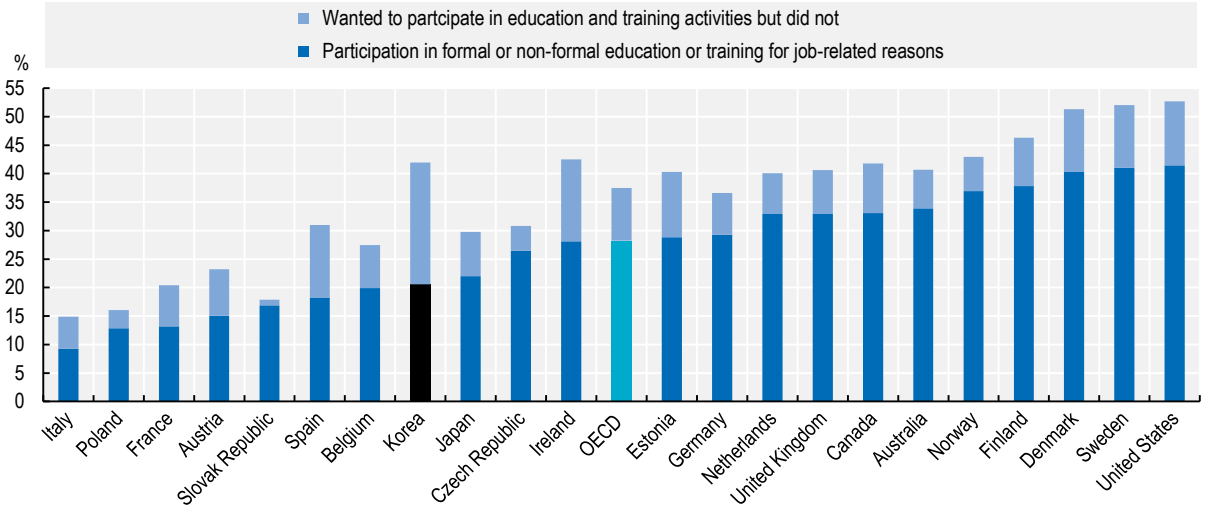
Source: OECD Older Worker Scoreboard, 2020, http://www.oecd.org/els/emp/ageingandemploymentpolicies.htm.

StatLink https://stat.link/zpi7et

Results from the OECD Survey of Adult Skills (PIAAC) (OECD, 2019[5]) suggest that older workers in Korea are not well equipped to deal with recent technological advances. This further impedes the ability of older workers to remain in their primary employment position at later ages. While this is partly related to Korea's rapid economic catching-up, it also indicates that many workers have been unable to learn on the job to a sufficient level. This is supported by the relatively low level of participation in education or training amongst older workers in Korea compared with other countries (Figure 1.17).

Figure 1.17. Many older workers in Korea are unable to participate in education or training

Percentage of population aged 55-64 participating in education and training or expressing an interest in training but not actually participating, 2012



Note: OECD is a weighted average of the countries in the chart. Data for the United Kingdom refer to England and Northern Ireland and data for Belgium to Flanders.
Source: OECD Survey of Adult Skills (PIAAC), 2012, www.oecd.org/skills/piaac/.

StatLink https://stat.link/03c5hl

Figure 1.17 also suggests that there is a strong willingness to learn among older workers in Korea. Slightly more than 20% of those aged 55-64 report unmet demands for training, more than twice the OECD average for this age group. If all of these training or education demands were met, Korea would rank among the best-performing countries.

The main reason quoted for being unable to participate in training is being too busy at work, which is applicable across all age groups, and accounts for 40% of all response reasons for those aged 55 to 64, i.e. the highest across all OECD countries. With the common practice of companies ending contracts of workers at early ages, there is little incentive for these companies to invest in upskilling their older employees, resulting in them being left behind in terms of new skills and technological advances. This therefore makes it even less likely that they will be able to continue in their primary occupation later in their career.

Being too busy at work is supported by the fact that workers in Korea work much longer hours than in the majority of other OECD countries, across all groups including for older workers.[4] Although the number of working hours in Korea is still large, it has declined steadily in recent years. According to the Survey on Labour Conditions, average working hours across all groups were 217 hours per month in 1993, falling to 198 hours in 2006 and 180 hours in 2017.[5]

References

Korea, S. (2018), *Retirement Pension Statistics in 2018*, Statistics Korea, https://kostat.go.kr/portal/eng/pressReleases/11/1/index.board?bmode=read&bSeq=&aSeq=382089&pageNo=1&rowNum=10&navCount=10&currPg=&searchInfo=&sTarget=title&sTxt=. [2]

Moon, H. (2001), *The Korean Pension System: Current State and Tasks Ahead*, Korean Development Institute. [3]

OECD (2021), *Pensions at a Glance 2021: OECD and G20 Indicators*, OECD Publishing, Paris, https://doi.org/10.1787/ca401ebd-en. [1]

OECD (2019), *Skills Matter: Additional Results from the Survey of Adult Skills*, OECD Skills Studies, OECD Publishing, Paris, https://doi.org/10.1787/1f029d8f-en. [5]

OECD (2018), *Working Better with Age: Korea*, Ageing and Employment Policies, OECD Publishing, Paris, https://doi.org/10.1787/9789264208261-en. [4]

Notes

[1] The old-age pension is available with 20 years of contributions with a so-called partial pension being available with a minimum of 10 years of contributions. The design of the NPS was meant to target a replacement rate of 70% initially after 40 years of contribution. This has been reduced to 40% for future generations.

[2] The severance payment is a lump-sum benefit of one month of the base salary for every year worked for that particular company, and is eligible to full-time workers who have worked for at least one year. The base salary is computed as an average of the prior three months of salary. There is no guarantee of receiving payment if the firm goes bankrupt, as the majority of severance accounts are not funded. The severance payment system also excludes workers in smaller firms (fewer than five employees). The scheme therefore favours workers with a long history of employment within solid companies. Ultimately though the severance payment system cannot be regarded as a retirement account able to guarantee income in later life as even if an individual remains at one company throughout their career they can withdraw funds from the severance account during employment for new home purchases or medical expenses, for example.

[3] In total across all age groups, the share of self-employment in total employment in Korea is the sixth highest among OECD countries.

[4] The average number of hours actually worked per worker in 2018 was 1993, well above the OECD average of 1 734 hours. Koreans aged 55-64 years' work on average 39.2 hours per week for women and 44.4 hours for men. By comparison the OECD averages for older workers are 35.3 hours for women and 40.9 hours for men, with older women in Korea working longer than in every OECD country except for Colombia and Türkiye and men only ranking behind Colombia, Mexico and Türkiye. While accustomed to long working hours, they also choose to work longer to complement for their low hourly wages.

[5] This decline is a direct result of the reduction in statutory weekly working hours from 48 hours prior to 1990, to 44 hours until 2004 and then 40 hours currently, though an additional 12 hours of overtime is still possible.

2 Description of the Korean public pension system

This chapter presents some old-age stylised facts in Korea related to labour market exit ages, old-age income and pension spending. It then describes the rules of the current National Pension Scheme and explains how future pensions are calculated. It also describes the pension scheme for civil servants and other special regimes, before concentrating on the self-employed and the rules for survivor pensions.

2.1. Introduction

The Korean public pension system consists of three main components. Firstly, an old-age safety net, the Basic Pension, provides a means-tested benefit to 70% of the population aged 65 and over in 2020. Secondly, the contributory National Pension Scheme (NPS) covers private-sector workers since its introduction in 1988 and, in principle, all the self-employed since 1999 (Chapter 1). NPS benefits are currently paid from current contributions and accumulated financial assets, but those assets are projected to be depleted by 2057. The NPS is a defined benefit scheme with a strongly redistributive benefit formula in which the accrual has two equally weighted components: one is based on the average income of all participants while the other is calculated based on individual contribution records. Thirdly, three special regimes are in place covering civil servant (Government Employees Pension Scheme, GEPS), the military (Military Personnel Pension Scheme, MPPS), workers in private schools (Private School Teachers Pension Scheme, PSTPS) and workers in the Special Post Offices (Special Post Office Pension Scheme, SPOPS).

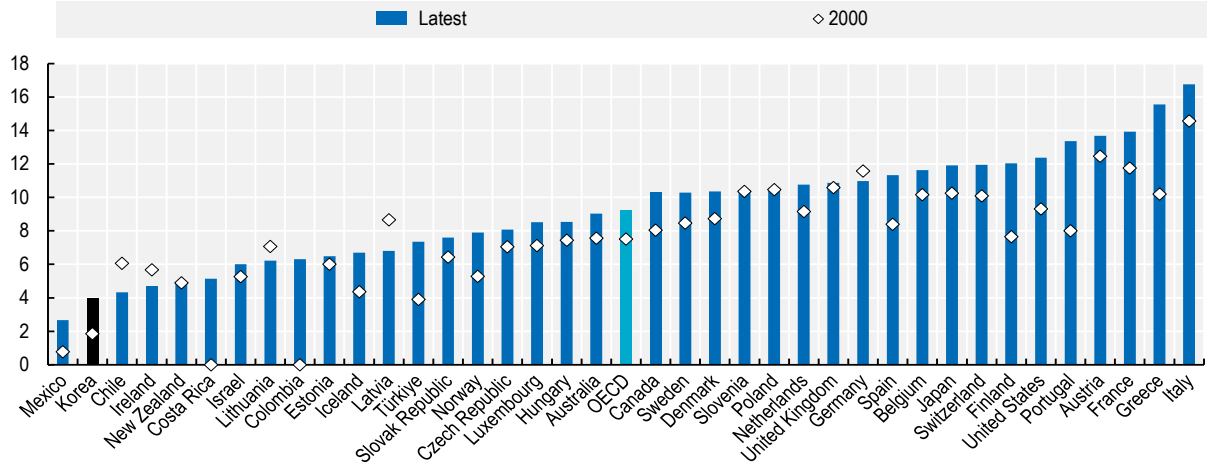
The chapter is organised as follows. The next section presents some old-age stylised facts in Korea. Section 2.3 describes the rules of the NPS. Section 2.4 discusses the four special regimes. Section 2.5 highlights the differences that exist within the NPS between coverage for employees and those classified as self-employed. This is followed by one section covering survivor pensions and gender gaps in wages and pensions.

2.2. Old-age stylised facts in Korea

2.2.1. Total pension spending

Given that the main component of the pension system was only introduced in 1988, pension expenditures in Korea are still relatively low in international comparison (Figure 2.1). With increasing numbers of individuals becoming eligible for a pension from the NPS, there has been a significant increase in pension spending from a very low level of 1.9% of GDP in 2000 to 4.0% currently. Mexico and Türkiye also had big increases in expenditure due to both population ageing and increased coverage, as well as low retirement ages in the case of Türkiye. Now, only Mexico spends less on pensions than Korea, while the OECD average is much larger at 9.2% of GDP.

Figure 2.1. Public and private expenditures on old-age and survivors benefits, percentage of GDP



Source: OECD Social Expenditures Database (SOCX), https://www.oecd.org/social/expenditure.htm.

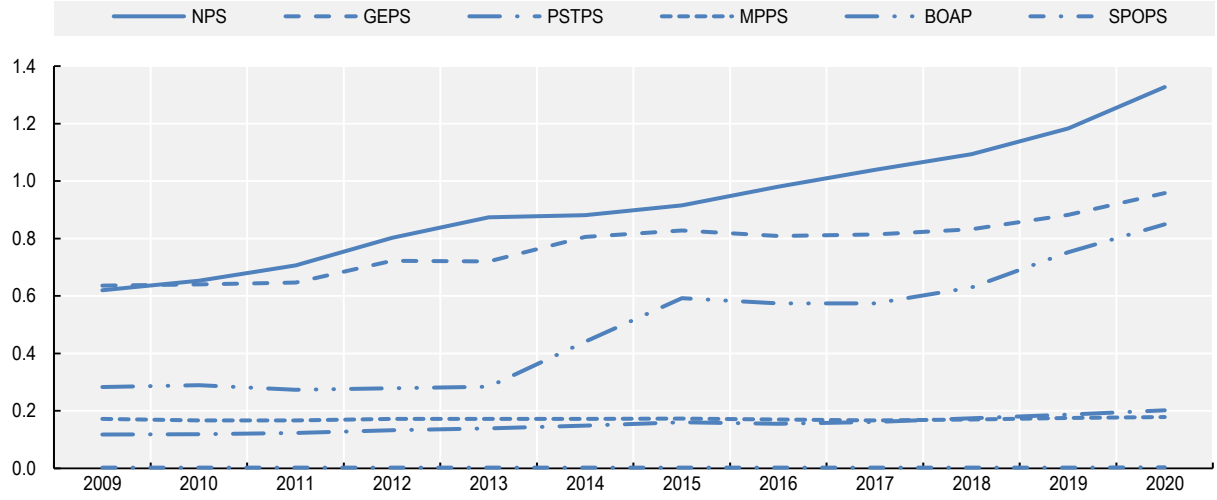
StatLink https://stat.link/c4mzjy

As gradually more individuals will become entitled to a pension in Korea, spending is set to increase further as a share of GDP. By 2050, it is projected to reach 6% of GDP (OECD, 2021[1]) (spending projections are covered in greater detail in Chapter 3).

The distribution of spending by components has changed over recent years with the introduction of the new basic old-age pension (BOAP) and the increasing number of new retirees becoming eligible for at least a partial pension from the NPS (Figure 2.2). In 2009, both the NPS and the Government Employees Pension Scheme (GEPS) spending amounted to around 0.6% of GDP, with the BOAP at under 0.3%. However, by 2020 the NPS benefits amounted to over 1.2% of GDP with expenditure set to increase markedly over the next couple of decades, while the GEPS expenditures also increased to 0.9% of GDP. With the 2014 reform to the BOAP effectively doubling the value of the benefit, expenditures increased substantially and now stand at 1.0% of GDP. Moreover, the Private School Teachers Pension Scheme (PSTPS), the Military Personnel Pension Scheme (MPPS) and the Special Post Office Pension Scheme (SPOPS) represented 0.12%, 0.17% and 0.002% in 2009, respectively, and amounted to 0.20%, 0.18% and 0.0028% respectively in 2020.

Figure 2.2. Pension expenditure by component

Percentage of GDP



Note: NPS – National Pension Scheme; GEPS – Government Employees Pension Scheme; PSTPS – Private School Teachers Pension Scheme; MPPS – Military Personnel Pension Scheme; BOAP – Basic Old-Age Pension; SPOPS – Special Post Office Pension Scheme.
Source: SOCX database, Annual Reports.

StatLink https://stat.link/um7zps

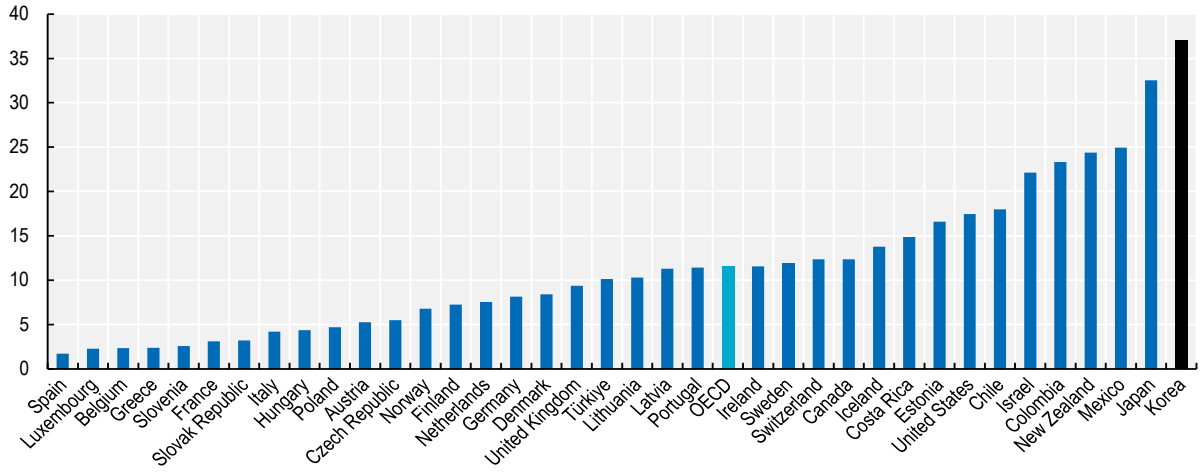
2.2.2. Labour market exit age

The current normal retirement age of 62 years in Korea is low in comparison to other OECD countries, with an average of around 64 years currently and a high of 67 years in a few countries. The OECD defines the normal retirement age in a given country as the age of eligibility of pensions without penalty from all schemes combined, based on a full career from age 22. Nevertheless, many workers in Korea continue in employment until very late in life. On average workers in Korea exited the labour market at 65.7 years for men and 64.9 years for women in 2020, compared to an OECD average of 63.8 and 62.4 years, respectively (Figure 1.13 in Chapter 1). Only Japan, New Zealand and Sweden had higher average exit ages for women.

As the pension system is still maturing in Korea, the statutory retirement age plays a much lesser role in influencing retirement decisions than in other OECD countries. The gap between the average effective exit age and the normal retirement age is thus amongst the highest in Korea at 4 years for men and 3 years for women. Closely related with such a high labour-market exit age, employment rates of older workers are also high in Korea. While the employment rate of workers aged 55 to 64 is slightly above the OECD average at 67% (Figure 1.10 in Chapter 1), Korea comes top when considering even older ages (Figure 2.3). Among individuals aged between 70 and 74 years over one-third are in employment, with Japan being the only other country above 30% and the OECD average at only 11%.

Figure 2.3. Employment rates are high for much older workers

Employment rates, 70-74 year-olds, 2020, percentage



Source: OECD Older Worker Scoreboard, 2020, http://www.oecd.org/els/emp/ageingandemploymentpolicies.htm.

StatLink https://stat.link/8zwg6l

Most workers in Korea quit their main job relatively early (Table 1.1 in Chapter 1). This is heavily influenced by mandatory retirement ages set within firms, which limit the adverse impact of the seniority wage system on both labour cost at older ages and firms' competitiveness. In Japan, too, it is common for employers to enforce a mandatory retirement policy (Box 2.1).

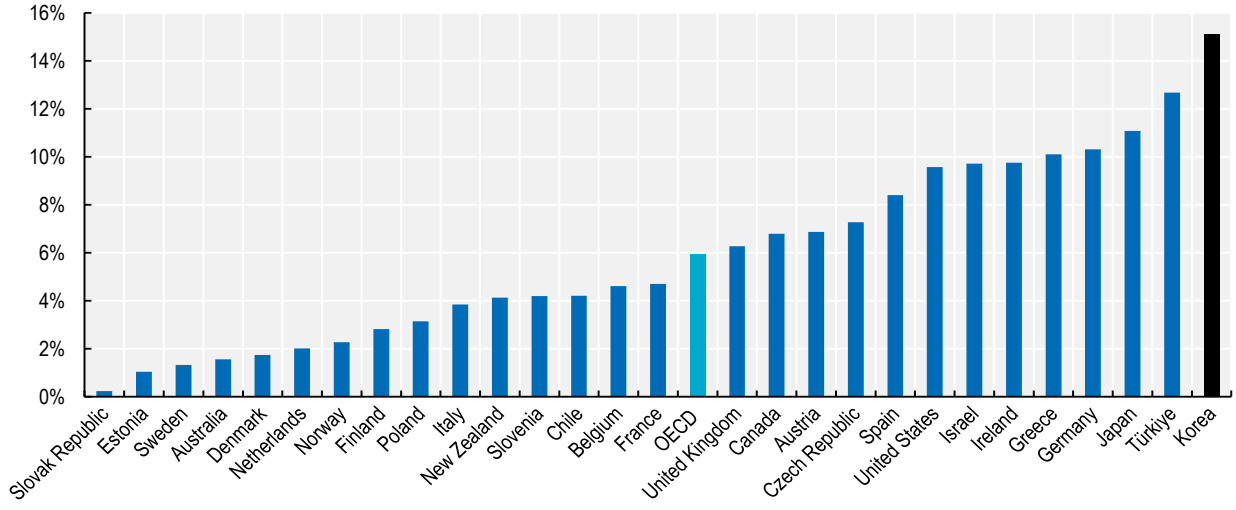
Figure 2.4 shows the average predicted increase in wages of workers in their fifties, both in the public and private sector, when they go from 10 to 20 years of tenure across the OECD, controlling for other relevant factors such as gender, education, experience and occupation. The impact of seniority on wages is considerably higher in Korea (15.1%) than in the OECD (5.9%), with Türkiye and Japan having the highest seniority-driven wage increase after Korea (Figure 2.4).

In Korea, some employers unilaterally decide the rules establishing a mandatory retirement policy while others deliberate them through collective bargaining. These rules automatically terminate the employment contract of any worker reaching a specified age limit. This kind of job termination is lawful in Korea unless the rules are stipulated based on discrimination related to gender, nationality, religion or social status, or in an arbitrary way (Article 23 of the Labour Standards Act) (OECD, 2019[2]).

In 2013, a new regulation on mandatory retirement age was enacted setting a floor of 60 years that employers must abide by. From 2016, the new rule is effective for state-owned or state-controlled companies, as well as private firms with at least 300 employees, extended to all employers in 2017. Prior to 2013, there was no legislation and employers were incentivised by wage subsidies to raise their mandatory retirement age on a voluntary basis.

Figure 2.4. The seniority wage practice is most prevalent in Korea

Predicted wage increase moving from 10 to 20 years of job tenure for individuals aged 50-60, 2011/12 or 2014/15



Source: OECD (2019[3]).

StatLink https://stat.link/qn1gk0

From 2006 to 2018, encouraging employers to retain their older workers was mainly pursued through subsidies, of three kinds: the subsidy for the wage-peak system, a working-hour reduction subsidy and a subsidy for extended employment of older workers (Table 2.1). The subsidy for the wage peak system was introduced in 2006 to tackle early retirement practices. It assumed that the seniority-based wage system drives early retirement practices and that a wage cut for older workers would provide incentives for firms to retain older workers after the mandatory retirement age. In 2016, the subsidy provided KRW 30.8 billion to 6 683 employees (e.g. 0.63% of the total expenditure on unemployment benefits).

The working-hour reduction subsidy started in 2016 and was a new allowance for workers aged 50 or more. To extend employment of older workers, the government also provided subsidies to employers who i) hire workers who have retired because of the mandatory retirement age, ii) raise the retirement age above age 60, or iii) abolish the mandatory retirement age. In 2016, 2 496 companies received KRW 23.1 billion as subsidies. Since 2017, the mandatory retirement age, at age 60, has been effective for all firms, with a staggered introduction from 2013. All of three subsidies to retain the employment of older workers were eliminated in 2018 (MOEL, 2015[4]).

Table 2.1. Wage subsidies for older workers in Korea

Three key wage subsidies programmes for hiring and retaining older workers in Korea, 2017

	Subsidy for the wage-peak system	Working-hour reduction subsidy	Subsidy for extended employment of older workers
Target group	Employees to partially compensate the wage cut	Employees	Employers
Entitlement conditions	a) Firms must introduce the wage-peak system with the consent of the employees' representative or a trade union (if the trade union covers the majority of employees) b) The stipulated mandatory retirement age must be 60 or more c) The wage cut must be 10% or more from a certain age after 55	Workers must be aged 50 or above	a) Firms with less than 300 permanent employees b) Re-employment of workers having retired because of the mandatory retirement age c) Raise the retirement age above 60 or abolish the mandatory retirement age
Duration	Up to 5 years	Up to 2 years	Between 6 months and 2 years
Benefit value	Difference between the peak wage and the reduced wage with a ceiling of KRW 10 800 000 per year (25% of gross average earnings)	Supports 50% of reduced income if working 32 hours or less per week up to a maximum value of KRW 3 600 000 per year per worker	Maximum KRW 3 600 000 per year per worker

Source: OECD (2018[5]).

Due in part to the effect of the subsidy, by 2019, half of large firms with more than 300 employees introduced a wage peak scheme. In contrast, only 21.5% of firms with less than 300 employees introduced one because of the strong resistance by employees against reduced wages (MOEL, 2019[6]).

Beyond formal mandatory retirement, it is also common for employers in Korea to encourage their older employees to voluntarily leave their job before reaching the mandatory retirement age through a mutual agreement, the so-called honorary retirement. Hence, workers tend to "retire" early from their main job (most of them before reaching age 55) and find new employment in poor quality, highly insecure and low-paid jobs or become self-employed (OECD, 2018[5]). Honorary retirement is still used by employers to bypass the new regulation on the mandatory retirement age. In firms having honorary retirement, there are no other options offered by the company and basically all employees "accept" the terms and quit their job at the honorary retirement age. If they do not accept honorary retirement, they are likely to be assigned to a different job, be transferred and subject to all sorts of harassment (JILPT, 2011[7]).

Many large firms use honorary retirement. Among companies with more than 500 employees using honorary retirement, the average honorary retirement age was 51.8 years in 2015 for office workers and 54.3 years for factory workers, compared with the mandatory retirement age which was still 58.5 years in 2015. Among companies with 100-299 employees where the labour cost of older workers relative to younger workers is lower than in large firms as seniority wage is less important, there are very little differences between the mandatory retirement age and the honorary retirement age, suggesting that honorary retirement plays a small role in these firms (KLI, 2016[8]). After relatively early retirement from the main job, most Korean older workers have to find another job after they reach the mandatory retirement age in order to supplement insufficient old-age benefits.

Box 2.1. Mandatory retirement under a seniority wage system – the Japan case

The 1998 reform set Japan's mandatory retirement age (MRA) at a minimum of 60 years, and this floor has remained ever since, even though the 2004 legislation raised the statutory retirement age of the earnings-related pension (Employee Pension) from 60 to 65 years. In 2017, 79.3% of firms set the retirement age at 60 years and 17.8% at 65 years or older (MHLW, 2017[9]).

The 2004 reforms also required firms to: i) re-hire older workers who wish to continue working between the ages of 60 and 65 years, potentially under a different contract; ii) extend MRA to 65 years; or iii) abolish the mandatory retirement system (OECD, 2018[10]). In two-thirds of Japanese firms, wages are based on a seniority wage system in which wages automatically increase with years of service and age (MHLW, 2017[9]).

Consequently, wages often peak at age 59, with many firms choosing to re-hire rather than extend the MRA as there is de facto no incentive for them to do so. Re-hiring leads to less favourable working conditions, lower wages in particular: in 2019, the average wage of Japanese workers aged 60-64 was 27% lower than for those aged 55-59 (MHLW, 2019[11]).

As a transitional measure until 2025, it is possible for firms with less than 300 employees, based on an agreement reached before 2013 between trade union and management, to limit the number of employees eligible for re-hiring. From 2025, workers in all firms will be able to continue working until age 65, albeit with a different contract from age 60.

More recently, the Japanese Government considered the possibility of raising the age for re-hiring older workers to age 70 years in order to address labour shortages related to population ageing. In the end, to encourage prolonging employment, Japan decided to require firms: i) re-hire older workers who wish to continue working between the ages of 65 and 70 years, potentially under a different contract; ii) extend MRA to 70 years; iii) abolish the mandatory retirement system; iv) introduce a system for concluding business outsourcing contracts until age 70 years; or, v) introduce a system that allows employers to engage in social contribution projects carried out by organisations to which they have entrusted or invested, for example a Non-Profit Organisation, until age 70 years. In April 2021 these measures started, and the share of firms allowing to work until age 70, albeit with a different contract from age 60, which was 31.5% in 2020, is likely to increase.

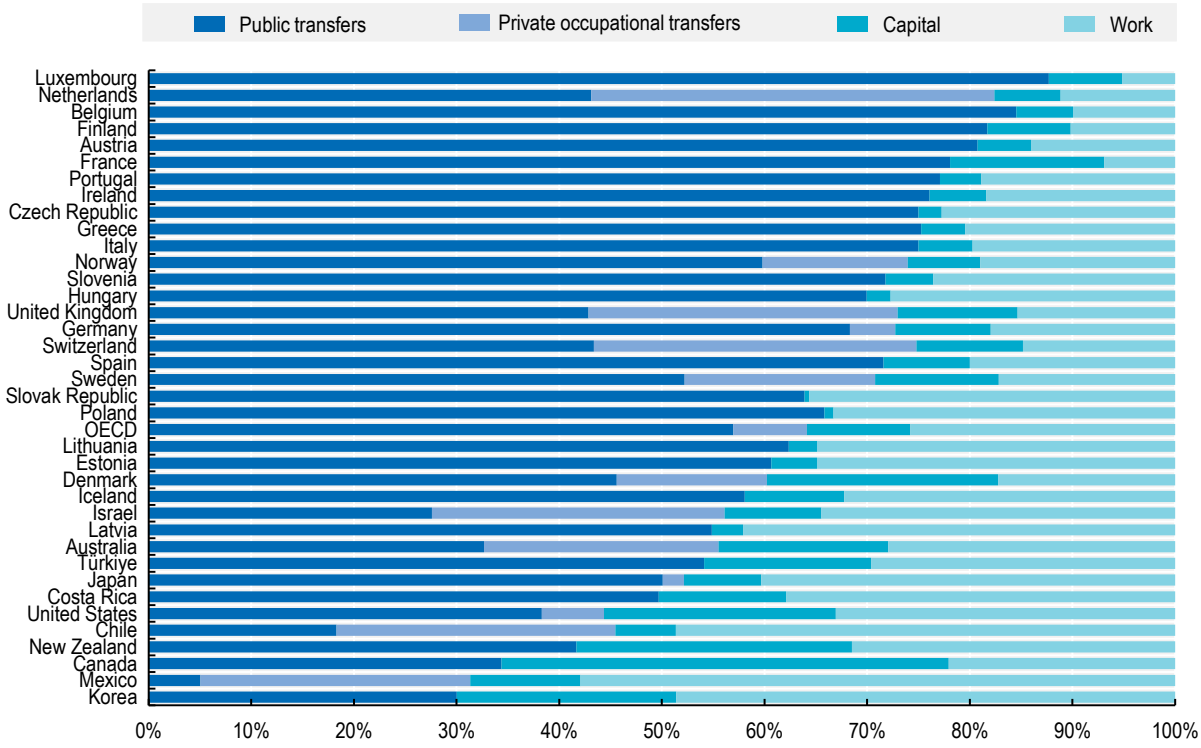
2.2.3. Relative income of older people

One striking feature in Korea is that work income represents by far the largest proportion of income of the elderly at 49%, which includes earnings from both dependent and self-employment (Figure 2.5). Only Mexico is in a similar situation, with Chile being close to, highlighting that the elderly in both countries are disproportionally dependent on employment in later life. Across the OECD as a whole only one-quarter of old-age income comes from employment.

Conversely, public transfers (e.g. earnings-related pensions, resource-tested benefits) only account for 30% of income of older people in Korea, with nothing recorded from private occupational transfers (e.g. pensions, severance payments, death grants). By contrast, public transfers and private occupational transfers account for two-thirds – 57% and 7%, respectively – of the total income of older people on average among OECD countries (Figure 2.5).

Figure 2.5. Income sources of older people, latest available year

Percentage of total equivalised gross household income and transfers



Note: Income from work includes both earnings (employment income) and income from self-employment. Private occupational transfers include pensions, severance payments, death grants and other. Capital income includes private personal pensions and income from the returns on non-pension savings.

Source: OECD Income Distribution Database, http://www.oecd.org/social/income-distribution-database.htm (December 2021 version).

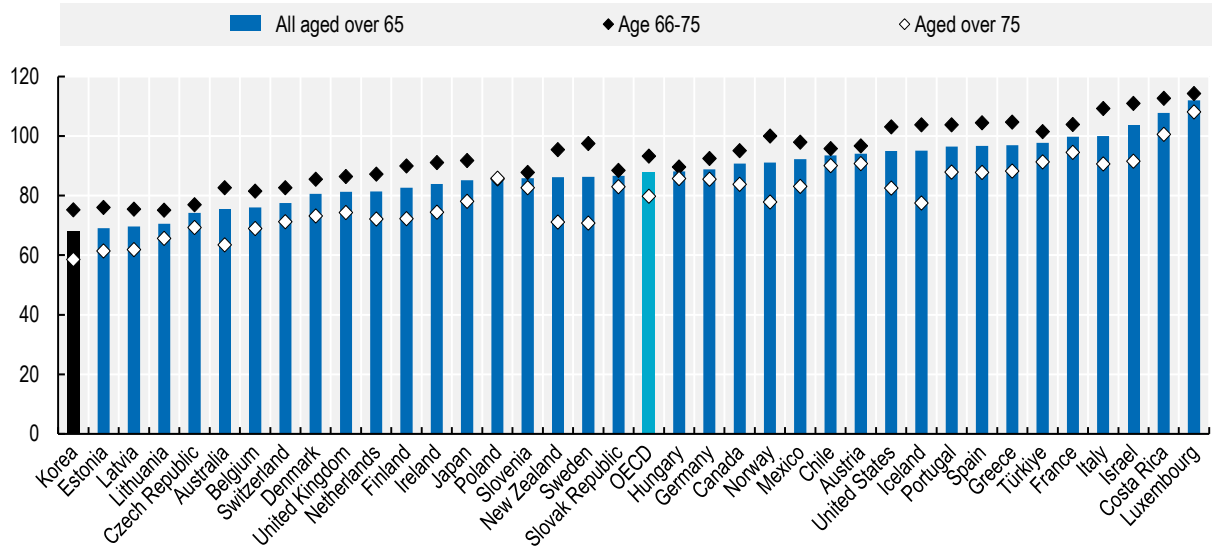
StatLink https://stat.link/hls1ex

Although individuals tend to work at very old ages in Korea, the total disposable income of the elderly relative to the population as a whole, is much lower than in other OECD countries. Those aged 65 or over have, on average, an income equal to 68% of that of the population, well below both Japan and the OECD average, at 85% and 88%, respectively (Figure 2.6). By comparison those aged 65 or over in Costa Rica, France, Israel, Italy and Luxembourg have incomes close to 100% or more of that of the rest of the population.

While as in all countries income tends to fall with age after 65 in Korea, the age gradient of income is particularly steep. On average, those older than 75 have an income that is 22% lower than the group aged 66-75 (59% vs 75% of average income in the whole population). Those in the 66-75 age group have higher pensions as they have been able to contribute for longer during their working lives. For comparison, the gap is only 13 percentage points on average in the OECD (80% vs 93%). This is despite record-high employment at older ages in Korea. The main reason is that over two-thirds of workers over age 60 in Korea can only find temporary or part-time employment (Min and Cho, 2018[12]). This makes it difficult to have a guaranteed source of income in later life. For those unable to find paid employment they turn to self-employment and, as will be shown below, the incomes of the self-employed tend to be well below that of employees. With a lack of pension provision older people in Korea are in a precarious position.

Figure 2.6. Average income of older people

Average income of people aged over 65, percentage of total population average income, latest available year



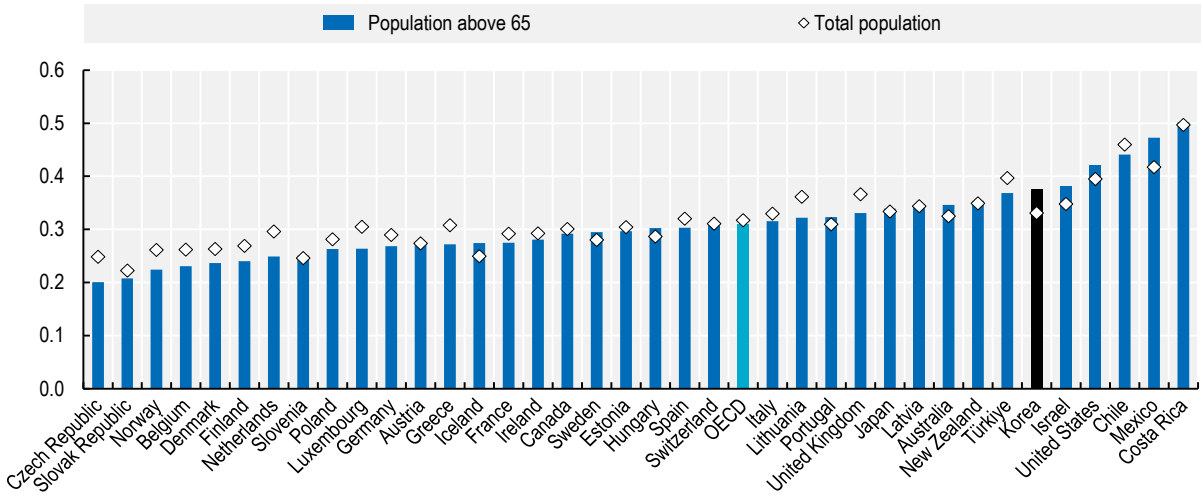
Source: OECD Income Distribution Database, http://www.oecd.org/social/income-distribution-database.htm (December 2021 version).

StatLink https://stat.link/rcx1n2

Such a discrepancy in income among the 66-75 and 76+ age groups contributes to the large income inequality among those aged 65+ in Korea. The Gini coefficient – a measure of income inequality defined between 0 (complete equality between all) and 1 (complete inequality, i.e. one person receives all income) – among those aged 65 and over is equal to 0.376, much higher than the OECD average of 0.310 (Figure 2.7). Other OECD countries where old-age income inequality is very high are the United States (0.421), Chile (0.441), Mexico (0.473) and Costa Rica (0.502). In the majority of OECD countries, income inequality, measured by the Gini coefficient, is significantly lower among those aged 65 than for the population as a whole.

Figure 2.7. Old-age income inequality is high in Korea

Gini coefficient of the distribution of equivalised disposable household income by population, latest available



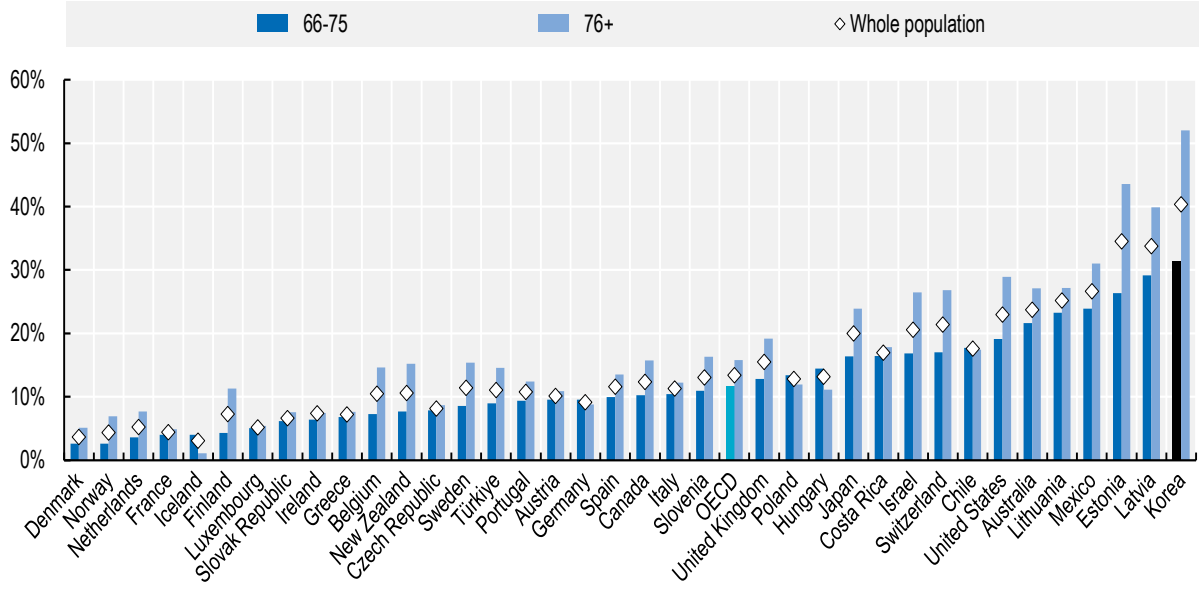
Source: OECD Income Distribution Database, http://www.oecd.org/social/income-distribution-database.htm (December 2021 version).

StatLink https://stat.link/tzgi16

Low relative old-age income leads to very high poverty incidence in Korea. Relative poverty rates – defined as having an income below half the national median equivalised household disposable income – are high across all age groups, ranging from 8.4% for the 26-40 age group to 52.0% for those aged 76+. They are three times the OECD average for the 66 to 75 and 76+ age groups (Figure 2.8).

Figure 2.8. Korean relative old-age poverty rates are the highest in the OECD

Poverty rates percentage of the population subgroup, latest available



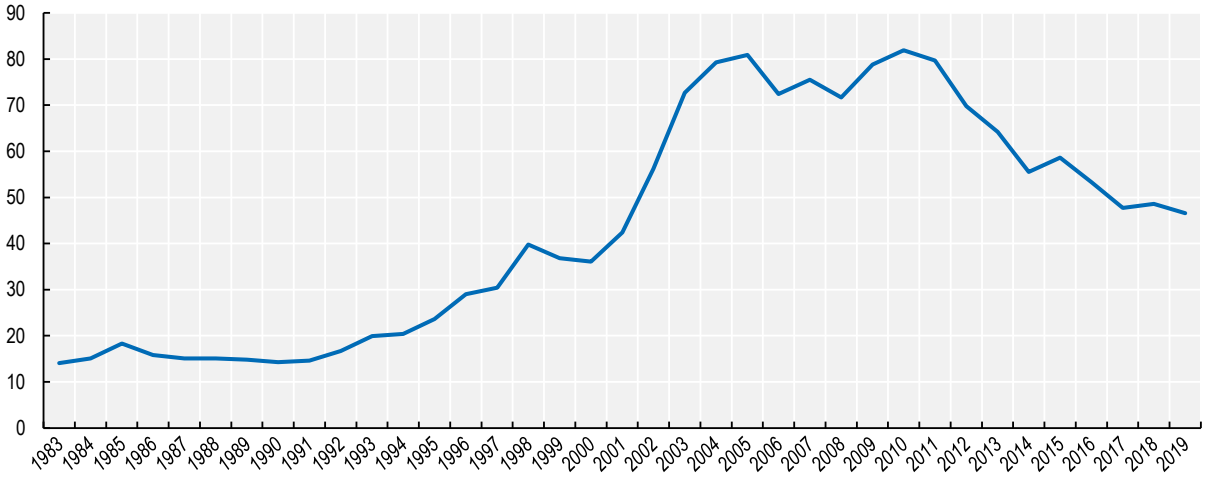
Note: Relative old-age poverty defined as households receiving less than half the median disposable income.
Source: OECD Income Distribution Database, http://www.oecd.org/social/income-distribution-database.htm (December 2021 version).

StatLink https://stat.link/41dqbm

In relation with high poverty rates amongst the elderly, the rate of suicide among those aged 65 or older increased from an already high level in the aftermath of the Asian economic crisis in 1997 (Figure 2.9). It then dramatically increased from 36 (per 100 000 persons) in 2000 to a peak of 82 in 2010 in the wake of the global financial crisis (far above the OECD average of 22 (OECD, 2011[13]) before declining to 47 in 2019). This suggests that given weak old-age protection, large downturns have huge and dramatic impacts on the elderly. According to a government survey of the elderly who have considered suicide, "economic hardship" is the second-most cited reason, following "disease and disability" (Statistics Korea, 2010[14]). The level of family support to the elderly has also been declining in recent years combined with many more of the elderly now living alone – private transfers, including family support, have fallen from 55% of the elderly's income in 1990 to 45% in 2008, and by 2030 around 40% of those aged 65 and over are projected to be living alone (Jones and Urasawa, 2014[15]).

Figure 2.9. Old-age suicide rate is very high in Korea but has been declining

Suicide rate per 100 000 persons, over 65 age-group



Source: KOSIS Database, https://kosis.kr/.

StatLink https://stat.link/bexd4h

2.3. National Pension Scheme

The National Pension Scheme (NPS) is a defined benefit scheme. Current contributions are sufficient to pay current benefits, and there are excesses, which are transferred to the National Reserve Fund (NRF) for investment. The NRF is projected to be fully depleted from 2057, from which point pension benefits will be paid out of contemporaneous contributions. The role of the NRF is discussed in Chapter 3.

This section describes the current system in detail, highlighting, where needed, a few key past reforms. In order to provide an overview upfront, the main pension reforms since the introduction of the scheme are summarised in Table 2.2. These reforms are discussed in greater detail in the corresponding sub-sections below.

Since the introduction of the NPS in 1988 the coverage of workers has expanded and contribution rates have been increased whilst future benefit promises have been reduced. At the beginning, the NPS covered workers in workplaces with 10 or more employees, with contributions of 3.0% of covered wages, split equally between employee and employer. The retirement age was set at 60 years and the "target"

replacement rate – referred to in the NPS scheme as the replacement rate based on a 40-year career with earnings at the average of all contributors – was set at 70%. The first year where individuals are eligible to receive a pension with a 40-year career will be 2028, but none of the initial parameter values remain in place.

Table 2.2. Overview of main reforms within the National Pension

	Initial parameters	1990-2000 reforms	2000 – 2020 reforms
Coverage	Firms with at least 10 employees	Expanded to smaller firms with at least 5 employees (1992). Extended to farmers, fishermen and the self-employed in rural areas (1995). Included the self-employed in urban areas (1999)	Gradually expanded compulsory coverage to corporations and workplaces with less than 5 full-time employees (2003-06)
Minimum vesting period	20 years	Reduced to 15 years (1992) then 10 years (1998)	
Retirement age	60 years	Increasing to 65 in 2034 by gradual increase of one year every 5 years from 2013 (1998)	
Contribution rate	3%	Increased to 6% for dependent workers in 1993 and to 9% from 1998. Self-employed contribute 3% (1995)	Increase of 1 percentage point per year for self-employed from 2000 until reaching 9% in 2005
Reference wage	Average monthly income of the year before retirement.	Changed to average of the previous three years (1998)	
Target replacement rate	70%	Reduced to 60% (1998)	Reduced to 50% in 2008 and then decreasing by 0.5 percentage points each year until reaching 40% in 2028
Indexation rule	Price-indexed		

2.3.1. Expanding coverage

In 1992, four years after its introduction, the pension system was expanded to cover those with five or more employees. Until July 2006 coverage was gradually expanded to the self-employed and to those employed in smaller firms (Table 2.2). Now all workers in Korea are covered by the NPS unless of course they are covered by special schemes for civil servants, private-school employees, military personnel or employees of the special post office.

In 2000, after all the self-employed and workers in companies with more than five full-time employees were mandatorily covered, 16.2 million were enrolled, representing 77% of those in employment. Over the last 20 years these numbers have steadily increased, reaching 22.2 million and 82% of those employed at the end of 2019. For the workplace-base insured only the coverage level is slightly higher, but was still only 85% in 2017 (OECD, 2018[5]).

There has been a significant change in the composition of those covered. In 2000 of the 16.2 million covered individuals, 5.7 million were employees whilst 10.4 million were self-employed – classified as individually insured in Korea – who must pay both the employee and employer components of the contributions. By 2020 this breakdown had completely reversed with 14.3 of the 22.1 million covered now being employees and only 6.9 million being self-employed (Table 2.3). This reflects both the expanded coverage of the workplace based insured and the decline in the number of self-employed workers (Section 2.4).

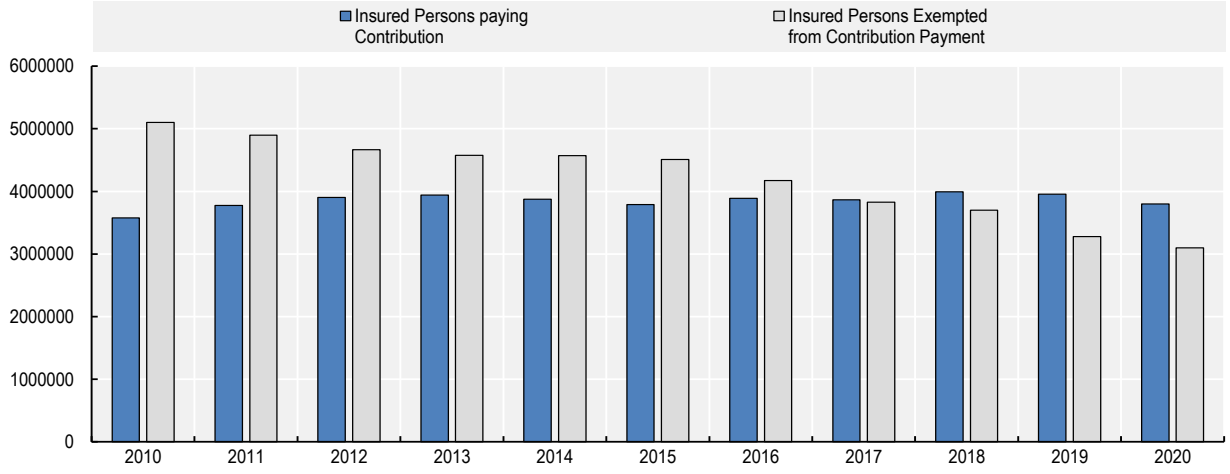
Table 2.3. Number of insured by classification

Year	Workplace-based	Individually	Voluntarily	Voluntarily and continuously	Total
2000	5 676 138	10 419 173	34 148	80 122	16 209 581
2005	7 950 493	9 123 675	26 568	23 713	17 124 449
2010	10 414 780	8 674 492	90 222	49 381	19 228 875
2015	12 805 852	8 302 809	240 582	219 111	21 568 354
2020	14 320 025	6 898 118	362 238	526 557	22 107 028

Note: Workplace-based insured covers all employees and employers employed at the workplace aged 18 to 59 who meet the criteria of mandatory insurance based on business type and number of employees. Individually insured covers all those aged 18 to 59 who have an employment income but are not workplace-based insured, the vast majority of which are now self-employed. Voluntarily insured are those who acquire insured status by their own application and are neither Workplace-based insured nor Individually insured persons under the provision of Article 6 of the National Pension Act, for example, students and housewives. Voluntarily and continuously insured are those with an insurance period of less than 20 years at age 60, but who will acquire insured status before reaching age 65. Being insured does not necessarily mean currently contributing to the pension as, for example, income may be below the threshold.
Source: NPS.

Although all of the self-employed are now mandatorily enrolled in the NPS, and therefore classified as being insured, they are not all actually contributing. The income of the self-employed is self-reported and under-reporting is a substantial problem among the self-employed in Korea (UNESCAP, 2016[16]). In addition, pension contributions are exempted if there are business losses. Consequently, just under half of the self-employed are temporarily exempted from paying contributions, though the proportion has fallen recently: while in 2010, around 59% of all the self-employed were exempted from paying contributions, this fell to 54% in 2015 and further to 45% in 2020 (Figure 2.10). During the period the self-employed are exempted from paying contributions they are not gaining any pension entitlements.

Figure 2.10. Number of self-employed by payment status



Source: National Pension Statistical Yearbook 2020.

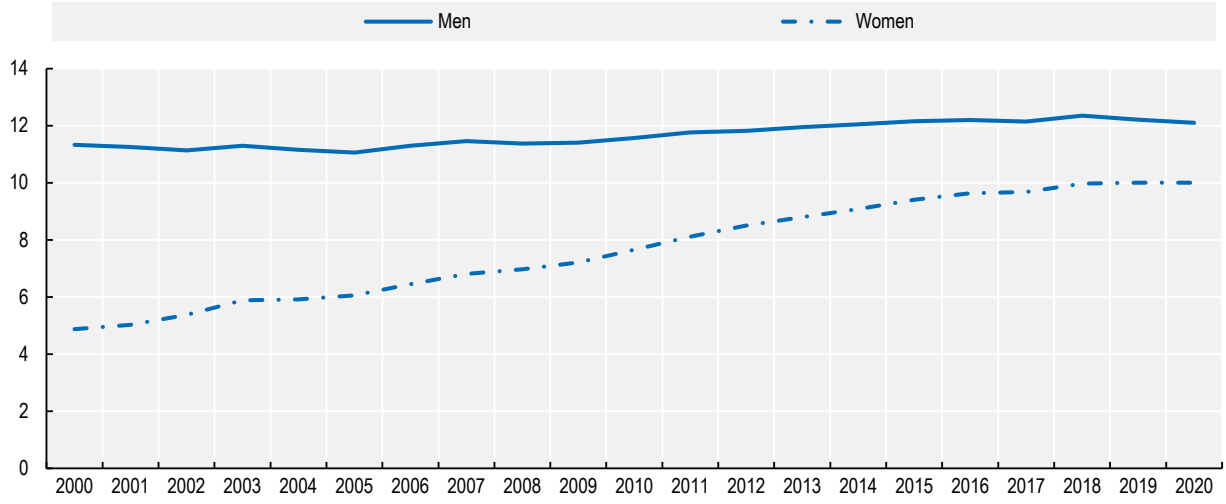
StatLink https://stat.link/osrubp

As will be discussed in detail below, aggregate pensionable income affects the pensions of everyone in Korea, hence under-reporting and the large share of self-employment generate a significant impact on pension outcomes across the board. This issue is especially serious for Korea as self-employment represents one of the larger share in total employment among OECD countries.

Women contribute more and more to the pension system in Korea. Of all contributors 55% were men and 45% were women in 2020. While the number of men contributing increased by less than 10% over the last 20 years, the number of women contributing has more than doubled (Figure 2.11). Only part of the increase is due to higher employment: employment increased for men from 73.2% to 75.7% among those aged 15 to 64 years, and from 50.1% to 57.8% for women. The main source of increase was the inclusion of small workplaces with under five workers into mandatory coverage, as these workplaces are primarily staffed by women.

Figure 2.11. The number of women contributing has more than doubled in the last 20 years

Annual number of contributors to the National Pension by sex (millions)



Source: National Pension Research Institute (https://www.nps.or.kr/jsppage/english/research/research_01.jsp).

StatLink https://stat.link/0anw72

To encourage more workers to contribute, the government introduced the Duru Nuri Social Insurance Support Project in 2012 which pays a percentage of both the worker and the employer pension contribution. To be eligible today, individuals must be employed in workplaces with fewer than ten workers and earning under KRW 2.15 million per month, around 50% of average earnings. For those newly insured – those without a workplace insurance record in the last year – the project covers between 80% and 90% of the contribution payment, on average, for the first year. After this first year only 30% of payments are covered. However, to ensure fairness all those that were already insured but were employed in workplaces with fewer than ten workers and earning under KRW 2.15 million per month were also enrolled in the project. They receive 30% of payments from both the employee and employer from the scheme. The NPS covers around 80% of the cost of the project and the Ministry of Employment and Labour finances the remaining part.

Since the introduction of Duru Nuri, coverage has expanded rapidly (Table 2.4). However approximately 98.5% of the programme cost was a deadweight loss: the large majority of subsidised people would have been insured without the subsidy (OECD, 2018[17]). Put differently, for every 1 000 subsidised employees

Duru Nuri created 15 were newly covered employees, implying a cost per new enrolment of around KRW 50 million – roughly three times the person's annual wage.

Table 2.4. Duru Nuri beneficiaries and pay-outs

Year	Number of workplace	Number of workers	Total support amount (KRW 100m)
2012	398 850	913 950	1 493
2013	548 221	1 378 558	3 866
2014	605 142	1 493 716	4 496
2015	665 296	1 607 319	5 068
2016	683 056	1 624 575	4 434
2017	645 482	1 460 536	4 285
2018	834 656	2 214 343	8 267
2019	924 598	2 518 605	11 600
2020	918 462	2 400 330	10 868

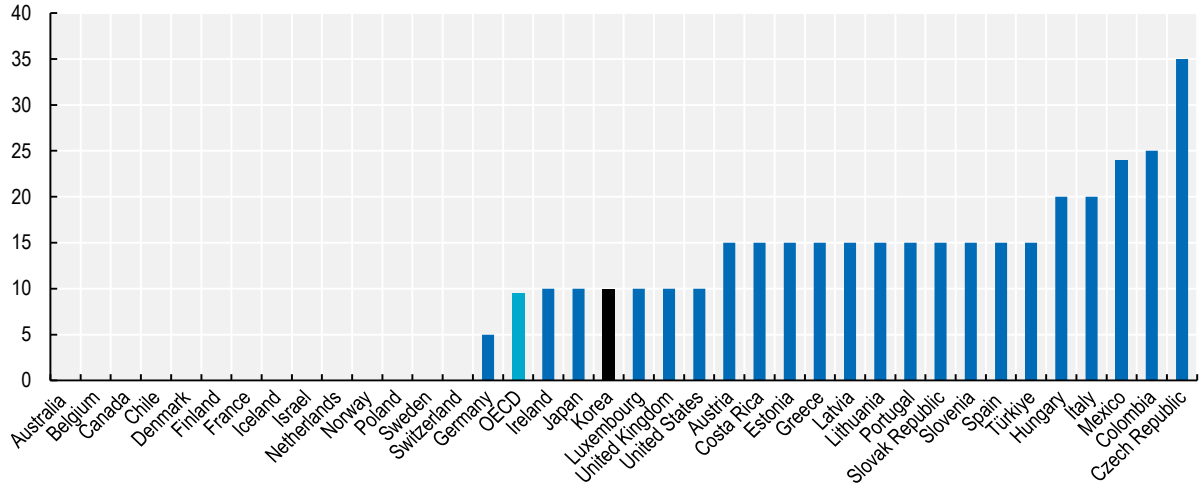
Source: NPS and Ministry of Employment and Labour.

2.3.2. Eligibility

In order to be eligible for a pension under the NPS individuals must have made at least 10 years of contributions. This is close to the OECD average; 16 countries require at least 15 years while 14 countries have no minimum period, granting eligibility as soon as any contribution is made (Figure 2.12). Like Korea, Japan and the United States also require 10 years. In Korea those who do not meet the 10-year condition receive a lump-sum payment equal to past (employee plus employer) contributions plus accrued interest.

Figure 2.12. Minimum years of contributions required to be eligible to a pension

Eligibility to earnings-related pensions, in years



Source: OECD (2021[18]), *Pensions at a Glance 2021*, country profiles http://oe.cd/pag.

StatLink https://stat.link/pf9dtv

2.3.3. Retirement age

The statutory retirement age at which someone is eligible for an old-age pension is currently 62 years. The retirement age was set at 60 years when the system was introduced, but has been increasing since 2013 and will reach 65 for those born in 1969 or after i.e. from 2034 (Table 2.5).

Table 2.5. Retirement age is increasing

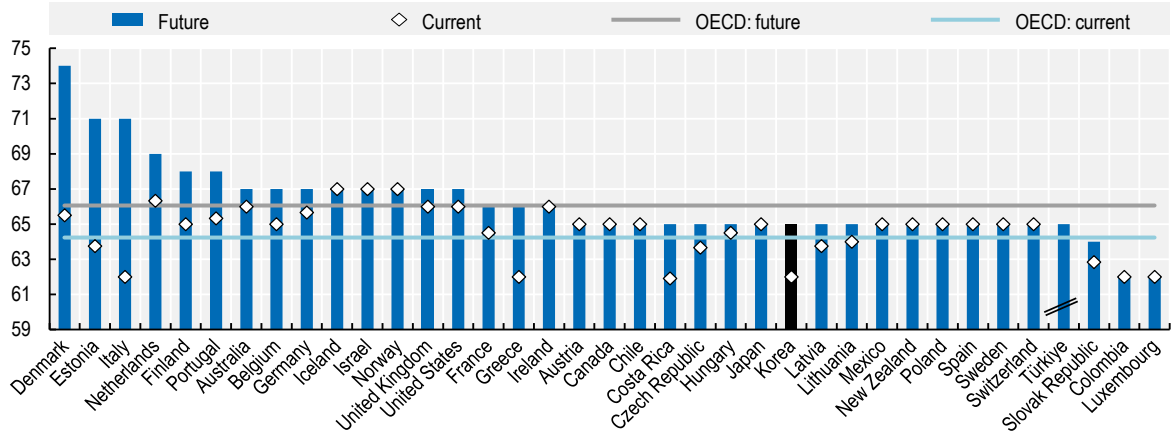
Year of Birth	Pensionable age
1952 and earlier	60
1953-56	61
1957-60	62
1961-64	63
1965-68	64
1969 and thereafter	65

Source: NPS.

The normal retirement age is currently one of the lowest in the OECD and will remain low in international comparison.[1] For full-career workers, the current retirement age is 64.2 years in the OECD on average for men and 63.4 for women, with only Costa Rica and Türkiye as well as Colombia but for women only having a lower retirement age than 62 years (Figure 2.13). With many countries planning to increase their retirement ages over the coming decades the average age across the OECD will increase by nearly two years, reaching 66 years for individuals who started working at age 22 in 2020. As a result, the retirement age in Korea will be one year below the OECD average despite experiencing much faster population ageing (Chapter 1). For future normal retirement ages, only four OECD countries will have retirement ages below 65 years: the Slovak Republic at 64 years and Colombia, Luxembourg and Slovenia at 62 years. By contrast, Denmark will be at 74 years with Estonia and Italy at 71 years; all three countries have linked future retirement ages to life expectancy.

Figure 2.13. The normal retirement age is low and will remain below the OECD average

Men with full careers from age 22



Note: Current and future refer to retiring in 2020 and entering the labour market in 2020, respectively. For better visibility, the scale of this chart excludes the lowest observed value of 52 for current in Türkiye.
Source: OECD (2021[18]), based on *Pensions at a Glance 2021*, country profiles http://oe.cd/pag.

StatLink https://stat.link/ib0pzu

2.3.4. Contribution rate

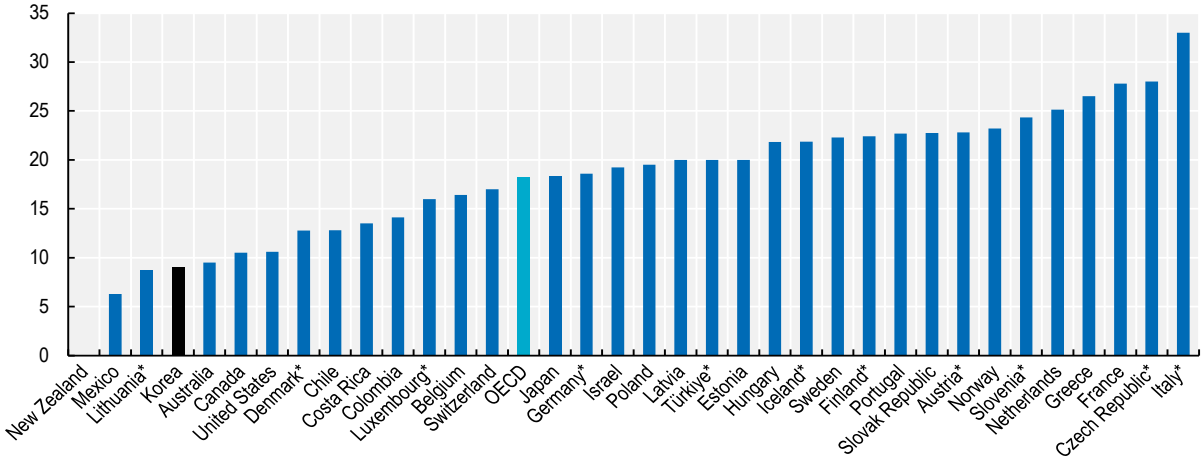
Under the NPS individuals now pay a contribution of 9% of covered wages, being split equally between employees and employers. The only exception to these levels are for farmers and fishermen, which currently represent 6% of total employment (KOSIS, 2020[19]). Since July 1995 up to half of their contributions have been subsidised, in a context in which their incomes declined with large imports of agricultural products and seafood.

For workers contributions are mandatory from age 18 until reaching age 59. From age 60 onwards contributions are voluntary. Only those who have not yet reached 10 years of contribution, but would do so by age 65, can make voluntary contributions from age 60. In nearly all other OECD countries, pension contributions are mandatory until retirement age, though Japan, for example, has voluntary coverage for those aged 60 to 64 within the national pension.

The current NPS contribution rate is very low, as 9% represents less than half of the OECD average contribution rate for mandatory schemes (Figure 2.14). Only Lithuania and Mexico have a lower rate (in addition to New Zealand that does not have any mandatory contributory pensions), but the contribution level in Mexico will increase to 15% by 2030. The contribution rates in most other countries are considerably higher, for example 18% in Japan, 28% in France and 33% in Italy.

Figure 2.14. Mandatory effective pension contribution rates

% of wage for an average-wage worker in 2020



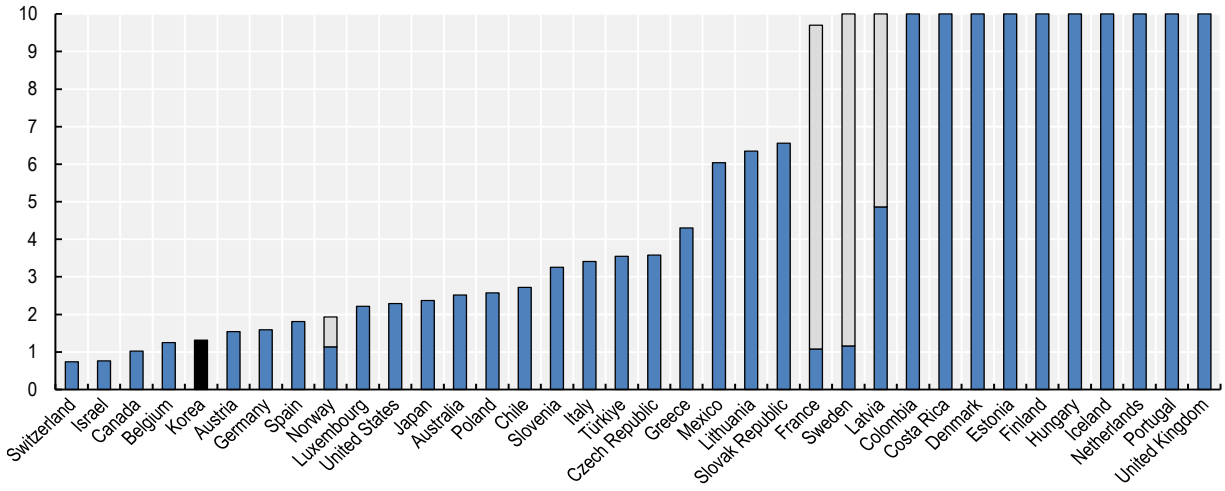
Note: *Contribution rate also finances disability or invalidity benefits. Effective contribution refers to the actual contribution rate paid by an average earner accounting for contribution ceilings and varying rates.
Source: OECD (2021[1]).

StatLink https://stat.link/j3mye8

In Korea there is a wage ceiling to contributions and therefore to pensionable wage at KRW 5.03 million per month, equivalent to 131% of average earnings in 2020 as computed by the OECD. Only four countries have a lower level than Korea, with the average for Japan, for example, much higher at 237% of average earnings (Figure 2.15).

Figure 2.15. Ceiling for pensionable earnings in mandatory earnings-related schemes

Multiple of average earnings, 2020



Note: Countries with more than one value have different ceilings for components of the pension system. All countries from Sweden to the United Kingdom have at least one component of the pension system with no ceiling, with the exception of Colombia which has a ceiling over 16 times average earnings. Ireland and New Zealand are not included as they do not have mandatory earnings-related pension systems.
Source: OECD (2021[1]).

StatLink https://stat.link/i2vr10

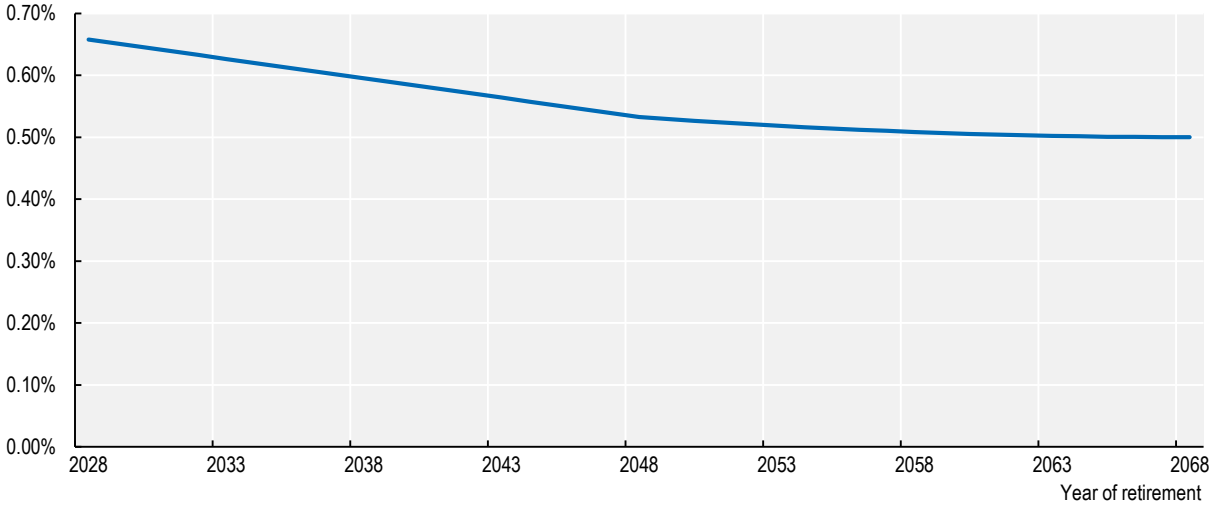
2.3.5. Average-earnings component and accrual rate

There are two separate NPS benefit components: one is based on the average earnings of all contributors and one based on individual earnings. The component that is based on the average earnings of all contributors is a flat-rate payment depending solely on the number of years of contributions. The OECD classifies this component as a contribution-based basic pension. The reference wage for this component is the average wage of all contributors over the three years prior to retirement, uprated by inflation.[2] The other component is an individual earnings-related component, with an associated accrual rate. Formally, in Korea, the contribution-based basic pension and the accrual-based component are treated as one pension, with an associated "target" replacement rate at the average earnings of all contributors (A level).

Upon introduction the NPS annual accrual rate (of the earnings-related component) was 0.75% for an average earner, based on the 3% contribution rate, which also financed the contribution-based basic component. These parameter values allowed to offer a gift to the first generation of contributors, but over time such pension promises based on such a low contribution rate could not be financially sustainable. Twenty years after, in 2008, the contribution rate had been increased to 9% and the accrual rate for further contributions cut to 0.625%. Thereafter the accrual rate for each subsequent year was reduced by 0.00625 percentage points until it reaches 0.5% in 2028. Those who have contributed for 40 years will be able to retire for the first time in 2028, and for them the effective annual accrual rate will be 0.66%, but will decline over time until reaching 0.5% for those retiring from 2068 onwards (Figure 2.16).

Figure 2.16. Average annual accrual rate from the individual-earnings component

After a 40-year career, by year of retirement



Source: OECD calculations.

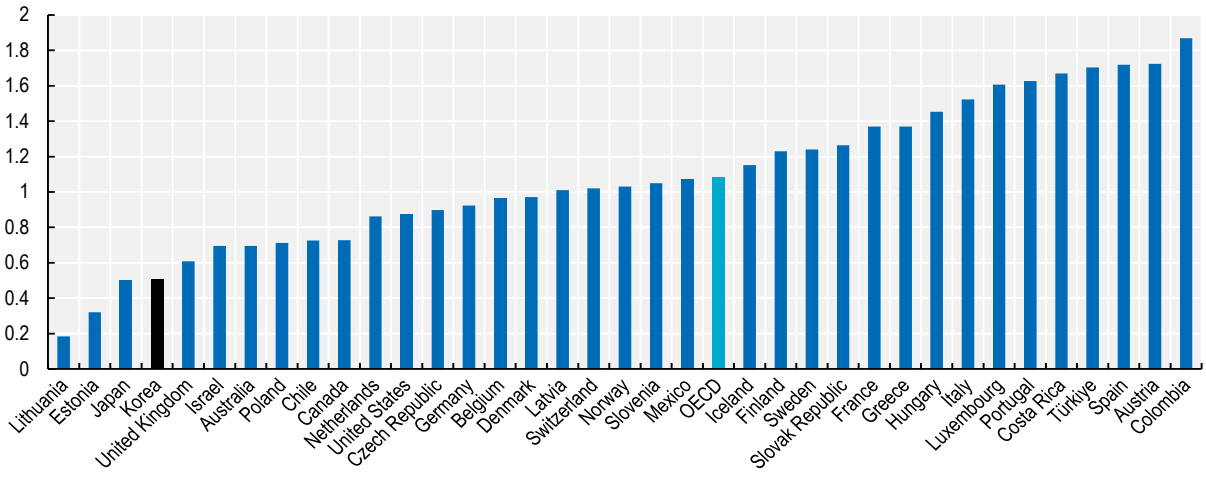
StatLink https://stat.link/lp2ui1

As past earnings are uprated with average – wage growth and as the ceiling for contributions is above the average-earnings level, at around 130% of average earnings, the nominal accrual rate of 0.5% is also the future effective accrual rate of the individual-earnings component. In the OECD, only Lithuania and Estonia have lower accrual rates at 0.18% and 0.32% respectively, with Japan also being at 0.5%. Across the OECD, the average effective accrual rate is slightly above 1% (Figure 2.17).

The accrual rate that is consistent with financial sustainability depends on a range of factors. Those include the resources financing the system, referring primarily to the contribution-rate parameter, retirement ages, demographic variables and the valorisation of past wages. For example, in Italy where NDC (notional defined contribution) rules are meant to ensure financial sustainability over time, the future accrual rate is high at around 1.6, broadly consistent with a very high contribution rate of 33% and the way NDC deals with the impact of ageing.

Figure 2.17. Future effective accrual rate for average earners

Full career, earnings-related component



Note: A full career is from age 22 (in 2020) to the normal retirement age.
Source: OECD (2021[1]).

StatLink https://stat.link/x7vwud

2.3.6. Pension formula

As a result of all of the changes outlined above concerning eligibility criteria, the retirement age and accrual rates, the formula for calculating the final pension entitlement has undergone a number of changes since the pension system was first introduced.[3]

When the system was introduced, pension entitlement required 20 years of contributions with their pension expected to be calculated as follows:

$$Pension = (A + 0.75\,B) * 20\% * (1 + 0.05\,N)$$

where 'A' is the mean wage of all participants in the pension system in the three years before reaching pension age and 'B' is the average income of the individual during the entire insurance period, uprated with wage growth. 'N' is the total number of contribution years beyond the pension entitlement requirement of 20 years and 20% is the constant factor designed to give an average earner with a 40-year career a replacement rate of 70%.[4] With positive real-wage growth, the replacement rate is actually slightly lower than the "target" as the three years of past earnings for 'A' are only uprated with inflation.

The 1998 National Pensions Reform Act reduced the pension promise for contributions made thereafter, whilst preserving the entitlements of those made previously. The pension promise for contributions made after 1998 was that a 40-year career would generate a replacement rate of 60% for an average earner. The pension formula was then adjusted accordingly, becoming:

$$\left\{(A + 0.75\,B)\frac{P1}{P} * 20\% + (A + B)\frac{P2}{P} * 15\%\right\} * (1 + 0.05\,N)$$

where 'P1' is the number of months of contributions made before 31 December 1998, 'P2' the number of months of contributions made after 31 December 1998, 'P' is the total number of months of contribution across all periods and 15% is the constant guaranteeing a replacement rate of 60% for a 40-year career from 1999 onwards for an average earner.[5]

Following the latest reform to the NPS in 2007 the pension promise was again revised, with an immediate lowering of the "target" replacement rate to 50% from 1 January 2008 and then a gradual reduction in the "target" replacement rate of 0.5 percentage points every year thereafter until reaching 40% in 2028. This therefore led to the pension formula that is in place today

$$\left\{ (A + 0.75\ B)\frac{P1}{P} * 20\% + \ (A + B)\frac{P2}{P} * 15\% + \ (A + B)\frac{P3}{P} * 12.5\% + \cdots + \ (A + B)\frac{P23}{P} * 10\% \right\} * (1 + 0.05\ N)$$

where '*P3*' is the number of months of contribution made in 2008, up to 'P23' which is the number of months of contributions from 1 January 2028. 12.5% is the constant guaranteeing a replacement rate of 50% for a 40-year career at average earnings with the constant being reduced by 0.125 every year until reaching 10% for 2028 and beyond – the level required to guarantee a future replacement rate of 40%. Given the phasing-in of this reform, it is going to take several decades before the replacement rate for a full-career average earner stabilises at 40%, assuming there are no subsequent reforms.[6] Chapter 3 analyses the replacement rates at various earnings levels and career paths in greater detail.

2.3.7. Supplements

An additional entitlement is also given for dependents of the pension recipient, including the spouse, children up to age 19 or parents of either the pension recipient or their spouse aged at least 60 years. The age requirement for children and parents is removed if they suffer either first or second degree disability. The levels of the supplement are small, amounting to around 0.5% of average earnings for the spousal supplement and less than 0.4% for both the child and parent components.

2.4. Pension schemes covering specific occupations

2.4.1. Government Employees Pension Scheme

The GEPS was the first mandatory pension scheme in Korea. It covered both public officials and military personnel when it was introduced in 1960. The latter have had their own separate pension scheme from 1963. As of December 2020 there is a total of 1.23 million contributors to the GEPS and 590 000 pension recipients, which implies a support ratio – number of contributors per pension recipient – of 2.08, much lower than that of the NPS (4.15). This results from both the NPS still having to reach maturity and because formally there was no retirement age between 1962 and 1996 in the GEPS – retirement was possible at any age once 20 years of contributions had been made -, leading to a large number of early retirees.

Initial contribution rates of the GEPS were very low. The initial rule would have entitled individuals to a pension of 2.1% of their final salary for each year of contribution, subject to a minimum period of 20 years. As with the NPS, all of these parameter values have since been changed substantially. Table 2.6 provides an overview of reforms of the GEPS, highlighting four major reforms to the system, in 1995, 2000, 2009 and 2015.

Table 2.6. Reforms to the government Employees Pension

	From Introduction to 2000	2009	2015
Vesting period			Entitlement period to receive pension lowered from 20 to 10 years
Retirement age	Age of 60 years abolished (1962). Age 60 for new entrants from 1996 (1995), expanded to all civil servants (2000)	Age increased to 65 for new entrants. .	Increased to 61 in 2022 and then gradually to 65 in 2034 for all civil servants
Contribution rate	4.6% of "monthly income" in 1960, 7% in 1969, 11% in 1970, 13% in 1996, 15% in 1999, 17% in 2000	Increased from 17% of "monthly income" (=11% of "standard monthly income") to 12.6% of "standard monthly income" in 2010,13.4% in 2011, 14% in 2012	Gradual increase from 14% to 18% in 2020 + decrease in "standard monthly income" ceiling from1.8 times to 1.6 times average government salary.
Accrual rate		Reduced from ~2.1% to 1.9%	Reduction to 1.7% over 20 years
Reference wage	Changed from salary upon retirement to average salary of last 3 years before retirement (2000)	Changed to average salary of whole career	
Indexation rule	Changed from wage growth to CPI (2000)	CPI	5-year (2016-20) nominal freeze and CPI thereafter

Note: "Monthly income" is basic salary plus a part of allowances, with "standard monthly income" representing all remunerations. "Monthly income" is around 65% of "standard monthly income".
Source: Government Employees Pension Service website, https://www.geps.or.kr/g_subsite/english/index.jsp.

Retirement age

The retirement age is currently 61 years, gradually increasing to 65 in 2034. By comparison the retirement age in the NPS is 62, also increasing to 65 by 2034. Between 1996 and 2010 retirement was possible from age 50 for those employed prior to 1995 and 60 for those employed after; between 1962 and 1995 there was no legislated retirement age with only 20 years of contribution being required.

Contribution rate

The contribution rate has sharply increased over time. The current rate is 18% of "standard monthly income", split equally between employee and the government as the employer, having been increased many times since 1969, and from 14% as a result of the 2015 reform. The 2015 reform also reduced the ceiling to contributions from 1.8 to 1.6 times the average "standard monthly income", which is around one-third higher than the ceiling for private-sector workers.[7]

Accrual rate and reference wage

Reforms to the accrual rate and the reference wage have substantially reduced the generosity of the GEPS. As part of the 2015 reform the accrual rate is being gradually lowered by 0.01 percentage point each year from 1.9% until reaching 1.7% in 2035. Prior to 2009, the accrual rate had been set at approximately 2.1%.

The pension formula that will apply after the reform is complete is:

$$P = 1.7\% * n * w$$

where *n* is the total number of years of contribution and *w* is the uprated average pay (up to the ceiling) over the whole career since the 2009 reform. Before 2009, the reference wage was computed over the final three years, and before 2000 it was the final salary.[8]

The pension calculation is also subject to an additional maximum career length factor as only 36 years of contributions can be considered within the calculation, therefore giving a maximum replacement rate of 61.2% after the reduction to the accrual is fully enacted. Government employees will then have a maximum

replacement rate of 61.2% based on a contribution rate of 18%, whereas the long-term "target" replacement rate in the NPS of 40% is based on a contribution rate of 9%.[9]

Indexation

Unlike the NPS which has been using indexation to the CPI since it was introduced, the indexation process of the GEPS has changed several times. Since 2009 it is set to follow CPI. Between 2000 and 2009 there was indexation to the CPI but with an additional protective element to ensure that the gap between CPI and wage growth was not too high. Prior to the 2000 reform the pensions were indexed to the salary base.

2.4.2. Military Personnel Pension Scheme

As mentioned above military personnel were initially covered under the GEPS until their own scheme was established in 1963. The rules, however, for the military pension remained closely aligned with those of civil servants until 2015, with a few notable exceptions. Firstly, once eligibility conditions have been met, retirement is possible at any age, meaning there is still no legislated retirement age, as was the case for the GEPS between 1962 and the 1995 reform. Secondly, for periods served in combat the validated period is effectively tripled as a compensation. Since 2015, the schemes have diverged further as none of the reforms of the GEPS were adopted for the MPPS, so the accrual rate remains at 1.9% and the contribution rate is still set at 14%.

2.4.3. Private School Teachers Pension Scheme

In order to standardise the pension treatment of public- and private-sector teachers the Private School Teachers Pension Act was introduced in 1973 to cover private-sector teachers since 1975. Unlike with the MPPS above, the rules of the PSTPS follow those of the GEPS exactly. The source of funding for the 18% long-term contribution rate for teachers is composed of 9% from employees, 5.294% coming from the private school employer (foundation) and 3.706% from the government. However, for non-teaching staff the entire 9% is actually paid by the school foundation rather than being split between the foundation and the government.

2.4.4. Special Post Office Pension Scheme

Special post offices are those post offices that have been established by individuals at their own expense in an area where a post office does not currently exist. The staff within these post offices are subsequently treated as civil servants for pension rights and so as with the Private School Teachers Pension the SPOPS follows that of the GEPS.

2.4.5. Comparison with other OECD countries

Korea is one of only four countries along with Belgium, France and Germany that has maintained a completely separate pension system for public- and private-sector workers (Table 2.7). It is relatively common in the OECD to have different rules or systems for military personnel, but the trend in recent years has been for the unification of pension systems covering public- and private-sector employees. Over the last decades, several countries have indeed integrated the pension schemes covering civil servants into their private-sector pension systems: Greece, Israel, Italy, Japan, New Zealand, Portugal, Spain and Türkiye (Box 2.2). However, this integration typically applies only to new employees; existing employees are thus "grandfathered" meaning that different rules exist for public-sector workers depending on when they began their career in government.

Table 2.7. Institutional arrangements for pensions covering civil servants vs. private sector workers

Fully integrated	*Separate but similar benefits*	*Fully integrated with top-up*	*Entirely separate*
Chile (1981)	Finland (1995)	Australia	Belgium
Czech Republic	Luxembourg (1999)	Austria (2004, 2009)	France
Colombia	Netherlands	Canada	Germany
Costa Rica	Sweden	Denmark	**Korea**
Estonia		Iceland	
Greece (2011)		Ireland (1995)	
Hungary		Mexico (2007)	
Israel (2002)		Norway	
Italy (1995/2008)		Slovenia	
Japan (2015)		United Kingdom	
Latvia		United States (1984)	
Lithuania			
New Zealand (2007)			
Poland			
Portugal (2006)			
Slovak Republic			
Spain (2011)			
Switzerland			
Türkiye (2006)			

Note: The years in brackets refer to the date from which newly hired civil servants are no longer covered by an entirely separate scheme, but are rather in the fully integrated private sector scheme or have a top-up. For Italy new civil servants were covered by the private sector scheme from 1995 onwards, while in 2008 future contributions for all civil servants were under the private sector rules. For Austria the pension was fully integrated from 2004 but an additional top-up was introduced in 2009. For Finland the unifying process began in 1995, before which there was more of a top-up element to the system. All countries without a date have been in that particular category for at least the last 35 years.
Source: OECD (2016[20]).

Amongst OECD countries half now have a unified system covering both public- and private-sector workers. OECD (2016[20]) estimated the difference in pension benefits for full-career average-wage workers between the public and the private sector. A comparison of replacement rates for public-sector workers across the OECD is presented in Chapter 3.

Box 2.2. Integrating civil-service and private-sector pension schemes in Japan

Before 2015, the Japanese Civil Service Pension Schemes were divided into three separate systems: the Mutual Aid Association for National Public Officials (MAP), the Mutual Aid Association for National Local Officials (MAL), and the Mutual Aid for Private School Personnel (MAS). These systems operated separately, and the management of pension finances, including reserve funds, was also managed separately. The 2015 reform fully integrated these schemes into the private-sector pension scheme (Employee Pension System, EPS).

The purpose of the reform was twofold: increasing the stability of the EPS finance by integrating the MAL, the MAP and the MAS, which had a high funding-to-expenditure ratio, into the EPS to help prepare for declining birth rates and population ageing; and, improving public confidence in the public pension system by ensuring fairness as private-sector workers and civil servants would bear the same contributions and receive the same pension benefits.

Before the 2015 reform, national public officials, local public officials and private-sector teachers had a lower contribution rate than private-sector workers. The contribution rate in the MAP and MAL was 15.862% and it was 13.292% in the MAS, compared with 16.412% in the EPS. The MAP, the MAL and the MAS kept the contribution rate low by using resources from the reserve funds. In 2015, the funding-to-expenditure ratio was 6.2 for the MAP, 10.0 for the MAL and 9.0 for the MAS, compared to 4.1 for the EPS. Moreover, the MAP, the MAL, and the MAS also included benefits equivalent to private-sector occupational pensions, which were not included in the EPS. Therefore, these pension recipients received around JPY 20 000 more per month on average compared to the EPS recipients, which implies 8.6% higher pensions (MHLW, 2012[21]).

With the 2015 reform, national and local public officials as well as private-sector teachers are now covered by EPS. The differences between these workers and private-sector workers in terms of pensions were eliminated based on convergence to the EPS parameters: the contribution rate was set at 18.3% for all; benefits equivalent to occupational pensions were eliminated for public-sector workers; public-sector workers are not required to enrol in the EPS after age of 70 while there was no age limit before; and, the reserve funds of each system were integrated.

More precisely, pension recipients from MAP, MAL and MAS who were 60 or older in 2015 were not affected by the reform as pension benefits would be calculated from the pre-reformed systems. Pensioners younger than 60 years in 2015 – this only applied to survivor pension recipients – and workers have been affected by the reform. The reform has applied for the contribution periods after 2015, while the pre-reformed system has applied for the contribution periods before 2015. Hence, it is expected that MAP, MAL and MAS will be gradually phased out, while not fully closed before late in the 21st century.

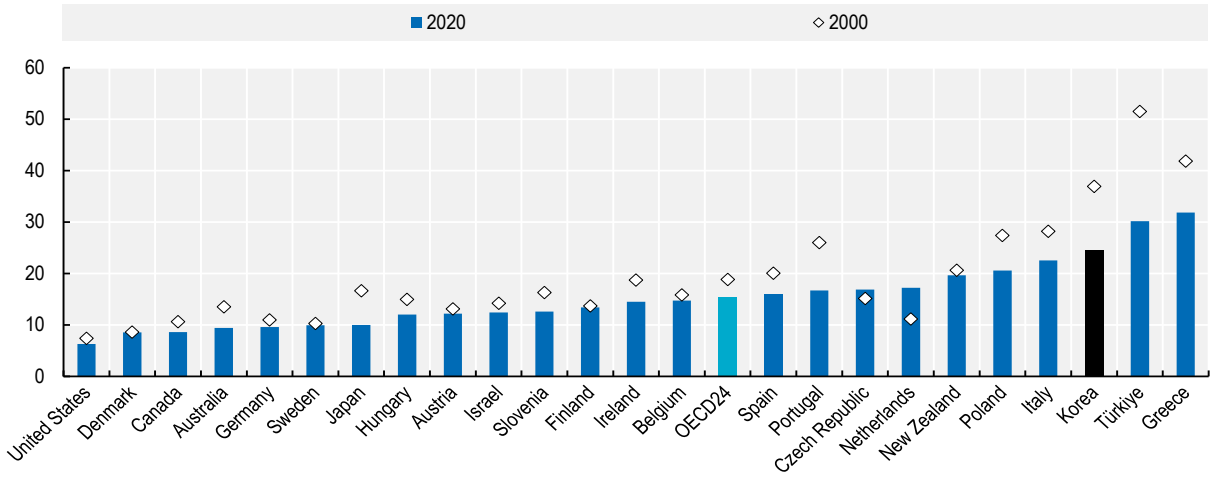
2.5. Old-age income protection for the self-employed

Most pension systems were designed with the case of workers having stable full-time careers in mind. This was also true for Korea and the self-employed had to wait several years after the introduction of the NPS to be mandatorily covered. Before that, they had to choose to voluntarily contribute to the NPS, as was the case for all individuals not mandatorily covered. Non-standard forms of employment such as self-employment, part-time work and temporary work are not marginal phenomena in OECD countries, and workers in such jobs have often a lower level of old-age protection (Chapters 2 and 3 in OECD (2019[22])). This section focuses on recent trends in self-employment in Korea and describes the pension coverage of the self-employed.

As in most OECD countries, self-employment as a share of total employment has decreased in the last decades, but the fall was much sharper in Korea from 37% in 2000 to 25% in 2020. By comparison the OECD average went from 19% to 15% over the same time period (Figure 2.18). The current level remains high in Korea, ranking third of all countries in 2020, after Greece and Türkiye.

Figure 2.18. Self-employment rates have decreased in Korea, but remain well above-average

Self-employment as percentage of total employment, 2000 and 2020



Source: OECD Employment Database, www.oecd.org/employment/database.

StatLink https://stat.link/3l19b2

Since 2005, the contribution rate for the self-employed (individually insured) has been aligned to that for employees, i.e. at the current 9% level. As the self-employed are their own employers, they are liable for the full 9% contribution rate, i.e. both the employee and employer parts. For employees the contribution base is their gross wage, whilst for the self-employed it is business income, i.e. total revenue minus business expenses.

The enrolment of the self-employed into the NPS is markedly lower than for workers with regular employment status (UNESCAP, 2016[16]). However, in Korea, when combining employment and self-employment, only earnings from dependent work are subject to pension contributions and entitlements, irrespective of the level of income from self-employment.

Having an accurate assessment of the income of the self-employed can be difficult and under-reporting is commonplace in many countries, including Korea where around 40% of income from self-employment might be under-reported (Kim, Gibson and Chung, 2009[3]). Such a high level has large financial impacts, from uncollected taxes to possible overpayment of means-tested benefits.

For pension benefits, the impact is not only felt by the individual through lower entitlements from the earnings-related component, but also by all contributors to the NPS due to the basic pension element depending on the average income of all contributors. Indeed, if income is under-reported then the overall average is lowered. This results in a lower average pension from the collective component for everyone. Conversely, the individual who under-reports will only see the future pension reduced through the earnings-related component, which therefore does not reflect the full impact of under-reporting. This provides some incentives to under-report. In order to combat these impacts, several countries, including Korea, use a minimum contribution base for the self-employed. In Korea this base is the lower limit of earnings, equivalent to 9% of average earnings whilst other countries often use the minimum wage.

In Korea, the average income of the self-employed has actually been decreasing in recent years relative to the average employee salary, from 62% in 2000 to 7% in 2020 (Table 2.8). This contributes to lowering the overall average earning while the shrinking employment share of self-employment goes the other way, with an ambiguous overall effect.

Table 2.8. Insured monthly earnings

Monthly average earnings by employment status (KRW)

Year	Workplace-based	Individually	Ratio
2000	1 476 687	920 109	62%
2005	1 875 458	1 074 539	57%
2010	2 051 528	1 115 240	54%
2015	2 409 099	1 237 179	51%
2019	2 824 101	1 348 276	48%
2020	2 932 618	1 377 631	47%

Note: The average earnings of the individually insured only includes those that contributed during the year and excludes those with contribution exemptions.
Source: NPS.

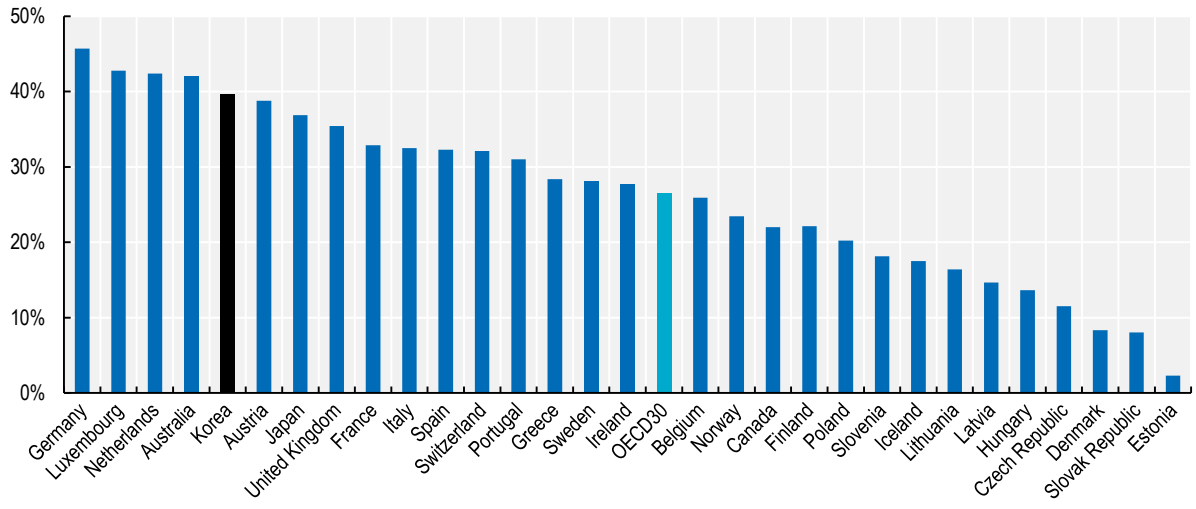
2.6. Survivor pensions

Historically female employment has been lower than male's in the large majority of countries. Combined with longer life expectancies, this implies that female pensioners are typically more reliant on first-tier pensions, their partner's pensions or ultimately survivor pensions. As a result, poverty levels are higher among older women than among older men in all OECD countries, with women over-75 more at risk of poverty than the 66-to-75-year-olds due to cohort effects – female employment was lower among the older cohorts -, the impact of pension indexation and widowhood.

Women's average pensions were 44% lower than those of men, in Korea in 2019, well above the OECD-35 average of 26%. Only Japan has a larger gap (Figure 2.19). The large gender pension gap in Korea is partly explained by gender differences in wages, which are the largest in the OECD, equal to between two and three times the OECD average (Figure 2.20). However, as only half of pension entitlements depends on individual earnings (Section 2.3), the impact of gender wage differences on gender pensions is attenuated. With improving employment among women in many countries, their pension entitlements will increase over time, and gender differences in earnings-related pensions will tend to decrease.

Figure 2.19. The gender pension gap is very large

Gender gap in pensions, latest available

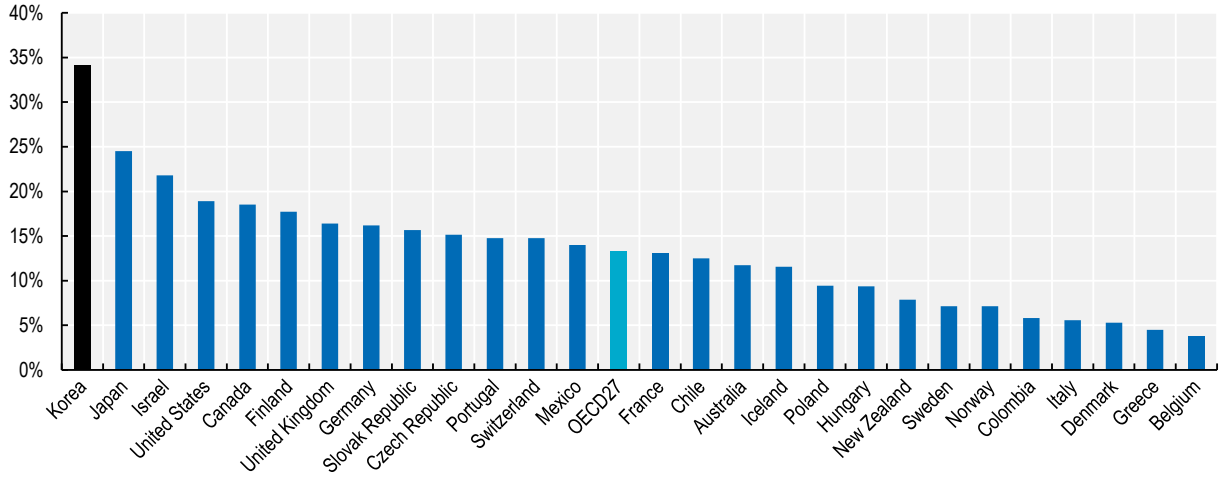


Note: The gender gap in pensions is defined as: (1-(women's average pension / men's average pension))*100.
Source: OECD (2021[23]).

StatLink https://stat.link/3mnxhq

Figure 2.20. Gender wage gap

Employees, Percentage, latest available



Source: OECD (2020[24]), Gender wage gap (indicator).

StatLink https://stat.link/86uayt

Following the death of a partner, survivor pensions have two main objectives. Firstly, they protect the surviving spouse from the risk of poverty by preventing disposable income from falling to potentially very low levels. Secondly, they contribute to insuring against the decrease in disposable income after the partner's death, in the same way as old-age pension's help avoid a sharp drop in income when moving out of paid work upon retirement – the so-called consumption-smoothing objective aimed at maintaining

standards of living. Women represent around 88% of survivor pension recipients for widowed persons on average across OECD countries, and 92% in Korea (OECD, 2018[25]). Hence, survivor pensions may play a key role in reducing gender differences in old-age disposable income.

In the NPS scheme, the survivor pension is equal to 60% of the deceased's pension, provided that the deceased made at least 20 years of contributions (Figure 2.21). Between 10 and 19 years of contributions, 50% is paid, 40% for less than 10 years of contributions. In this latter case of less than 10 years of contribution, the initial NPS entitlement is calculated pro-rata. In the GEPS the survivor benefit is 60% irrespective of the length of contribution.

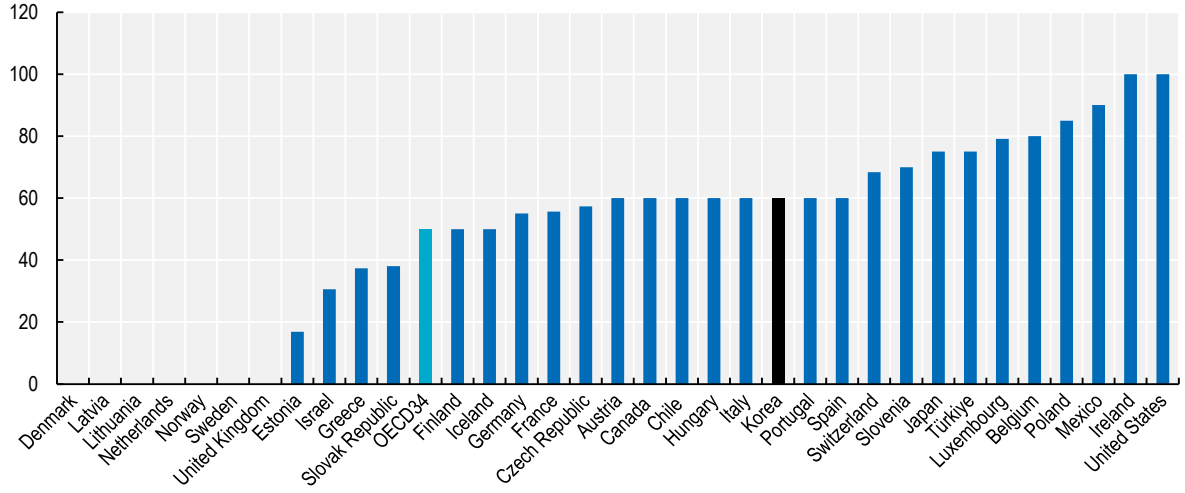
Half of OECD countries have a survivor pension equal to at least 60% of the deceased's pension. On average in the OECD, future survivor pensions will replace 50% of the deceased's mandatory contributory pension at retirement age, when no other income is taken into account for any household member including the survivor (OECD, 2018[25]).

Survivor benefits, in Korea, can be paid to a range of relatives but there is an order of priority: spouse, children up to the month they reach age 25 (any age if assessed with a first- or second-degree disability), parents, grandchildren up to the month they reach age 19 (any age if assessed with a first- or second-degree disability) and grandparents (including the spouse's parents or grandparents) aged 62 or older (any age if assessed with a first- or second-degree disability).

In the majority of OECD countries the age of the surviving spouse has to be above a threshold to provide eligibility to a permanent benefit from survivor pensions. In many countries a temporary payment is made irrespective of age to help smooth the transition, but after that survivors are eligible to receiving the permanent component only once they have reached the eligibility age. However, Korea is one of 11 OECD countries for which there is no such minimum age for entitlement to permanent survivor pensions. This implies that even if the surviving spouse is young, he or she can receive permanent survivor benefits for many decades. Spending on survivor pensions represented 0.3% of GDP in Korea against 0.8% in the OECD on average.

Figure 2.21. Survivor pension as a share of the deceased's pension

Survivor pensions available after the retirement age and not accounting for means-testing survivor pensions against other income, mandatory earnings-related pension of the deceased only



Source: OECD (2018[25]), Figure 7.10.

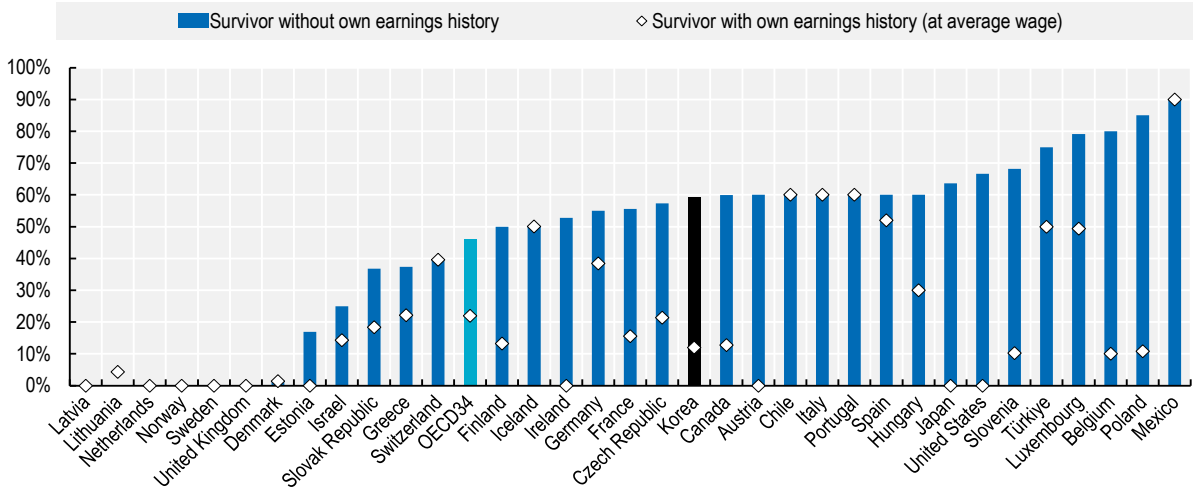
StatLink https://stat.link/vyb0ac

When applying the rules for survivor pensions, assumptions need to be made about the employment history of the survivor, as this also affects the pension that would have been received before the partner's death. For example, in Korea, a non-working spouse will receive a spousal supplement within their partner's pension, even though they have not made any contributions in their own right. In Korea, when survivors have no personal pension entitlement, they will receive, based on current legislation, 59% of the deceased's pension, compared to 46% on average across OECD countries (Figure 2.22). These numbers are lower than 60% for Korea and 50% for the average shown in (Figure 2.21) because of the aforementioned spousal supplement that was received upon retirement, but which is not part of the survivor pension calculation. A similar system also exists in Japan amongst others.

When the survivor is also assumed to have had a full career at average earnings then the survivor benefit falls to 12% of the deceased's earnings-related pension in Korea, compared to an average of 22% across the OECD. In Korea, survivors are entitled to the greater of the full survivor pension and of their own pension plus 20% of the survivor pension. So for a couple with both partners with full careers at average earnings the latter is the more beneficial, supplementing the survivors own pension with 12% (= 20% * 60%) of the deceased's pension. Overall, the survivor pension is thus withdrawn against the survivor earnings-related pension at a higher rate in Korea than in the OECD on average, at least at the average-wage level.

Figure 2.22. Survivor pension relative to the contributory pension of the deceased spouse

Same age couple, the deceased has worked a full career from age 20 in 2016 at the average wage and died just after having retired at the normal retirement age, mandatory pension schemes



Source: OECD pension model, adapted from OECD (2018[25]), Figure 7.12.

StatLink https://stat.link/ous3i1

References

GEPS (2016), *Annual Report 2016*, Government Employees Pension Service, GEPS Research Institute, https://www.geps.or.kr. [26]

JILPT (2011), *Business Labour Trend Sep/2011(in Japanese)*, JILPT Publishing, Tokyo, https://www.jil.go.jp/kokunai/blt/backnumber/2011/09/index.html. [7]

Jones, R. and S. Urasawa (2014), "Reducing the High Rate of Poverty Among the Elderly in Korea", *OECD Economics Department Working Papers*, No. 1163, OECD Publishing, Paris, https://doi.org/10.1787/5jxx054fv20v-en. [15]

KLI (2016), *Korea Labor Institute , Labour Review AUG/2016(in Korean)*, https://www.kli.re.kr/kli/pdicalView.do?key=19&pblctListNo=8747. [8]

KOSIS (2020), *Korean Statistical Information Service*, https://kosis.kr/eng/statisticsList/statisticsListIndex.do?menuId=M_01_01&vwcd=MT_ETITLE&parmTabId=M_01_01&statId=1962002&themaId=#SelectStatsBoxDiv. [19]

MHLW (2019), *Ministry of Health, Labour and Welfare, Employment status of elderly people 2019 (in Japanese)*, https://www.mhlw.go.jp/stf/houdou/0000182200_00003.html. [11]

MHLW (2017), *Ministry of Health, Labour and Welfare, General Survey on Working Conditions 2017 (in Japanese)*, https://www.mhlw.go.jp/toukei/list/11-23.html. [9]

MHLW (2012), *Ministry of Health, Labour and Welfare, Bill tabled in the Diet (2012) (in Japanese)*, https://www.mhlw.go.jp/topics/bukyoku/soumu/houritu/dl/180-54.pdf. [21]

Min, D. and E. Cho (2018), "Patterns in quality of life according to employment among the older adults: the Korean longitudinal study of aging (2008–2014)", *BMC Public Health*, Vol. 18/1, https://doi.org/10.1186/s12889-018-5296-x. [12]

MOEL (2019), *Ministry of Employment and Labor, Status of the introduction of wage peak system(in Korean)*, https://www.moel.go.kr/info/publict/publictDataView.do?bbs_seq=20200800349. [6]

MOEL (2015), *Ministry of Employment and Labor, The effect of introducing a wage peak system*, https://www.moel.go.kr/common/downloadFile.do?file_seq=21171316982&bbs_seq=1433822121810&bbs_id=LOCAL1. [4]

OECD (2021), *Pensions at a Glance 2021, country profiles*, http://oe.cd/pag. [18]

OECD (2021), *Pensions at a Glance 2021: OECD and G20 Indicators*, OECD Publishing, Paris, https://doi.org/10.1787/ca401ebd-en. [1]

OECD (2021), *Towards Improved Retirement Savings Outcomes for Women*, OECD Publishing, Paris, https://doi.org/10.1787/f7b48808-en. [23]

OECD (2020), *OECD Employment Outlook 2020: Worker Security and the COVID-19 Crisis*, OECD Publishing, Paris, https://doi.org/10.1787/1686c758-en. [24]

OECD (2019), *OECD EPL Database*, OECD Publishing, Paris,, https://www.oecd.org/els/emp/Korea.pdf. [2]

OECD (2019), *Pensions at a Glance 2019: OECD and G20 Indicators*, OECD Publishing, Paris, https://doi.org/10.1787/b6d3dcfc-en. [22]

OECD (2019), *Working Better with Age, Ageing and Employment Policies*, OECD Publishing,Paris, https://doi.org/10.1787/c4d4f66a-en. [3]

OECD (2018), *OECD Pensions Outlook 2018*, OECD Publishing, Paris, https://doi.org/10.1787/pens_outlook-2018-en. [25]

OECD (2018), *Towards Better Social and Employment Security in Korea*, Connecting People with Jobs, OECD Publishing, Paris, https://doi.org/10.1787/9789264288256-en. [17]

OECD (2018), *Working Better with Age: Japan*, Ageing and Employment Policies, OECD Publishing, Paris, https://doi.org/10.1787/9789264201996-en. [10]

OECD (2018), *Working Better with Age: Korea*, Ageing and Employment Policies, OECD Publishing, Paris, https://doi.org/10.1787/9789264208261-en. [5]

OECD (2016), *OECD Pensions Outlook 2016*, OECD Publishing, Paris, https://doi.org/10.1787/pens_outlook-2016-en. [20]

OECD (2011), *Society at a Glance: Asia/Pacific 2011*, OECD Publishing, Paris, https://doi.org/10.1787/9789264106154-en. [13]

Statistics Korea (2010), *Outcome of Social Survey 2010: Family, Education, Health, Security and Environment, Daejeon (in Korean)*. [14]

UNESCAP (2016), *Income Security for Older Persons in the Republic of Korea*, https://www.unescap.org/resources/income-security-older-persons-republic-korea. [16]

Notes

[1] The OECD defines the normal retirement age in a given country as the age of eligibility of all schemes combined without penalty, based on a full career after labour market entry at age 22.

[2] The average earnings of all contributors over the last three years are uprated by inflation growth to calculate the reference earnings. In times of positive wage growth the replacement rate will be slightly lower as a result.

[3] The OECD calculates pensions on an annual basis using annual earnings as the reference base. Therefore the formula below have been modified from those normally referenced in Korea to account for this methodological difference, but the more commonly used formula are shown in the endnotes.

[4] This formula is based on annual earnings and years of contribution. In Korea the calculation normally refers to monthly earnings and the formula is then given as Pension = 2.4(A+0.75B) * (1+0.05n/12), where A and B are monthly earnings and n is the number of months of contribution.

[5] The corresponding monthly formula is Pension = [2.4(A+0.75B) ×P1/P +1.8(A+B) ×P2/P] (1+0.05n/12).

[6] The corresponding monthly formula is Pension = [2.4(A+0.75B) ×P1/P +1.8(A+B) ×P2/P+ 1.5(A+B) ×P3/P+..+1.2(A+B)×P23/P] (1+0.05n/12).

[7] The contribution base prior to 2009 was defined as 65% of gross pay, classified as “basic pay and a part of allowances” (GEPS, 2016[26]). In 2009 this was changed to full gross pay, therefore leading to a recalibration of the contribution rate. Prior to 2009 the equivalent contribution rate was around 11% having increased over time from about 3% of gross wage upon introduction.

[8] To calculate the reference wage past wages were valorised with average wage growth within the civil service.

[9] Prior to the 2015 reform only 33 years could be considered but as the accrual rate was 1.9% the maximum replacement rate was slightly higher at 62.7%.

3 How to improve the public pension system in Korea

This chapter compares the projected replacement rates from the NPS for workers in Korea with those of other OECD countries across various earnings levels. It also details the impact on pensions due to retiring early or deferring payment and the credit available for career absences due to unemployment or childcare responsibilities. The chapter then moves to the first-tier non-contributory basic pension, comparing its level with that of other countries. All the special regimes are then discussed, referencing future replacement rates. Then the current financial situation of the NPS is discussed before moving to the long-term projections for when the fund will go to deficit and when it will reach zero, before the financial position of the special regimes are examined. Finally the chapter presents policy options for reforming public pensions to improve both financial sustainability and retirement-income adequacy.

3.1. Introduction

The Korean public pension system consists of three main parts, as described in detail in Chapter 2. First, an old-age safety net, the non-contributory Basic Pension, provides a means-tested benefit to 70% of the population aged 65 and over. Secondly, the contributory National Pension Scheme (NPS) covers private-sector workers. The NPS is a defined benefit scheme based on a strongly redistributive benefit formula, in which accruals consist of two equally weighted components: one is based on the average contribution level of all participants while the other is calculated based on individual contributions. Thirdly, four special regimes cover: civil servants (Government Employees Pension Scheme, GEPS); the military (Military Personnel Pension Scheme, MPPS); workers in private schools (Private School Teachers Pension Scheme, PSTPS): and, Special Post Office workers (Special Post Office Pension Scheme, SPOPS).

The pension entitlements are calculated differently for the NPS and for each of these specific schemes. This chapter compares these entitlements across different earnings levels and career paths. Section 3.2 first analyses the NPS entitlements for private-sector workers with full careers, and examines alternative career paths – early and late retirement, incomplete careers due to childcare and unemployment breaks. It then discusses pension entitlements for the self-employed, as well as the non-contributory basic pension. Section 3.3 analyses the special regimes. Section 3.4 describes the building up of the NPF and the 1998 reform, covers the current and future financial position of the NPS, and shows the required contribution to ensure financial sustainability before highlighting alternative sources of funding. Section 3.5 briefly discusses the finances of the special regimes. Section 3.6 suggests policy options for public pension reforms in Korea.

3.2. Comparison of pension replacement rates for private-sector workers

3.2.1. Replacement rates from the NPS

Upon its introduction, in 1988, the NPS specified a target replacement rate of 70% for a 40-year career, which has since been reduced, to reach 40% over time. However, this target replacement rate results from a very specific scenario of contributing for 40 years with earnings at the “A value” for each year of contribution. The A value is the average eligible earnings of all contributors – eligible earnings are earnings capped at the contribution ceiling. If individual earnings are below the A value then the replacement rate is higher and vice versa (see below). Pension entitlements do not accrue in Korea from age 60 or before age 18, except under specific circumstances, so a 40-year career implies labour market entry at age 20 or earlier.

Gross replacement rates

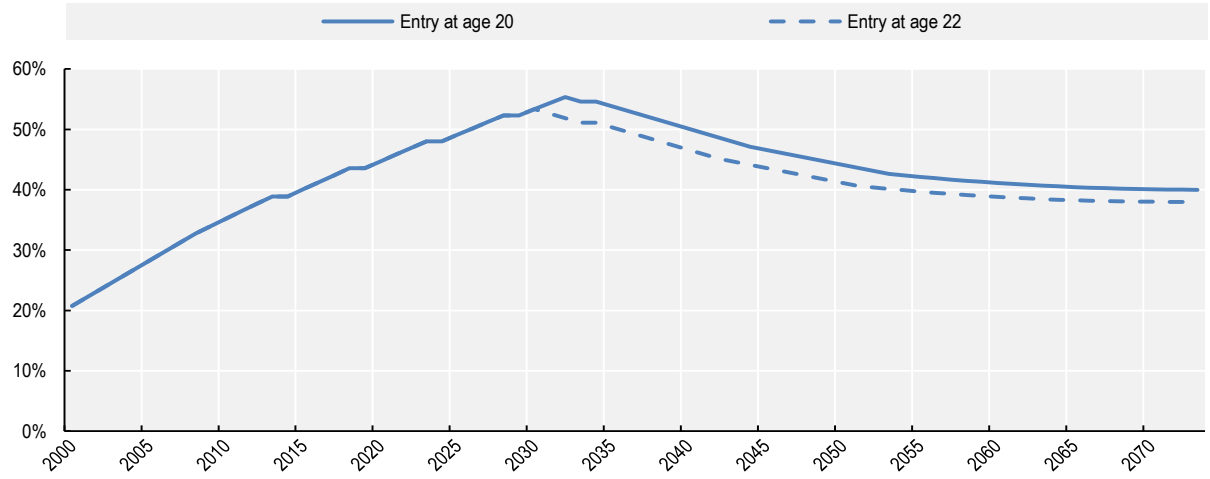
As the National Pension Scheme (NPS) was only introduced in 1988 it has yet to reach maturity and it is currently not yet possible to have contributed for 40 years. As the retirement age is increasing, reaching 65 in 2034, the earliest point that an individual who started to contribute at age 20 could retire after having completed 40 years is 2032 – contributing from the beginning at age 20 in 1988, then for 40 years until 2028, and retiring at the normal retirement age of 64. Until 2032, replacement rates will tend to steadily increase for new retirees as they will have been able to contribute for a longer period since 1988. For example, with labour market entry at age 20, people retiring at the national retirement age of 60 in 2000 were only able to contribute for 12 years, such that their replacement rate was low at 20.8% at earnings equal to the A value. This has increased to 44.7% for someone retiring in 2020 and will keep increasing to 55.4% in 2032 (Figure 3.1).

Recent reforms will gradually lower the target replacement rate (Chapter 2). Hence, after 2032 replacement rates will gradually decline for similar careers until 2073 when they stabilise at 40.0% for a

full career from age 20 at the A-value wage, based on current legislation.[1] Between 2032 and 2073 there will be a 15.4 percentage point (or 27.8%) decline in the replacement rate for a full career from age 20. This is a very large drop in international comparison: the average decline across OECD countries is 4.2 percentage points (or 7.6%) when comparing the pensions of the 1956 and 1996 birth cohorts ((OECD, 2019[1])).

Figure 3.1. NPS replacement rates by year of retirement at the normal retirement age

Gross replacement rates for a full-career worker with A-value wages, percentage of gross earnings



Note: The flat lines between 2013-14, 2018-19, 2023-24, 2028-29 and 2033-34 represent the gradual increase in the pension age from 60 to 65, where although the career is one year longer each time there is no change to the replacement rate as no extra entitlements accrue, related to no contributions being made from age 60.
Source: OECD calculations.

StatLink https://stat.link/4s8c59

Later entry in the labour market leads to lower replacement rates in Korea as in many OECD countries. For people entering the labour market, the OECD assumes the career starts at age 22. As no entitlements are earned after age 60 in Korea, a full-career worker entering the labour market at age 22 will have paid contributions and accrued pension rights for 38 years only. This will generate a replacement rate of 38.0% for those starting their careers after 2028.

Pension replacement rates vary substantially with earnings level in Korea; workers with low earnings receive much higher replacement rates. For purposes of international comparison, the average-wage measure used by the OECD is the harmonised full-time adult average-wage earnings covering both manual and non-manual workers. It amounts to around KRW 3.8 million per month in 2020 in Korea. By comparison, the average eligible earnings of all contributors (A value) is KRW 2.4 million, i.e. 36% lower than the full-time average wage.

There are two reasons for this big difference. First, eligible or pensionable earnings that enter the calculation of the A value are capped at the ceiling, which was equal to 131% of the full-time average wage, whereas the OECD harmonised figure is an average of all earnings. In OECD calculations, the ceiling is only being applied as part of pension rules when computing contributions and pension entitlement. Secondly, the A value includes both part-time and self-employed workers, who have lower earnings, on average, than full-time employees in the private sector, which is the basis of OECD comparisons.

The gross replacement rate for a worker with A-value earnings and starting the career at age 22 in 2020 amounts to 38.5% based on the assumptions used in the OECD pension model, while the gross replacement rate at the average-wage level ("average earner" case) is lower, at 31.2%, given the redistributive nature of the NPS where the calculation of individual pensions uses the average of individual earnings and the scheme-wide earnings average (Chapter 2).

Net replacement rates in international comparison

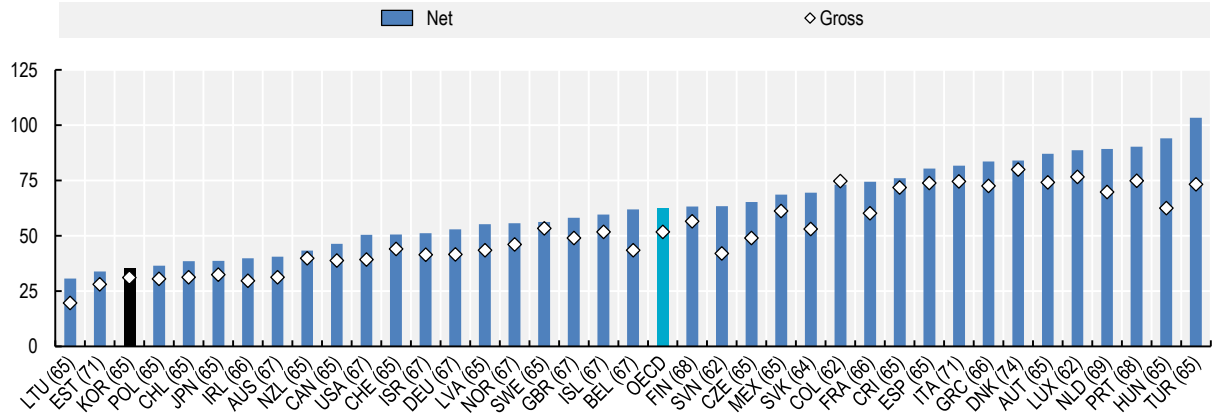
The net replacement rate (net pensions as a ratio of net earnings) matters more to individuals than the gross replacement rate as it better reflects their available income in retirement in comparison to when working. Pensioners pay a lower contribution rate than employees, or no contribution at all, as for example no unemployment and pension contributions are levied on pension benefits. With progressive tax systems, pensioners also usually pay a lower income tax rate than when working since net pensions are typically lower than labour earnings net of social contributions. In addition, in several OECD countries, pensions are taxed less than labour income at the same income level.[2] As a result, net replacement rates are generally significantly higher than gross rates.

In Korea, pensions are liable for tax purposes in the same way as labour income. However, pensions are exempt from social security contributions, with the exception of some regional-based health insurance contributions. In that case, the reference income used is only 20% of the pension income against 100% of earnings for workers.

After a full career from age 22 in 2020 (hence projected to retire in 2063) the gross replacement rate of 31% at the average-wage level generates a net replacement rate of 35%. This is similar to that of Japan, at 39%, but very low compared to the OECD average of 62% (Figure 3.2). Only Estonia and Lithuania have lower future replacement rates for this baseline case. At the other extreme, Austria, Hungary, Luxembourg, the Netherlands, Portugal and Türkiye all have future replacement rates around at least 90% based on current legislation.

Figure 3.2. Future net pension replacement rates for average earners

Full career from age 22 in 2020, mandatory schemes



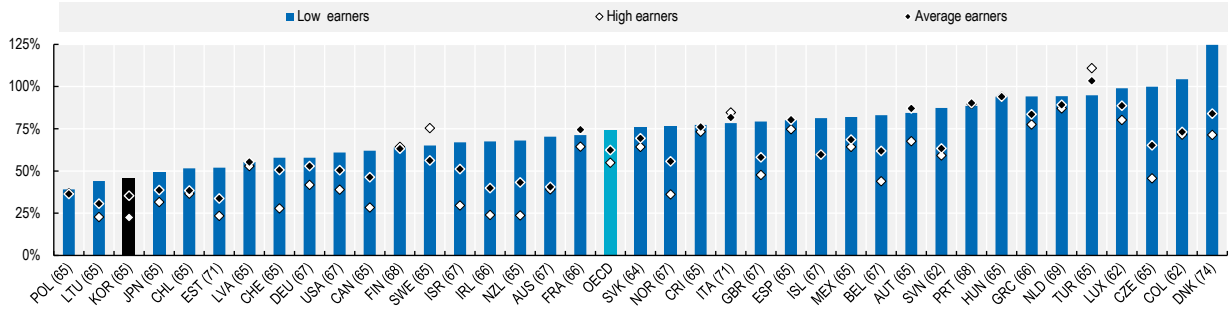
Note: Normal retirement age in brackets, for entry at age 22 in 2020.
Source: OECD pension model.

StatLink https://stat.link/myd7ho

Low earners in Korea benefit from the strong redistribution in the way pensions are computed (Chapter 2). Half of pension calculation is based on individual earnings and half on the average eligible earnings of all contributors, which lifts entitlements for low earners and reduces them for high earners. Full-career low earners have a net replacement rate of 46%, which is 11 percentage points higher than for average earners (Figure 3.3). Many countries also have higher replacement rates for low earners than for average earners, mainly through flat-rate or safety-net benefits as, for example, in Australia, Colombia, the Czech Republic, Demark, Ireland and New Zealand. However, at less than 50% after a full career, the net replacement rate in Korea is very low as in Japan, Lithuania and Poland, compared with 74% in the OECD on average. For high earners in Korea the redistributive formula has the opposite impact, and the low ceiling of 131% of gross average earnings for pensionable earnings (Chapter 2) significantly reduces the individual component of the NPS. Combining these two effects leads to a net replacement rate of only 22% for workers at twice the average wage compared with 55% in the OECD on average.

Figure 3.3. Net replacement rates: Low and high earners

Full career from age 22 in 2020, mandatory schemes



Note: Labour market entry at age 22 in 2020. Retirement age is in brackets for reference. The non-contributory basic pension has a legal provision to cover 70% of the population aged 65 or over, however, due to insufficient details about the implication for benefit levels, it is not possible to include this in the long-term modelling, potentially underestimating replacement rates for low earners.
Source: OECD pension model.

StatLink https://stat.link/kvrbhf

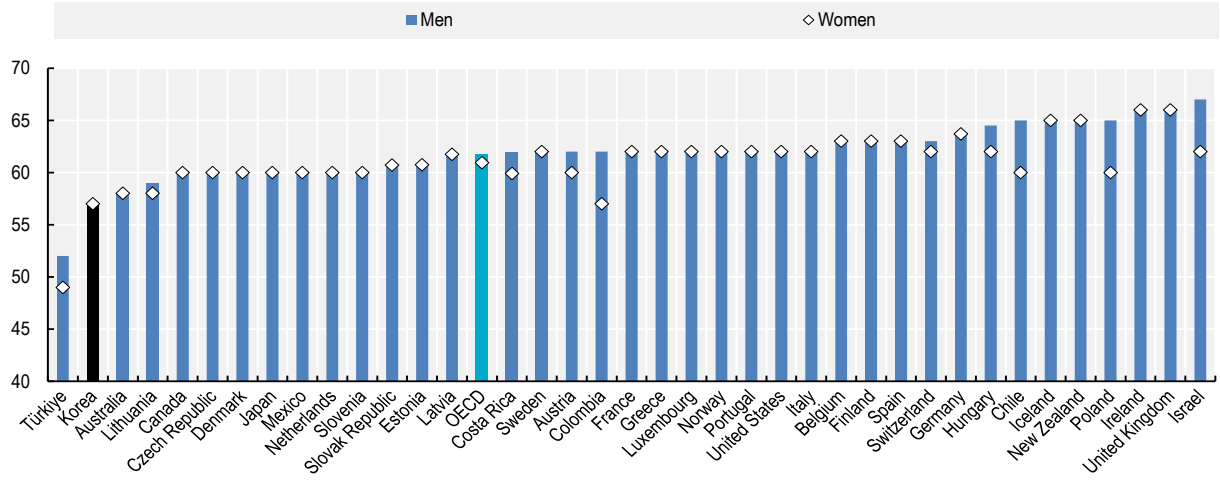
3.2.2. Early and late retirement

Early retirement

Retirement before the normal pension age is possible for every insured person with a minimum of 10 years of coverage and aged at least 57, increasing to age 60 by 2029. Early retirement at age 57 is low in comparison to the other OECD countries; only Türkiye currently has a lower age in the mandatory scheme (Figure 3.4). Even with the increase by 2029 to age 60, the early retirement age in Korea will still be one of the lowest in the OECD.

Figure 3.4. Early retirement age by gender, 2020

For an individual retiring in 2020 after an uninterrupted career from age 22, years



Note: Retirement age is calculated based on entry and age 22 and represents the earliest point of entitlement to the main mandatory component of the pension.
Source: OECD (2021[2]).

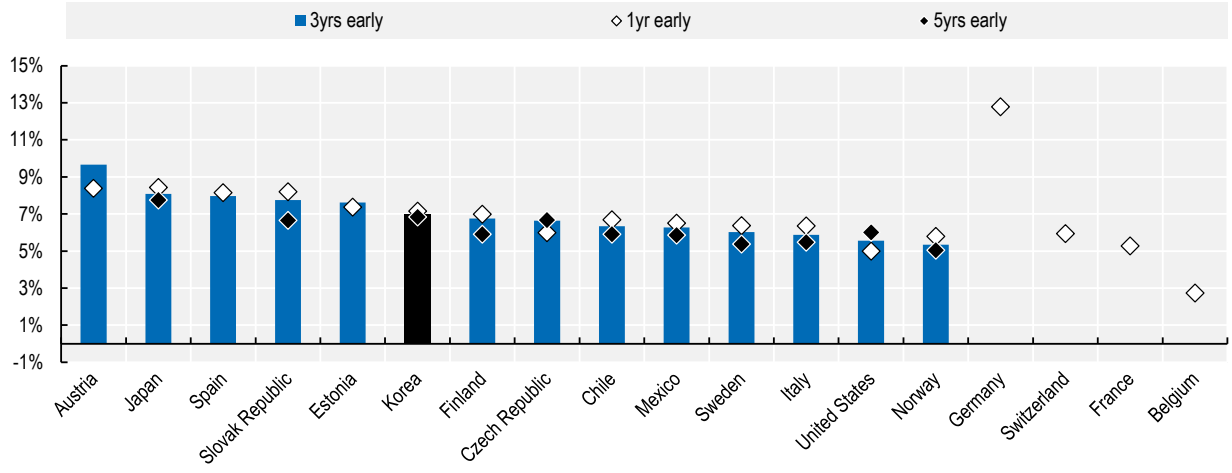
StatLink https://stat.link/ekyn73

In case of early retirement the pension is permanently reduced by 0.5% for each month that it is claimed before the normal retirement age. For example, given the retirement age of 62 years in 2020, if the benefit is claimed at age 57 the pension is reduced by 30%. In addition, compared with someone with a full career until the normal retirement age, pensions are also lower due to the impact of shorter contribution history. In the future, with the normal retirement age increasing to 65 and the early retirement age to 60, there will be no loss from missing contributions as entitlements do not accrue after age 60. Korea is an outlier in this among OECD countries, as contributions are normally mandatory until the statutory retirement age.

Taking this into account, for three years of early retirement there will be a pension loss of 7.0% per year (or 21.0% in total) compared with someone continuing to work until the retirement age at the same wage position, which is similar to the average of the 14 OECD countries for which this is a possible option (Figure 3.5). The projected loss is higher than the 6.0% (12 * 0.5%) penalty because pensions in payment are indexed to prices and so retiring early generates an additional projected loss as those continuing to work are expected to benefit from wage growth, which is generally higher than price inflation. Actuarial neutrality at retirement age in Korea is achieved with a benefit reduction of about 5% per year (OECD, 2017[3]), lower than the 6% penalty. The total pension loss from retiring early is higher in Japan, for example, at 8% per year for three years of early retirement.[3] For one year of early retirement the pension is decreased by 7.2% in Korea, compared to 8.4% in Japan and 6.9% across the 18 OECD countries listed.

Figure 3.5. Negative impact on pension benefits when claiming pensions by up to five years before the normal retirement age, per year of early retirement

Full-career average earners



Note: The penalty in Korea does not account for any loss of contributions as contributions are voluntary from age 60. Portugal is not included as it is an outlier, one year of early retirement has a 36.2% penalty due to the impact of the sustainability factor, with three years giving 14.8% per year on average and five years 11.1% for each year.
Source: OECD pension model.

StatLink https://stat.link/xy7rza

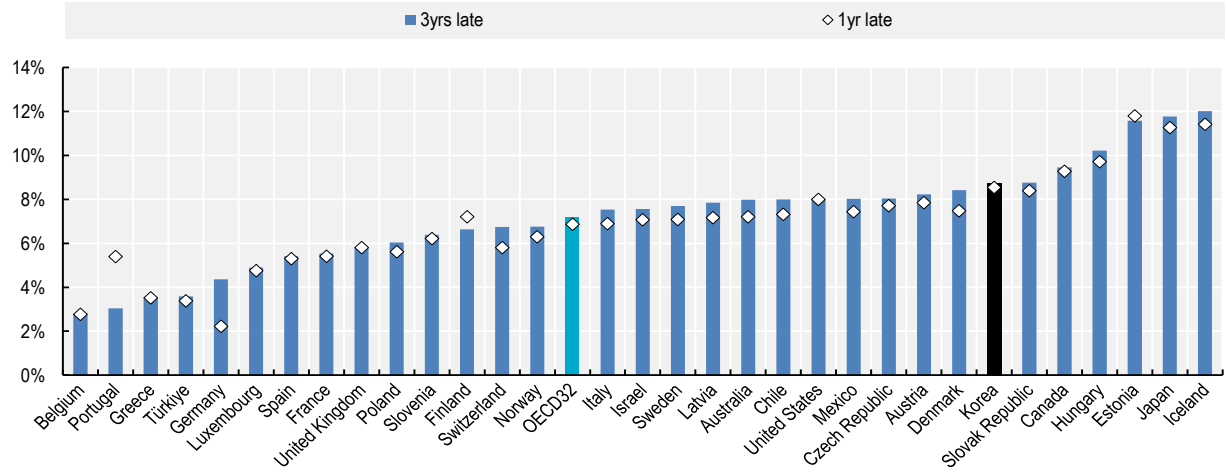
Late retirement

In Korea, it is also possible to defer pension payment by a maximum of five years, resulting in a higher benefit when eventually claimed. For each month of deferral beyond the normal retirement age the benefit is increased by 0.6%, i.e. by 7.2% per year. As contributions are not possible from age 60 in Korea, the pension increase from mandatory components when deferring relates solely to the bonus increment. By contrast, in most other countries additional entitlements from working longer further increase benefits.

When deferring, the underlying reference wage continues to increase in line with average earnings, whereas pensions in payment only increase with price inflation. Therefore deferring the pension generates a larger benefit than only implied from the 7.2% bonus per year when real wage growth is positive. Based on the OECD economic assumption of an annual real-wage growth of 1.25%, the total gain from deferring pensions by one year (without additional contributions and entitlements) amounts to 8.5% (Figure 3.6). This theoretically strengthens the financial incentives to defer retirement as such an effect is larger than implied by actuarial neutrality, especially as high life expectancy in Korea lowers the actuarially neutral rate. The impact of working longer on pensions is larger than in most OECD countries despite the absence of additional entitlements. It is around 1.5 percentage points higher than the OECD average, but is considerably below Japan's level for example, which has an increase of more than 11% per year of deferral.

Figure 3.6. Impact on pension benefits when working and deferring pensions by up to five years after the normal retirement age, per year of deferral

Full-career average earners



Note: Figures for three years late have been annualised, so a 6% increase shown in the chart means a total of 18% for three years. It is not possible to defer the basic pensions in Ireland, the Netherlands or New Zealand so they are not included in the chart. In France, the one-year bonus applied to the occupational pension, between 10 and 30% depending on the length of deferral, has been spread across the entire retirement period based on the annuity factor.
Source: OECD pension model.

StatLink https://stat.link/1fhwc3

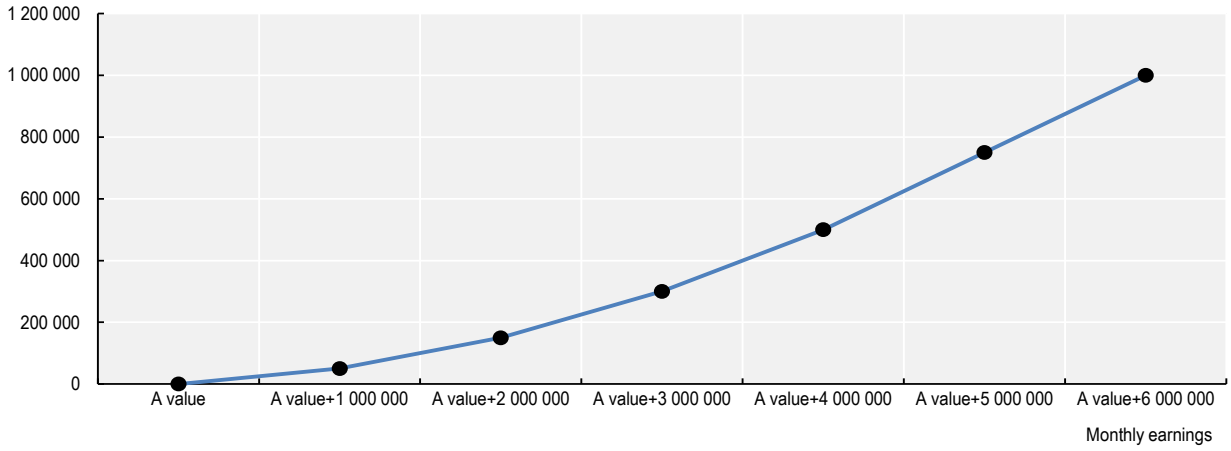
Whilst deferring pension payments in Korea leads to a high premium in the benefit level, a small share of older people use this. In 2016, only 5% of those reaching the retirement age deferred their pension, although that share is higher than in 2013 when it was less than 2%. Even though pension levels are still low, this is likely due to the fact that wages are typically lowered at older ages, creating income constraints, which income from pensions can help alleviate. Even lower levels are found in Japan where only 1.2% of pensions are deferred, while earnings levels typically decline by over 10% after reaching age 65.

The more common option in Korea is indeed to claim the NPS pension, either early or at the normal retirement age, and continue in employment at least for a few years. Data from the Korean Retirement and Income Study indicate that slightly more than half of NPS recipients in 2018 were in employment, either as an employee (24% of NPS recipients) or self-employed (28%).

Combining employment with pension receipt is done through the so-called “active old-age pension” in Korea. In this case, pension benefits are reduced depending on earnings levels, with the rate of reduction increasing as earnings increase (Figure 3.7). More precisely, earnings in excess of the A value lead to a benefit reduction: the first KRW 1 million in earnings above the A value leads to a reduction in the pension payment of 5% of the excess earnings, and this rate increases gradually to 25% for earnings over KRW 4 million above the A value. However, the maximum reduction permitted is capped at 50% of the pension benefit.

Figure 3.7. Pension reduction based on employment income

Monthly reduction in pension based on earnings above the A value, KRW



Note: The A value in 2020 is KRW 2 438 679 per month.
Source: NPS.

StatLink https://stat.link/sge5ym

By reducing pensions based on employment income after the normal retirement age, Korea is one of only seven OECD countries, along with Australia, Denmark, Greece, Israel, Japan and Spain, with such a mechanism, which is akin to an additional tax on labour income at older ages. In the other OECD countries, pensions and wages receipt can be combined without penalty once the retirement age has been reached.

In practice, the reduction of the benefit level does not apply for the majority of Korean pensioners who continue to work. Their average monthly salary is at most KRW 2 million for 58% of all employees or self-employed aged 60 to 69, below the A value threshold. This share increases to around 90% for those aged 70 to 79.

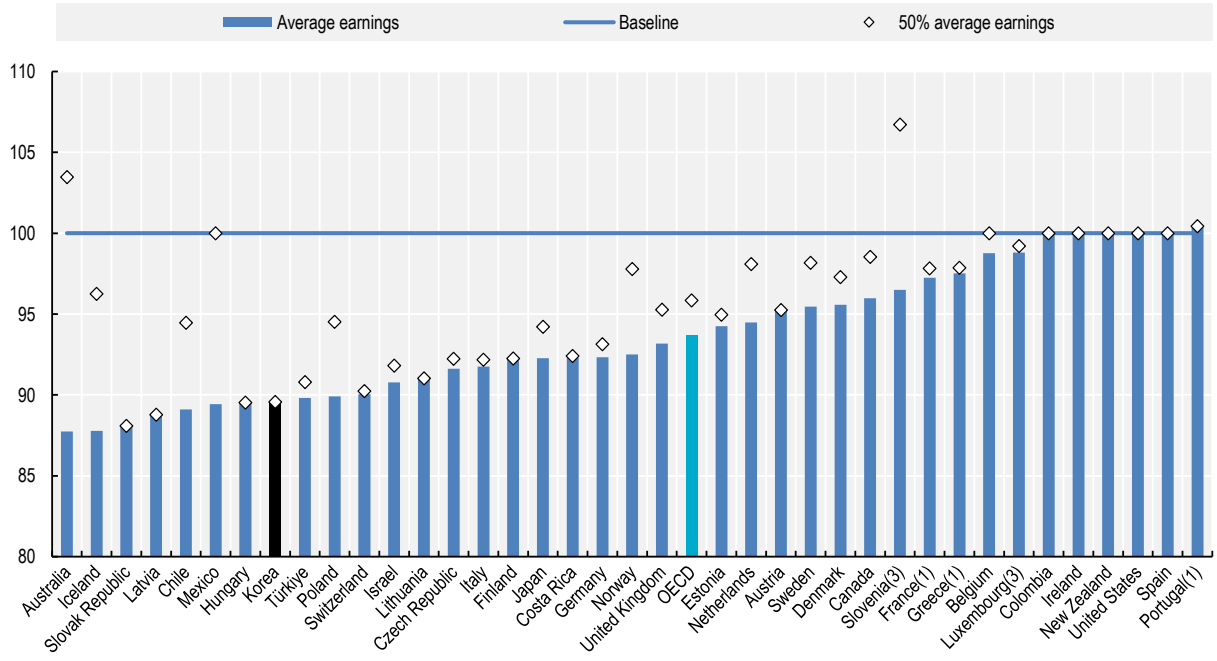
3.2.3. Impact of career breaks

Career length is an important factor for pension entitlements, and short and interrupted careers usually lead to lower pension levels. Pension entitlements are not equally sensitive to incomplete careers across the OECD, however. While very short career breaks tend to reduce future pension levels only to a limited extent in most OECD countries, longer breaks might pose serious challenges for old-age income.

When unemployed in Korea, individuals receive an unemployment benefit for a maximum of one year. The benefit is 50% of the average wage over the last three years, with a monthly ceiling of KRW 700 000 (or 18% of the monthly average wage). Pension entitlements accrue based on this benefit with the state paying 75% of the contributions and the individual the remaining 25%.

On average, five years of unemployment will result in a pension of 90% of that of a full-career worker in Korea, whereas the impact is less on average across the OECD, with a relative pension equal to 94% at the average-wage level (Figure 3.8).[4] Out of a 43-year career (from age 22 to 65), a five-year break represents 11.6% of the career length, so the 10% impact on pensions in Korea suggests that there is limited pension protection against unemployment.

Figure 3.8. Gross pension entitlement of low and average earners with a 5-year unemployment break relative to that of a worker with a full career, %



Note: Figure in brackets refers to increase in retirement age due to the career break. Individuals enter the labour market at age 22 in 2020. The unemployment break starts in 2033. The non-contributory basic pension has a legal provision to cover 70% of the population aged 65 or over, however, due to insufficient details about the implication for benefit levels, it is not possible to include this in the long-term modelling, potentially overestimating the impact of the break.
Source: OECD (2021[2]).

StatLink https://stat.link/epslho

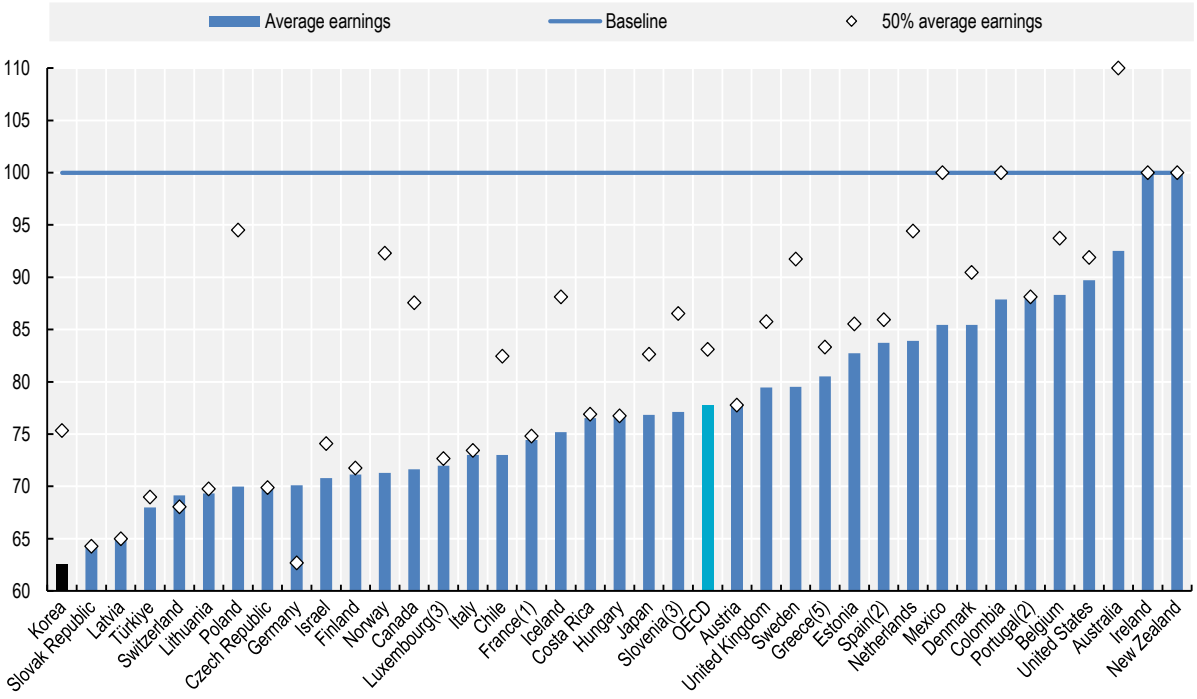
Figure 3.9 illustrates the case of a much more incomplete career. In Korea, average-wage workers who enter the labour market five years later (at age 27 in this case) and experience a 10-year unemployment spell during their career will face a pension reduction of 38% compared to the full-career case. This is the highest impact of any OECD country. In most OECD countries, the entitlement loss in mandatory schemes ranges between 10% and 30%, with an average of 24%, but it exceeds 35% in two other OECD countries, Latvia and the Slovak Republic.[5]

If there was no offsetting mechanism to limit the impact of short careers on pension levels – i.e. purely from an actuarial point of view -, such an incomplete career scenario would lead to a drop of about 40% in pension benefits ((OECD, 2019[4])). The pension loss in Korea is only slightly less than that, as there is a limited level of support in Korea during periods of unemployment. On average in the OECD, redistributive components and flat-rate benefits offset more than one-third of the shortfall, bringing it down from 40% to 24%. The types of support include: residence-based pensions where a career break has no affect; longer periods of unemployment being credited, either based on past earnings or at a flat rate; and, requiring to delay retirement to avoid penalties given lost contributions, which generates additional entitlements.

For low earners in Korea, the pension reduction at about 25% in that case (compared with full-career workers at the same earnings level) is much lower than for average earners – although still substantially more than in the OECD on average, at 17%. This is because the non-contributory basic pension applies in this instance, boosting total benefits by about 20%. In 10 OECD countries, the pension loss due to such an incomplete career is much bigger, including in Germany, Latvia and the Slovak Republic where it is larger than 35%.

Figure 3.9. Relative level of pension benefits for an incomplete career (%)

Entry at age 27 with 10-year unemployment versus full career from age 22, by earnings level, mandatory schemes



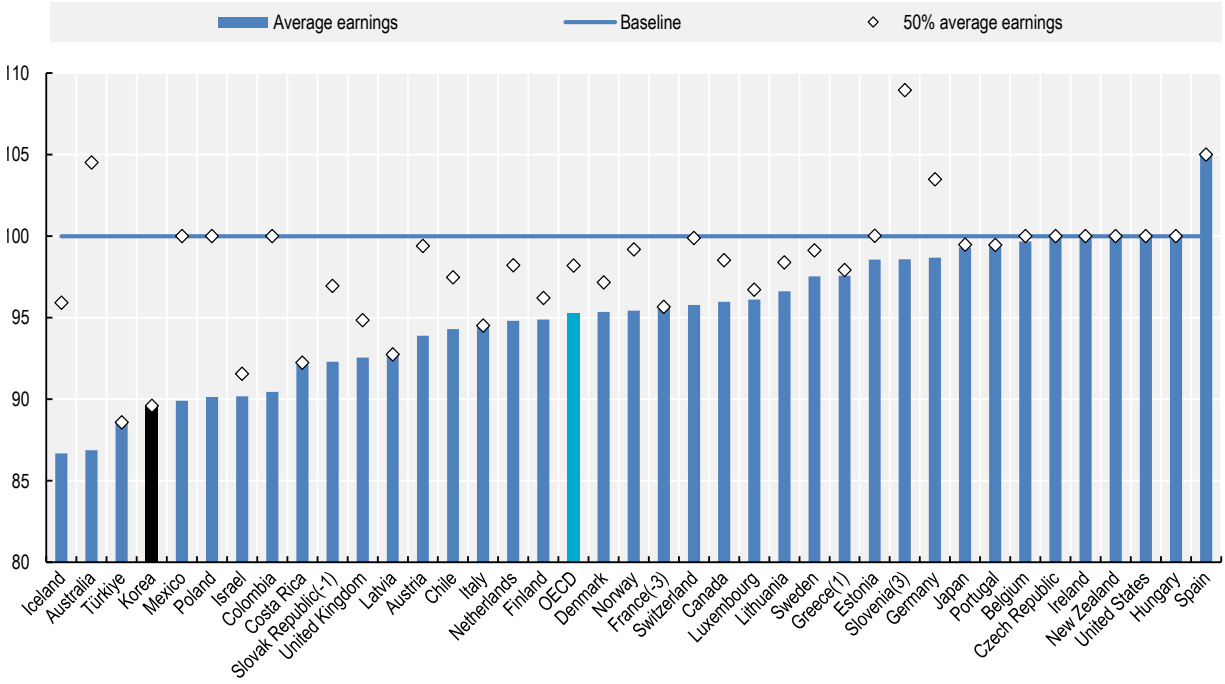
Note: The numbers in parenthesis in the country labels indicate the extra year's individuals with incomplete careers need to work to access a full pension, i.e. without actuarial penalty although the pension might be lower than for a full-career worker. The incomplete-career case is based on entry at age 27 versus 22 in the baseline with a ten-year unemployment period between age 35 and 45. The baseline line at 100% refers to the full career case from age 22 without any break. The non-contributory basic pension has a legal provision to cover 70% of the population aged 65 or over, however, due to insufficient details about the implication for benefit levels, it is not possible to include this in the long-term modelling, potentially overestimating the impact of the break.
Source: OECD (2021[2]).

StatLink https://stat.link/i4kepy

For career breaks due to childcare, periods of maternity of up to 90 days including at least 45 days right after the birth, are considered as periods of actual work and are taken into account to determine pension entitlements in Korea. Wages for these periods are paid at 100%, with the employer generally covering the first 60 days and the government covering the remainder. Since 2008, having at least two children results in up to 12 months being credited to either the mother or father's pension calculation, or split between the two, after the birth of the 2nd child, and 18 months for each subsequent child, with a maximum credit of 50 months. The credited amount is the average of the individual's average total insured income over the three years prior to the birth.

Korea is unique amongst OECD countries that provide childcare credits, in that the first child is not covered beyond maternity payment. Under the scenario of taking career breaks due to having two children only one year is credited towards the pension system irrespective of the duration of the break. For a five-year break this results in a fall in pension of around 10% (Figure 3.10), compared to a fall of only 5% across the OECD as a whole. In OECD countries, credits for childcare typically cover career breaks until children reach a certain age. They are generally less generous for longer breaks and for older children. Many OECD countries credit time spent caring for very young children (usually up to 3 or 4 years old) as an insured period and consider it as paid employment for pension purposes.

Figure 3.10. Gross pension entitlements of low and average earners with a 5-year childcare break versus worker with an uninterrupted career

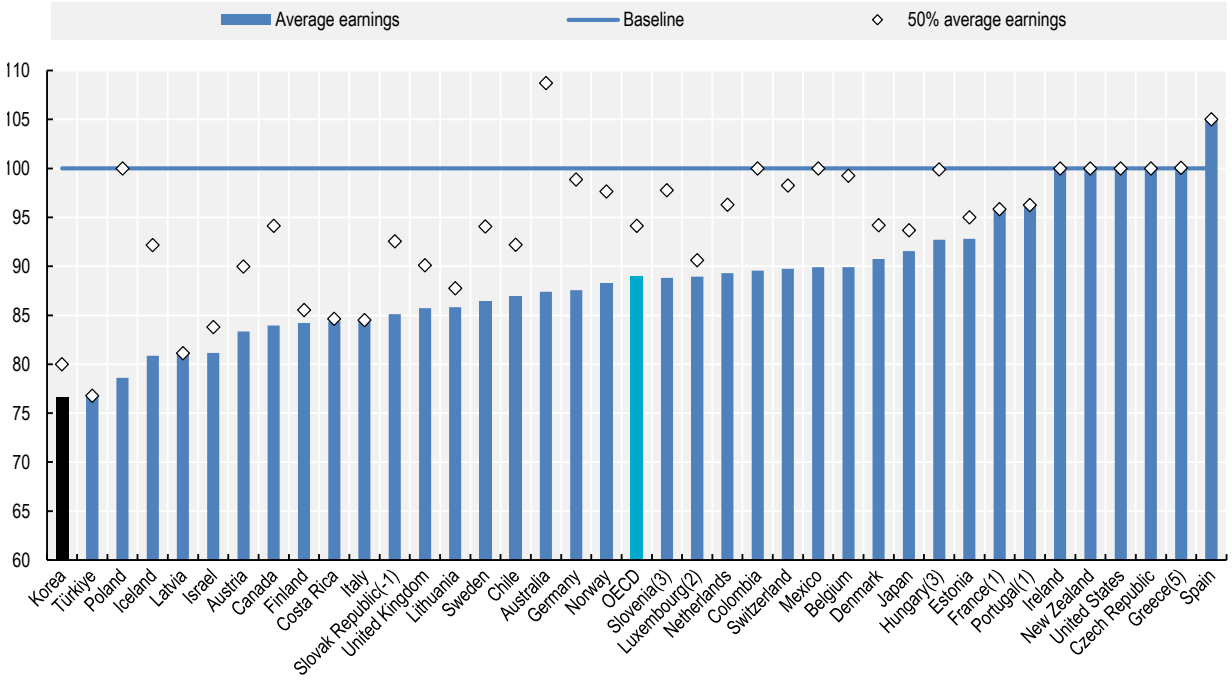


Note: Figure in brackets refers to increase in retirement age. Individuals enter the labour market at age 22 in 2020. Two children are born in 2028 and 2030 with the career break starting in 2028. The non-contributory basic pension has a legal provision to cover 70% of the population aged 65 or over, however, due to insufficient details about the implication for benefit levels, it is not possible to include this in the long-term modelling, potentially overestimating the impact of the break.
Source: OECD (2021[2]).

StatLink https://stat.link/h29mn1

When considering only two children, the credit applied in Korea does not increase for longer periods of childcare break, as only one-year of credit is granted in total. Therefore, subsequent absences only reduce the pension further (Figure 3.11). For a 10-year career break the pension declines by 23% compared to the full-career case, whilst the pension loss is half of this level, at 11%, on average in the OECD. For low earners the reduction is slightly lower at 20% in Korea due to the effect of the non-contributory basic pension, similar to most other OECD countries with the pension loss falling to 6% on average.

Figure 3.11. Gross pension entitlements of low and average earners with a 10-year childcare break versus worker with an uninterrupted career



Note: Figure in brackets refers to increase in retirement age. 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. The non-contributory basic pension has a legal provision to cover 70% of the population aged 65 or over, however, due to insufficient details about the implication for benefit levels, it is not possible to include this in the long-term modelling, potentially overestimating the impact of the break.
Source: OECD (2021[2]).

StatLink https://stat.link/1tl5qb

Whilst both men and women can claim childcare credits, in the majority of cases women take the career break to care for children therefore taking up this credit to compensate for the impact on pension. This, however, is not the only measure designed to increase pensions for women. For example, full-time housewives, with no actual earnings, are able to join the NPS as voluntarily insured. Others contributing as voluntarily insured have to contribute as if they had earnings at least equivalent to the A value, but these housewives are able to choose a lower income bracket for their contributions, thereby reducing their contribution payment, but still gaining future entitlement to a pension (UNESCAP, 2016[5]). In addition pensions from both spouses are split in the event of divorce.

3.2.4. Self-employment

The self-employed are not mandatorily covered within pension systems in all countries, and often the rules that apply differ from those of dependent employees. Korea is one of ten OECD countries along with Canada, Costa Rica, the Czech Republic, Estonia, Lithuania, Luxembourg, Portugal, Slovenia and the United States where the self-employed contribute in a similar way as employees do.

In another 19 countries, while self-employed workers are mandatorily covered by earnings-related schemes, pension coverage is limited because they are allowed to contribute at lower rates than employees (Austria, Belgium, Chile, France, Iceland, Israel, Italy, Latvia, Norway, Sweden and Switzerland), with flat-rate contributions (Colombia, Greece, Hungary, Poland, Spain and Türkiye) or minimum income thresholds below which they are exempt from contribution obligations (Austria, Chile,

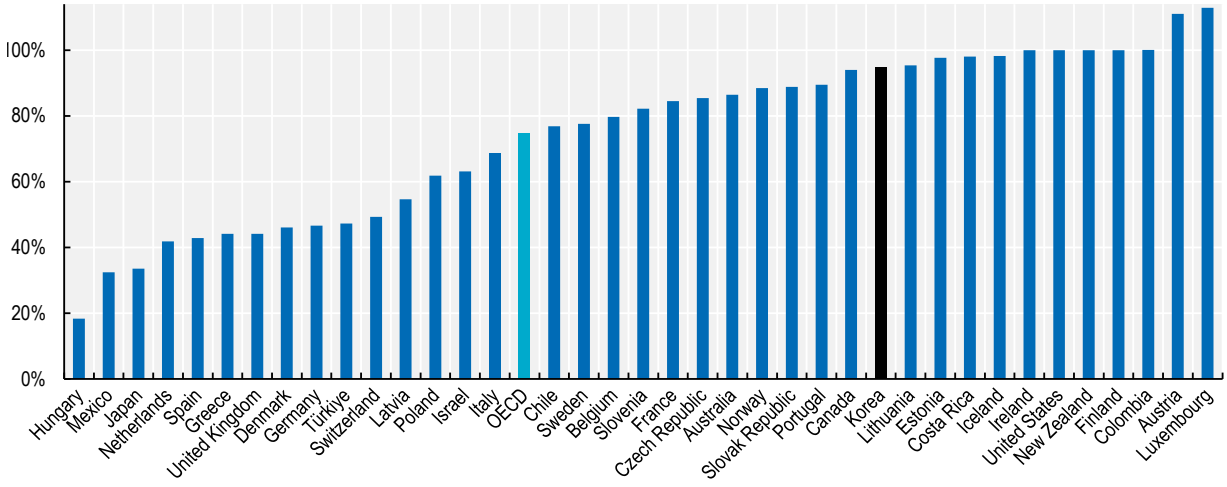
Finland, Latvia, the Slovak Republic and Türkiye). In Australia, Denmark, Germany, Japan, Mexico and the Netherlands, the self-employed are, in contrast to employees, not required to join earnings-related schemes.[6]

In the full-career average-wage case, the relative pension of the self-employed in Korea is 95% that of employees, well above the OECD average of 75% (Figure 3.12). By comparison the level is around 40% or even much lower in Mexico (32%), Japan (34%) and also Denmark, Germany, the Netherlands and the United Kingdom. In countries where the self-employed are not required to contribute to earnings-related pension schemes the relative pension level is among the lowest as the old-age pension from mandatory schemes of the self-employed is limited to first-tier benefits.

To better identify what the pension system produces, these estimates are based on the same level of income for the self-employed as for the private-sector worker, even though in Korea, as in many other countries, the self-employed typically have lower incomes. The main cause is the under-reporting of income, with verification processes often being inadequate. Under-reporting leads to both higher net incomes in the short term and lower pensions in the long term.

Figure 3.12. Theoretical relative pensions of the self-employed as percentage of those of employees

Theoretical pensions of a self-employed worker relative to an employee having both a taxable income (net income or net wage before taxes) equal to the average net wage before taxes, for individuals with a full career from age 22 in 2020 and contributing only the amount that is (quasi) mandatory to pensions



Source: OECD pension models.

StatLink https://stat.link/360htm

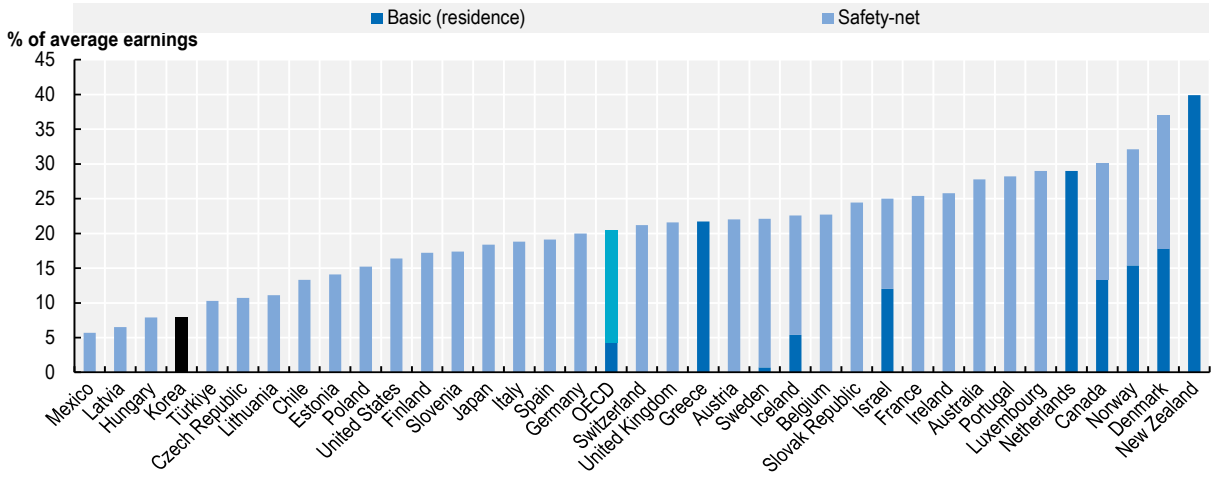
3.2.5. Old-age safety net

Non-contributory basic pension

Upon its introduction in 2008, the non-contributory basic old-age pension was designed for those aged 70 and above with an income below a threshold, targeting 60% of this population group. The initial maximum benefit level was set at 5% of the A value i.e. 3.2% of average earnings. In July 2014, the benefit was doubled to 10% of the A value. The 2018 reform further increased the maximum benefit by one-fifth so that it now stands at 7.8% of average earnings. In addition the 2018 reform changed the target population to 70% of those aged 65 or over. Despite these increases, the old-age safety-net level remains one of the lowest within OECD countries, with only Colombia, Hungary and Latvia having lower levels (Figure 3.13). Such a low level in Korea is not sufficient to effectively fight against old-age poverty.

Figure 3.13. Non-contributory first-tier benefit levels

Percentage of gross average earnings, 2020



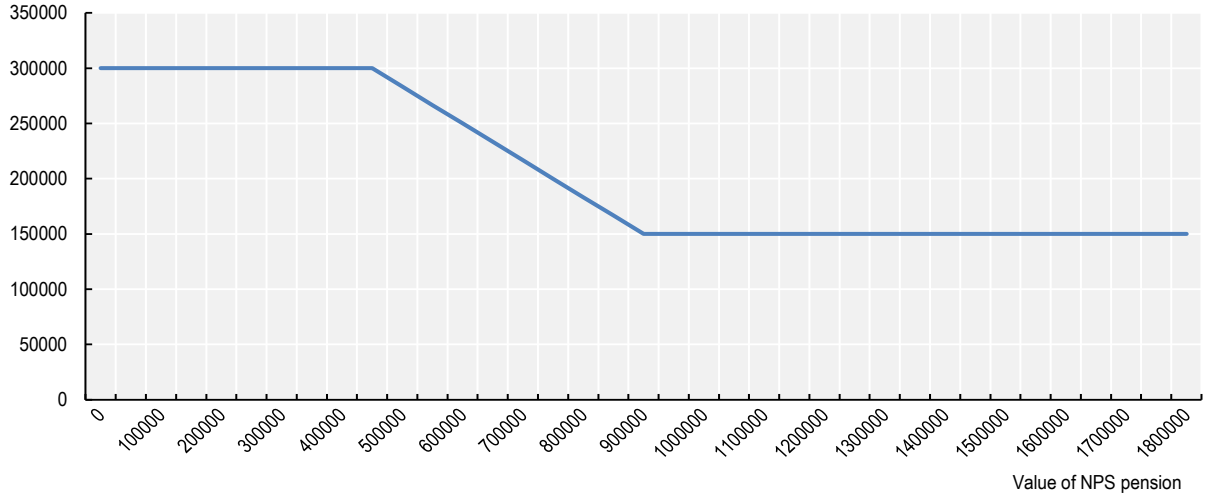
Note: The value for Korea reflects the non-contributory basic pension safety net.
Source: OECD (2021[6]), *Pensions at a Glance 2021*, country profiles http://oe.cd/pag.

StatLink https://stat.link/w30oab

The maximum non-contributory basic pension was KRW 300 000 per month in 2020,[7] payable to those receiving the National Pension Survivors' Pension or Disability Pension and for National Basic Livelihood Security beneficiaries. This maximum benefit is withdrawn against the national pension amount at a rate of one-third until the national pension in payment reaches KRW 900 000 (Figure 3.14). From this level, the non-contributory basic pension benefit is thus halved and remains constant. However, the pension is also means-tested against eligible income and assets, with no benefit being paid when income is above KRW 1.69 million for singles and KRW 2.70 million for couples.

Figure 3.14. Monthly entitlement to non-contributory basic pension by level of NPS pension, 2021

Entitlement will continue at KRW 150 000 for all subsequent levels of NPS, subject to the means-testing



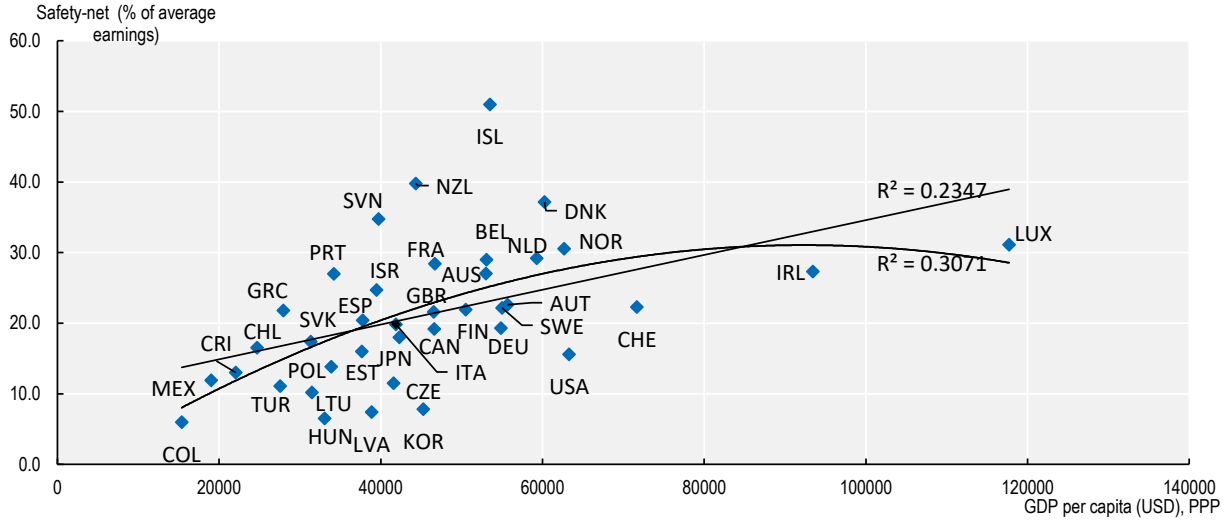
Source: OECD calculations based on NPS formulae.

StatLink https://stat.link/uj7r5b

Countries design their safety-net benefits differently and may also provide additional non-cash benefits to the elderly, making direct comparison difficult. Those that are more developed economically might be able to afford more generous safety nets. This is what is suggested by comparing the old-age safety-net level with GDP per capita, which shows a positive correlation across OECD countries (Figure 3.15).

Yet, safety-net benefits available to (single) individuals who have never contributed to old-age pensions are much lower in Korea than in countries with a similar level of economic development, such as the Czech Republic, France, Israel, Italy, Japan, New Zealand and Spain. For example, among these countries, the safety-net benefit in the Czech Republic is the next lowest at 10.7% of average earnings compared to 7.8% in Korea. In Italy, Japan and Spain it is around 18-19%, 25% in Israel and just under 40% in New Zealand.

Figure 3.15. Old-age safety-net benefits compared to GDP per capita, PPP, 2020



Source: OECD (2021[6]), *Pensions at a Glance 2021*, country profiles http://oe.cd/pag.

StatLink https://stat.link/snparc

Despite its low level the non-contributory basic pension has been providing an increasing level of support to recipients. In 2013, the non-contributory basic pension raised the average income of recipient households by 9.7%, but following the doubling of the benefit level from 2014 income was increased by around 19.4% in 2015 and was 18.5% in 2020.[8]

The non-contributory basic pension is entirely financed by general taxation. As the benefit is being targeted at the poorest 70% of those aged 65 or over, the total number of recipients increases with population ageing. The cost of providing the benefit has increased accordingly from 0.6% of GDP in 2015 to 0.8% in 2019. Despite a projected increase of 50% in the number of recipients by 2027, expenditure is only actually predicted by the National Assembly Budget Office to increase to 0.9% of GDP. The low increase in expenditure is explained by the continuing maturing of the NPS thereby significantly reducing individual entitlement to the non-contributory benefit as it is means-tested.

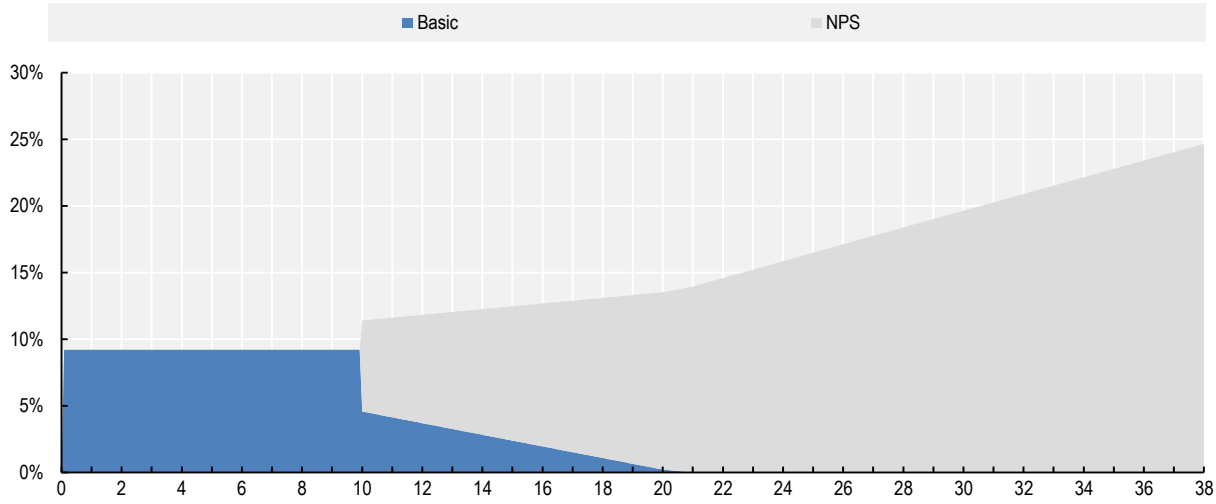
Many of the current pensioners in Korea were not able to contribute towards the NPS during their working lives and therefore the non-contributory basic pension is particularly important to them. However, in the future more and more pensioners will have been able to build their own pension entitlements, therefore the coverage of the non-contributory basic pension could be narrowed, enabling higher amounts to be paid to those most in need (OECD, 2022[7]).

Short careers with low wages

Figure 3.16 shows the total net pension level for low earners (50% of the average wage) depending on the length of their contribution period. The minimum requirement for eligibility to a NPS pension is 10 years; those with shorter contribution histories are eligible to the full non-contributory basic pension (when assuming no additional income). Once eligible to a NPS pension, the safety-net payment is sharply reduced, but total pension income increases significantly thanks to the NPS component. The non-contributory basic pension is then gradually withdrawn until 21 years of contributions are made, from which point it is totally eliminated. Overall, 10, 25 and 38 years of contributions at low wages generate a net pension of 11.4%, 16.5% and 24.7% of the net average wage respectively, compared with 9.2% for individuals with less than 10 years of contributions.

Figure 3.16. Future net pension for low earners (half of average wage) by contribution years

Years of contributions from age 22 in 2020 with retirement at 65 in 2063, percentage of net average wage



Note: The non-contributory basic pension has a legal provision to cover 70% of the population aged 65 or over, however, due to insufficient details about the implication for benefit levels, it is not possible to include this in the long-term modelling, potentially underestimating replacement rates for low earners.
Source: OECD pension model.

StatLink https://stat.link/6fbtzi

Additional benefits

Several targeted benefits exist in Korea to cover separate areas of additional needs among the entire population; they are not specifically targeted at the elderly, with few exceptions discussed below. They cover medical requirements, housing support or basic livelihood support amongst others. These benefits are available for households with incomes below between 30% and 50% of the median level, depending on the benefit. Around one-third of the 1.6 million recipients are aged 65 or over, representing about 10% of this older population group.

There are two schemes that are more specific for the elderly population: the Senior Long-term Care Insurance and reverse mortgages. Senior Long-term Care Insurance provides support and assistance to the elderly who have difficulty carrying out daily activities. Once the degree of support required has been assessed the benefit is paid with no income or asset test involved. As of December 2019, just under 10% of the population aged 65 or above, and 27% of those aged 80+, received the benefit, with an average payment of around 28% of net average earnings.

The second scheme is a state-backed “home pension” reverse mortgage programme, where an older person can receive a pension benefit for a set duration (term type) or for life (tenure type). Eligibility is granted to Korean citizens who are at least 55 years old and own a house the value of which does not exceed KRW 900 million (USD 800 000). Reverse mortgages had only been taken up by around 1% of those aged 60 or over by the end of 2018 (Choi, Lim and Park, 2020[8]).[9]

3.3. Special regimes

Beyond the NPS for private-sector employees, four separate schemes also exist for different occupational groups (Chapter 2):

- the Government Employees Pension Scheme (GEPS) covers all civil servants working in either the central administration or local governments, including public school teachers, police officers, fire fighters, judges and prosecutors;
- the Military Personnel Pension Scheme (MPPS);
- the Private School Teachers Pension System (PSTPS).
- the Special Post Office Pension Scheme (SPOPS).

The key parameters of these schemes are presented in Table 3.1. The retirement ages are being equalised at age 65 over the long term across all schemes, with the exception of the MPPS which only requires a contribution period but does not have any retirement age. The more recent reforms to the four special regimes have led to increases in contribution rates. The contribution rate for the NPS is now only half of that of both the GEPS, PSTPS and SPOPS, which are calculated in the same way based on the same parameter values.

Table 3.1. Long-term parameter values by pension scheme

	NPS	GEPS/PSTPS/SPOPS	MPPS
Statutory retirement age	65	65	N/A
Total contribution rate	9%	18%	14%
Target replacement rate (average earner)	40.0%	61.2%	62.7%
Maximum years of accrual		36	33
Reference wage of the individual component	Lifetime average, until age 60	Lifetime average	Lifetime average
Reference wage of the basic component	Average of last three years of all contributors	Average of last three years of all contributors	N/A

Source: NPS, GEPS, MPPS, SPOPS and PSTPS websites.

All of the special schemes generate much higher replacement rates than the NPS for full-career workers. As shown above, the future gross replacement rate after a full career starting from age 20 is 40% for an A-value earner within the NPS. For a government employee within the GEPS and for a private school teacher within the PSTPS, this base-case replacement rate is 61%, with 36 years of contribution, after which there is no further accrual. For a military employee the maximum accrual is reached after a contribution period of 33 years, resulting in a replacement rate of 63% (Figure 3.17). Once these maximum periods are reached, contributions are no longer paid. Overall, pensions received by private-sector workers are much lower than those provided by the other regimes, as not only is the replacement rate much lower for a full career but the A values are considerably different, with the A value for the GEPS being more than twice that of the NPS.

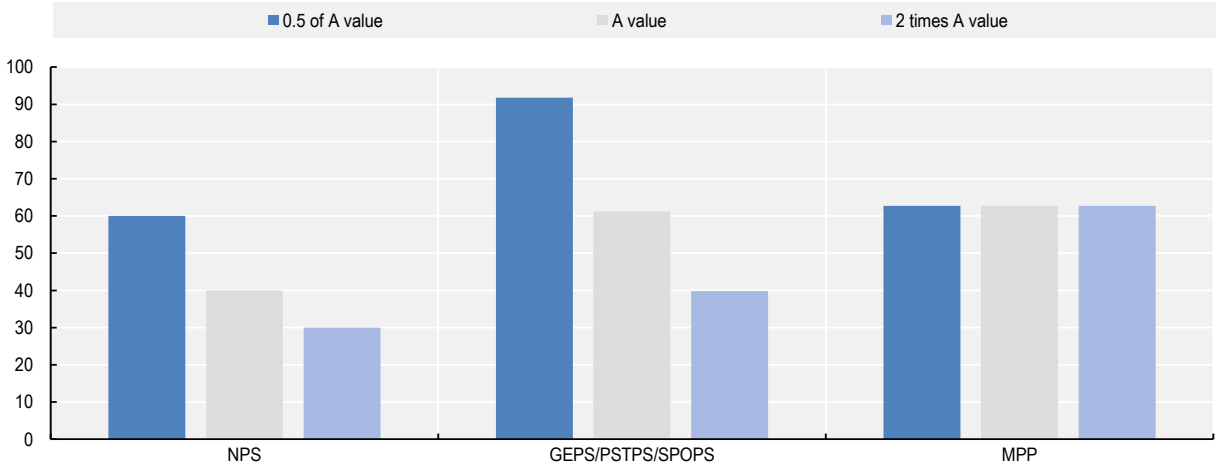
It is also easier for employees within any of the special schemes to achieve the target replacement rate as there is no age limit to making contributions and accruing entitlements, contrary to the 60-year ceiling in the NPS, until the maximum duration is met, i.e. 36 years in the GEPS/PSTPS or 33 years in the MPPS. Therefore for all the special schemes the target levels could still be reached with a career starting at age 25, for example, whereas in the NPS this would only permit 35 years of contribution therefore lowering the replacement rate to 35%.

For those earning 50% of the A value[10] the gross replacement rate from the NPS is 60% after a full career, higher than for average workers because of the redistributive element. Both the GEPS and the PSTPS also have a redistributive element, along the lines of that in the NPS. For those at 50% of the A value (which is scheme specific) with either the GEPS or the PSTPS the gross replacement rate is equal to 92%. For those earning twice the A value, the gross replacement rate is 30% in the NPS, whilst in the GEPS and PSTPS it is 40%, as there is a ceiling to contributions at 1.6 times the scheme A value. In the MPPS the pension is simply 1.9% of the average monthly income for each year of contribution – with no redistributive element – as the MPPS did not enact any of the 2015 reform – giving a gross replacement rate of 63% across all earnings levels.

Substantially higher contribution rates than for the NPS (Table 3.1) help explain the large gap in pension levels. Current legislation will result in the contribution rate of the NPS being half that of both the GEPS and PSTPS, with contributions in all cases being split equally between the employee and the employer.

Figure 3.17. Gross replacement rates by pension scheme and earnings for full-career workers

Future replacement rates for labour market entry at age 20 after long term accrual rates are reached



Note: The GEPS, PSTPS and SPOPS have a maximum of 36 years of contributions. MPPS replacement rate represents a 33-year career. The A values are scheme specific, e.g. KRW 2 438 679 for the NPS and KRW 5 390 000 for the GEPS. The 0.5 of A value case for the NPS does not represent a full-time employee as working full-time at the minimum wage generates a higher income. The non-contributory basic pension has a legal provision to cover 70% of the population aged 65 or over, however, due to insufficient details about the implication for benefit levels, it is not possible to include this in the long-term modelling, potentially underestimating replacement rates for low earners.
Source: OECD pension model.

StatLink https://stat.link/uyes38

In the special regimes it is possible to take a lump sum instead of a pension at the point of retirement, even with a full career. The lump sum is given by the formula:

$$LS = FI * \min(T, Z) * [0.975 + (\min(T, Z) - 5) * 0.0065].$$

where LS is the lump sum, FI is the final standard monthly income, T is the length of service in years and Z is the cap to service years.

For example, for a 36-year career, the equation becomes:

LS = FI * 36 * [0.975 + (36-5)*0.0065] = FI * 36 * [1.1765] = 3.5295 * (12 * FI).

That is, the lump sum equals about 3.5 years of the last earnings in that case – it is slightly less for military personnel as the maximum contribution period is 33 years instead of 36 years. These lump-sum amounts are very low actuarially compared with the acquired pension entitlements, i.e. much lower than the so-called pension wealth (the total discounted value of the lifetime flows of pension payments calculated by the OECD). Hence, only people who expect to have a very short life after retirement have any interest to opt for the lump sum.[11] In practice over the last 15 years, only around 5% of new claimants on average took the lump sum, with lump sums accounting for only 2% of expenditure in 2019.

Replacement rates generated from a government pension in Korea are over twice as high as those for private-sector workers at the average-wage level (Figure 3.18). These replacement rate values are calculated based on the average OECD earnings figure for each country, using the same earnings level for both private- and public-sector workers. However, unlike in other countries where only the wage level matters to the calculation, in Korea, the scheme-specific A values are equally relevant. For the NPS the A value is much lower than the OECD average wage figure, whilst the A value for the GEPS is much higher. This results in the replacement rate for average earners in the NPS being much lower than at the scheme-specific A value (Figure 3.17) with the opposite being true for the GEPS.

For civil servants only Canada, the United Kingdom and the United States also have such a proportional difference in replacement rates between private- and public-sector workers as in Korea based on mandatory pension schemes. Belgium, Germany, Ireland and Norway also record large differences between the two sectors. In most of these countries, large voluntary schemes for private-sector workers may narrow the gap. Of the other 10 countries shown, half have no pension gap as the pension rules that apply to public and private sector workers are the same, although they are managed separately (Chapter 2); the other half of countries have gaps under 10 percentage points due to small top-ups. All of the remaining OECD countries, not included in the chart, have the same scheme covering both public- and private-sector workers.

Only Korea along with Belgium, France and Germany have entirely separate schemes (Table 2.7). In terms of absolute levels, the long-term replacement rate for a full-career average-wage civil servant in Korea is 73.6% close to those in Austria, Belgium Germany and the Netherlands, but much lower than in Canada, Denmark, the United Kingdom and the United States.

Figure 3.18. Gross replacement rates for civil servants compared to private-sector workers

Future replacement rates, civil-service and private-sector average earners, full career from age 22 in 2020, percentage.



Note: All other OECD countries not shown have one pension system that covers both public and private sector workers.
Source: OECD pension models.

StatLink https://stat.link/e3l7zb

3.4. Pension finances of the National Pension System

3.4.1. Building up the National Pension Fund

In Korea, the non-contributory basic pension is entirely financed from the government budget. NPS benefits are currently financed by employee and employer contributions, consistent with a pay-as-you-go (PAYG) rationale. Without any pensions paid for about two decades, pension contributions exceeded pension payments, cumulating in a very large, at least for the moment, reserve fund, the National Pension Fund (NPF). The NPF was created as a separate body to safeguard these contributions and reserve sufficient funds to finance the pay-out of NPS pension benefits. The NPS is managed by the state and future liabilities will fall on the government if there are imbalances.

The NPS collects contributions and pays pensions. It manages benefit calculations and ensures compliance with the rules of the system, but the financial responsibility falls under the NPF. The NPF is therefore the financial wing of the NPS. NPF income comes from both paid contributions and from investment returns of the reserve fund. All contributions to the NPS are transferred to the NPF, which is also responsible for financing the benefit payments. Therefore, the only direct expense of the NPS are its administrative costs.

When the NPS was introduced in 1988, there was no “gift” to the older people of that time who had not contributed during their working lives. This is in contrast to the usual introduction of a PAYG system, but it was similar to the introduction of the Japanese national pension system in 1961.

Although there was no gift for current retirees in 1988, the first generations of NPS retirees have benefited from favourable rules. The first generations of pensioners were able to retire with benefits that are much larger than implied by actuarial fairness. To help correct this, the accrual rate was reduced, from 0.75% upon the introduction to 0.625% in 2008 and 0.5% in the long term (Chapter 2 for details). Moreover, the contribution rate was increased from 3% in 1988 to 9% in 2008. The level of the pensions based on the initial sets of parameters will contribute to the gradual depletion of the NPF.

3.4.2. The 1998 reform of the National Pension Fund

Before the 1998 reform, the NPF was not dedicated to pension financing but managed as an investment source for economic and social welfare development. Initially the NPF deposited the bulk of its funds in the Public Capital Management Fund (PCMF) to finance public-sector investments or invested in social welfare projects. In 1994, 86% of the new contributions were deposited in the PCMF, with the remainder in bonds and stocks. The proportion of reserve fund assets invested in the public sector increased in the 1990s from 55% in 1988 to 72% in 1998, while NPF investment returns were lower than expected. Indeed, between 1988 and 1998, public-sector returns outperformed the finance sector (bonds and stocks) only once, in 1997 (NPS, 2004[9]). Between 1988 and 1998, most of members of the National Pension Fund Management Committee (NPFMC), which is responsible for managing the NPF, were related to the government and the governance of the NPF had serious weaknesses (Kim and Stewart, 2011[10]).

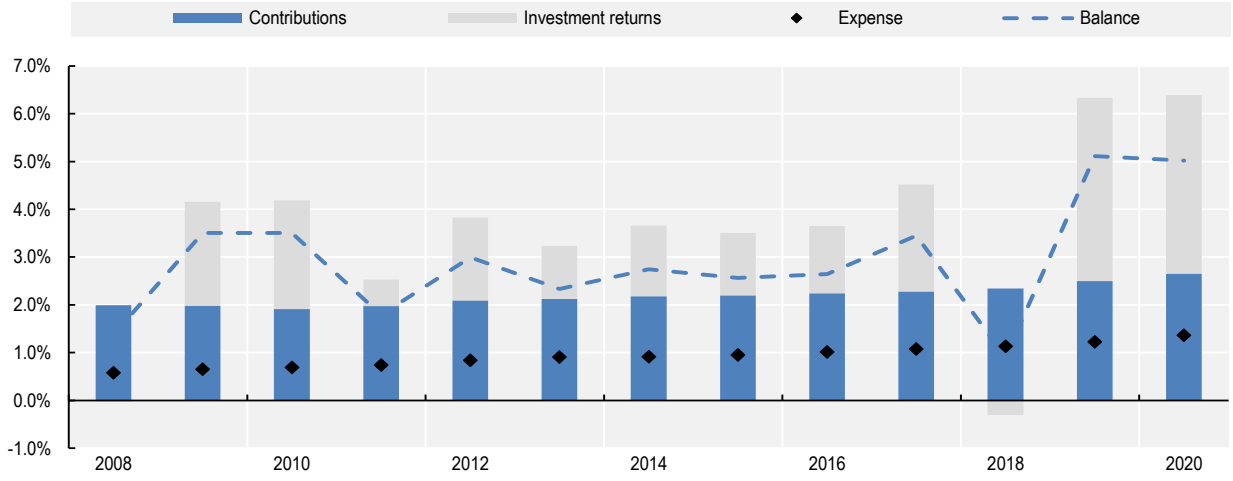
The 1998 reform changed the composition of the NPFMC and abolished the mandatory deposit to the PCMF in order to improve both investment returns and governance. As a result, the proportion of assets invested in the public sector fell abruptly from 68% in 1999 to 5% in 2004. The new members of the NPFMC then included staff representatives, representatives for the individually insured and fund management experts; government’s influence was reduced accordingly.

3.4.3. Current financial position

In recent years, NPF expenditures have increased in line with the growing number of pensioners who had steadily built larger entitlements. Pensions in payment rose from 0.6% of GDP in 2008 to 1.4% of GDP in 2020 with contribution revenues increasing from 2.0% to 2.7% of GDP (Figure 3.19). The greatest variation is found in the investment returns, which were negative in both 2008 and 2018, but have otherwise been around 1-2% of GDP, with the exception of 2019 and 2020 which saw returns at just under 4% of GDP. This has therefore led to overall surpluses of around 2-3 percentage points of GDP per year, and around 5 percentage points in recent years. These surpluses cumulated and led to more than a doubling of NPF assets as a share of GDP, from 20.4% in 2008 to 43.1% in 2020 (Figure 3.20).

Figure 3.19. Recent National Pension Fund surpluses have been between 1% and 5% of GDP

Annual NPF revenue and expenses, percentage of GDP

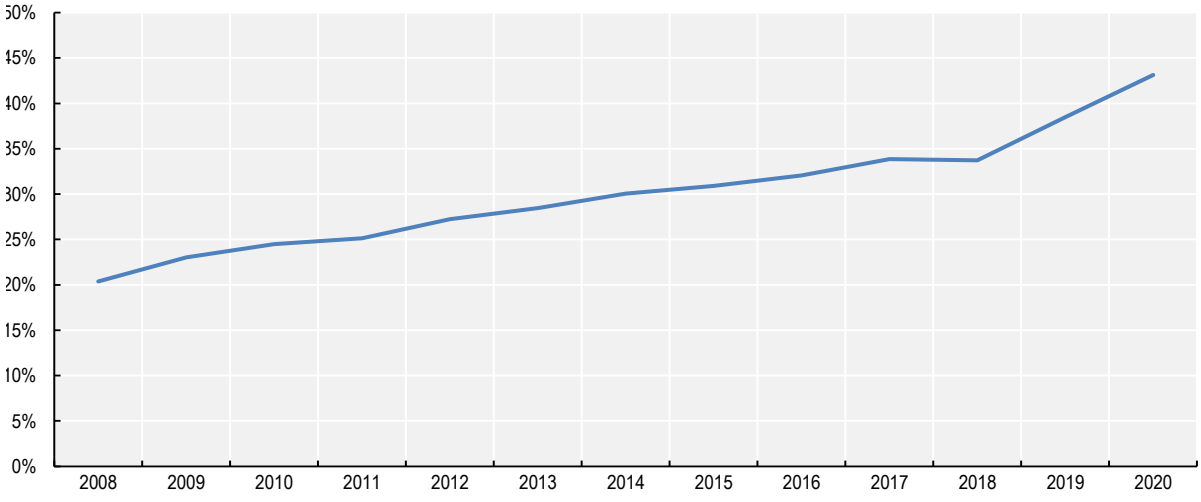


Source: NPS.

StatLink https://stat.link/hb42xm

Figure 3.20. The size of the National Pension Fund as a share of GDP has doubled

Value of the NPF, percentage GDP



Source: NPF Annual Report 2020.

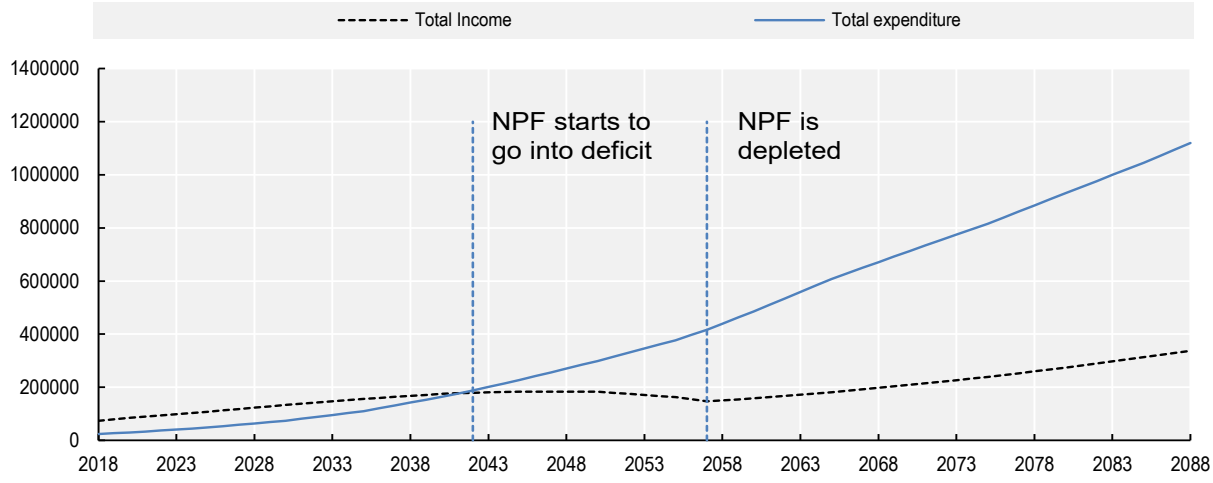
StatLink https://stat.link/pw6lsn

3.4.4. The projected depletion of the NPF

According to the 4rd Actuarial Review conducted in 2018 (Box 3.1), pension expenditure will begin to exceed contribution income from 2030. However, projected investment returns within the NPF will initially be sufficient to cover the gap, so that no deficit is projected before 2042 (Figure 3.21). Annual deficits from 2042 onwards will gradually deplete the reserves.

Figure 3.21. Revenue and expenditure projections for NPS, 2018-88

Current prices, KRW in billions



Source: NPS (2018[11]).

StatLink https://stat.link/6g8pbz

Box 3.1. The assumptions underlying the 4th Actuarial Review

The assumptions for the 4th Actuarial Review are set by the Actuarial Projection Committee organised under the Ministry of Health and Welfare, based on the economic and population projections released by the Korean Government among other factors:

- The Economic assumptions are based on the Economic Outlook of the Korea Development Institute and the 2017-21 fiscal management plan of the Ministry of Economy and Finance (Table 3.2).
- The demographic assumptions are based on the unchanged intermediate assumptions of KOSTAT 2016 population projections (Table 3.3).
- The labour market assumptions are set based on the Mid- to Long-Term Labour Supply and Demand Forecasts released by the Ministry of Employment and Labour and KOSTAT 2016 population projections (Table 3.4).

Table 3.2. The main economic assumptions

	2018~2020	2021~2030	2031~2040	2041~2050	2051~2060
Real GDP Growth	3.0%	2.3%	1.4%	1.0%	0.8
Real Wage Growth	2.1%	2.1%	2.1%	2.0%	1.9
Inflation Rate	1.9%	2.0%	2.0%	2.0%	2.0

Source: NPS (2018[11]).

Table 3.3. The main Demographic assumptions

	2020	2030	2040	2050	2060
Total Population (000s)	51 974	52 941	52 198	49 433	45 246
Dependency Ratio	22.7	39.8	60.7	75.9	86.1
Total Fertility Rate	1.24	1.32	1.32	1.38	1.38

Note: Dependency Ratio is the ratio of the population aged 65 and over to the population aged 18 to 64.
Source: NPS (2018[11]).

Table 3.4. The main Labour market assumptions

	2020	2030	2040	2050	2060
Labour Participation Rate (Male)	80.0%	81.2%	81.0%	80.1%	80.3%
Labour Participation Rate (Female)	61.0%	64.4%	66.8%	68.2%	70.1%
Participation Rate of the NPS	91.1%	92.6%	93.0%	93.0%	93.0%
Employment Rate of the NPS insured	66.5%	71.8%	73.6%	73.6%	73.6%

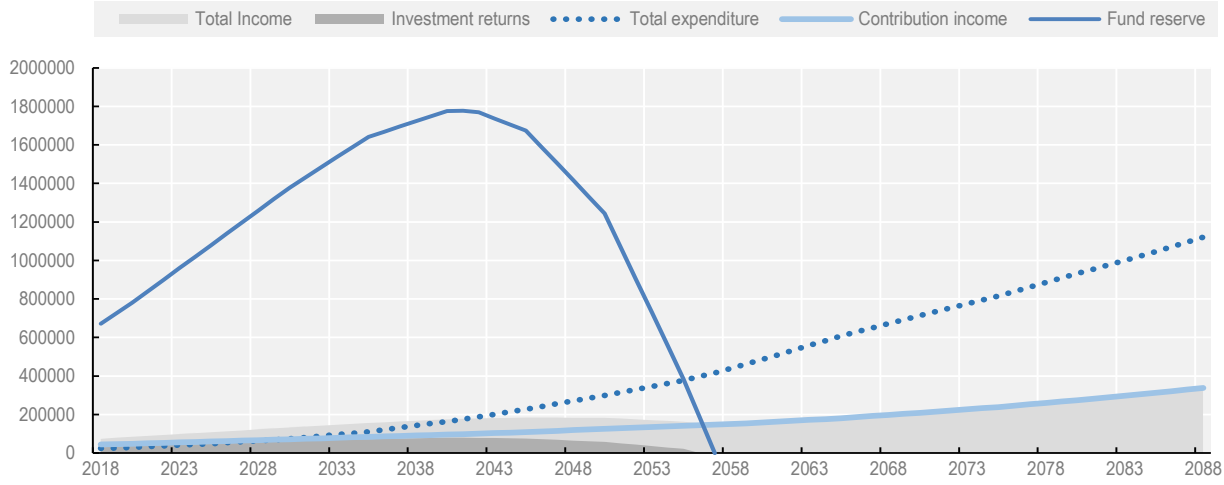
Note: Labour Participation Rate is the value between 15 and 64 years old. Participation rate of the NPS is the percentage of the labour force between the ages of 18 and 59 that is insured by the NPS.
Source: NPS (2018[11]).

If the current system continues as is, the NPF would be totally depleted by 2057 based on the 4rd Actuarial Review (Figure 3.22). This is three years earlier than based on the 3rd Actuarial Review, conducted five years before, because of revisions in the economic outlook and birth rates. Based on current parameters, once the reserve fund is depleted, the NPS will accumulate growing and large deficits (Figure 3.22). In the absence of reform, the NPS will then be financially unsustainable; in 2070, the accumulated debt would reach around 75% of GDP (NPS, 2018[11]).

Since its inception, with the anticipated retirement of the baby-boom generations (in Korea this corresponds to people born between about 1955 and 1963), the increase in life expectancy and the decline in birth rates, the NPF depletion was expected. The 1986 Korea Development Institute report, released two years before the pension system had even been introduced, projected the full depletion of the NPF by 2049 (Kim and Stewart, 2011[10]). Past reforms have allowed to delay the expected time of the NPF depletion, albeit without ensuring long-term financial sustainability.[12]

Figure 3.22. Projection of the National Pension long-term financial balance, 2018-88

KRW in billions



Note: Total income = Contribution income + Investment returns. Maximum level of the Reserve Fund: KRW 1 778 trillion (2041).
Source: NPS (2018[11]).

StatLink https://stat.link/v9ldk7

The population aged 65 or over is projected to more than double from 8.0 million today to 17.5 million by 2060 (Chapter 1). With future generations of pensioners building larger pension entitlements, pension expenditure will increase at an even faster rate. In a balanced PAYG system without any reserve fund, the average pension relative to the average wage is equal to the contribution rate times the contributor-to-pensioner ratio. By 2060, based on UN demographic projections, there will effectively be one person of working-age for every person of pension age. So if the reserve fund is fully depleted, in the following thought experiment which assumes both full employment and full retirement at the normal retirement age, the average benefit ratio is equal to the effective contribution rate to ensure financial balance. Once the fund is depleted, if the average benefit ratio is larger, then the government will have to fill the financial gap every year. A theoretical replacement rate of over 30% for a full-career average earner may thus require a substantial increase in the contribution rate for the pension system to remain sustainable. In short, the current parameters of the system are not set to deal with long-term demographic trends.

3.4.5. Required contribution rate to ensure the financial balance of the NPS

In order to balance the NPS as a PAYG system every year – that is, ignoring part of the financing coming from the returns on NPF assets –, the contribution rate will need to increase. As there have been relatively few pensioners currently and as they have low benefit levels, the required contribution rate was only 4.6% in 2018, according to the 4th Actuarial Review (Table 3.5) and 5.2% in 2020, still well below the actual contribution rate of 9%. However, this required balancing rate is going to increase quickly with rising expenditure, reaching 9.0% – equal to the current contribution level – in 2030 according to the projections. This is when pension expenditure will begin to exceed contribution income as discussed above. After this point the current contribution level will be insufficient to cover spending. By 2060, expenditure will amount to 7.5% of GDP compared to 1.4% currently and the associated PAYG rate will be 26.8%, about three times the current contribution rate.

As the NPF is projected to be depleted from around this time, such a rate would be more consistent with ensuring long-term financial sustainability. Reaching this balancing rate earlier would allow to avoid the depletion of the NPF and maintain a partially funded system. The earlier the long-term contribution rate is reached, the larger the share of funding within the NPS financing mix. Of course, other pension parameters can also be adjusted to reach the long-term balance, such that the whole burden does not fall on the contribution rate only.

Table 3.5. The pay-as-you-go rate ensuring the short-term balance will increase sharply

Pay-as-you-go rate ensuring that annual contributions equal pension expenditure

Year	Total income subject to contributions, percentage *of GDP* (A)	Benefit expenditure, percentage *of GDP* (B)	**Required contribution rate of a balanced pay-as-you-go system (B)/(A)**
2018	27.80%	1.27%	**4.60%**
2020	27.68%	1.44%	**5.20%**
2030	27.76%	2.50%	**9.00%**
2040	27.78%	4.15%	**14.90%**
2050	28.15%	5.84%	**20.80%**
2060	27.98%	7.49%	**26.80%**
2070	30.01%	8.92%	**29.70%**
2080	31.70%	9.36%	**29.50%**
2088	32.74%	9.44%	**28.80%**

Source: NPS (2018[11]).

The 4th Actuarial Review set several options for the fund level in 2088, the last year of the forecast period, and calculated the required contribution rate to achieve them. Assuming changes had been made from 2020, the contribution rate required to have a reserve-to-annual-expenditure ratio of 100%, would have been 16.0%. Alternatively, if the reform were only to be enacted in 2040 then the contribution rate would need to be higher at 20.9%. Increasing the reserve-to-expenditure ratio to 200% or 500% obviously results in higher contribution levels. Similar reviews have been conducted in other countries, with Japan, for example, opting for reserve funds equivalent to one year's worth of pension benefit costs in about 100 years (Box 3.2).

Table 3.6. Required contribution rate for sustainability

Required Contribution Rates for different financial goals.

	Fixed from 2020	Fixed from 2030	Fixed from 2040
Reserve to expenditure ratio of 100% in 2088	16.0%	17.95%	20.9%
Reserve to expenditure ratio of 200% in 2088	16.3%	18.27%	21.4%
Reserve to expenditure ratio of 500% in 2088	17.1%	19.3%	22.7%

Source: NPS (2018[11]).

Box 3.2. Sustainability Measures for Japanese Public Pension System-Experience from the 2004 reform

Prior to the 2004 reform, the Japanese public pension system was based on an actuarial review every five years to recalculate the contributions required to maintain the benefit level. However, with the birth rate declining and the population ageing faster than expected, each actuarial review resulted in a situation where the contribution rate to the mandatory earnings-related pension and contribution amounts to the basic pension increased more than expected.

In 2004, Japan decided the fiscal structure of the pension system was drastically revised in order to make it sustainable. The structure was changed from the pre-2004 mechanism of maintaining benefits by fluctuating contributions to a mechanism to adjust benefits by fixing contributions (MHLW, 2017[10]).

The 2004 reform included in i) fixing the contribution rate and amounts; ii) utilisation of the reserve funds; and iii) introducing an automatic adjustment mechanism. More precisely, for the mandatory earnings-related pension, the contribution rate, which was 13.934% in 2004, increased by 0.354% each year until 2016 and then by 0.118% in 2017, reaching 18.3% and has been constant ever since. For the basic pension, the contribution amount, which was JPY 13 300 in 2004, increased by JPY 280 every year until 2016 and then by JPY 240 in 2017, reaching JPY 16 900, after which it has only increased with wage growth. In order to fix the contribution rate and amounts from 2017 onwards, the reserve funds of the mandatory earnings-related pension and the basic pension which were JPY 137 trillion, equivalent to about 4.7 years of benefit costs as of 2003, were also utilised. It was decided that the size of reserve funds will gradually decline, with a target equivalent to one year's worth of pension benefit costs in about 100 years.

As for pension benefits, Japan introduced "macroeconomic indexation", an automatic adjustment mechanism meant to improve pension financial sustainability given rapid population ageing, through an adjustment of pension benefits. The mechanism applies a correction both to price indexation of mandatory earnings-related pensions in payment and, for new pensions, to the uprating of past wages. Both are adjusted by the sum, if negative, of the growth rate in the total number of contributors to public pensions minus a factor that is in principle a proxy for life-expectancy gains at 65. This factor has been fixed at 0.3% since its introduction in 2004 based on long-term life-expectancy projections. Moreover, negative price inflation or negative wage growth limit the full application of the mechanism. "Macroeconomic indexation" is activated separately for the basic and the mandatory earnings-related pension depending on separate financial assessments and ends if estimates suggest that financial sustainability is ensured over the long term.

3.4.6. Alternative sources of funding

Increasing the contribution rate is not the only option to raise pension revenues. Many countries use taxation to finance parts of the pension system and diversify the sources of pension financing. A close link between individual wages and pension entitlements provides a strong reason to finance pensions out of contributions based on labour income. However, the redistributive components of pension systems can be financed either by contributions or taxes. That choice is normative depending on social preferences. Redistribution financed by contributions increase the perception that the latter may be perceived as taxes.

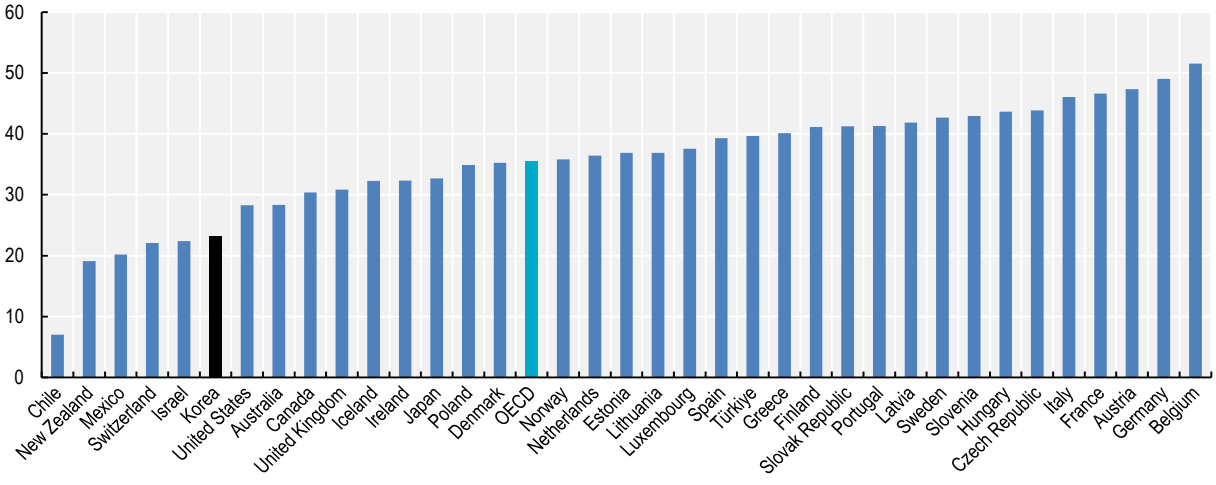
In the majority of OECD countries, pension credits are given for periods of absence from the labour market because of child care or unemployment (Section 3.2.2). Such provisions have only been added in Korea in the last 15 years. Unemployment credit is covered by government revenues financing 75% of the pension contributions of those receiving unemployment benefits for up to one year. By contrast, no contributions are paid to finance childcare credits.

Financing pension instruments to cushion the impact of career breaks within the pension system itself is one option; many other countries finance them thorough an extra payment transferred to the pension system, for both unemployment and childcare, and in some cases general care periods, such as for elderly relatives. Top-up or redistributive components in otherwise contribution-financed systems, such as basic or minimum pensions, are also often financed through taxation. In Korea the non-contributory targeted basic pension is financed through general taxation, as is normally the case for such safety-net benefits. However, the component of the NPS that is based on the average wage of all contributors is financed within the system. The additional entitlement provided by this component for those earnings less than the A value could, for example, be financed by taxes, improving future pension financial sustainability.

The capacity to increase either direct contributions or taxes to finance some pension components depends on the level of tax wedge, which for a worker corresponds to total taxes and contributions as a percentage of labour cost. For an average earner in Korea the current tax wedge is low at 23%, compared to an OECD average of 36%, suggesting that there is some room to increase general taxation (Figure 3.23). The difference in the tax wedge between Korea and the OECD average is similar across all earnings levels.

Figure 3.23. Tax wedge for an average earner is low in Korea

Tax wedge for a single average earner, 2020



Source: OECD Taxing Wages Dataset, https://stats-1.oecd.org/index.aspx?DatasetCode=AWCOMP.

StatLink https://stat.link/6ptvyw

3.5. Pension finances of the special regimes

3.5.1. Government Employees Pension Scheme

Unlike for the NPS, there is no longer any reserve fund for the GEPS. The scheme started to go into deficit in the mid-1990s and the fund was totally depleted in 2001. Since then the government has had to finance the running deficits. The 2009 and 2015 GEPS reforms (Chapter 2) have lowered the state financial burden by reducing future pension entitlements and raising the contribution rate paid by both employees and the state as the employer.

While currently, within the GEPS, the number of pension recipients as a proportion of the number of employees is 46%, it is projected to increase to 77% by 2060, raising financial pressure to balance the scheme (GEPS, 2019[12]). Pensions in payment are projected to increase from 0.8% of GDP in 2020 to 1.0% by 2030 and to remain at this level in the long term. Current pension contribution revenues – both employee and employer payments – only covered 82% of the expenditure in 2020 and during the next decade this ratio will fall sharply to around 60%. Hence, the latest projections indicate that the deficit of the GEPS will increase from 0.1% of GDP in 2020 to 0.4% of GDP in 2040 and to 0.6% of GDP in 2060, assuming that population and economic growth follow the current trend (GEPS, 2020[13]).

3.5.2. Private School Teachers Pension Scheme

The rules governing the PSTPS are the same as for the GEPS (Chapter 2), but the financial positions differ markedly. Whilst the reserve fund of the GEPS was totally depleted 20 years ago, this is not the case for the PSTPS, although it is subject to financial pressure. As for the other Korean pension schemes there are regular actuarial reviews providing long-term estimates of the financial position.

The latest Actuarial Review conducted in 2016 forecasts that the reserve fund for the PSTPS will start to go into deficit in 2035 after reaching a peak of KRW 31.1 trillion in 2034 (0.9% of GDP) (Table 3.7). After this, it will take a further 16 years, until 2051 for the reserve fund to be totally exhausted. Comparing the 3rd and 4th projections indicates that the impact of the 2015 reform, where future benefit entitlements were lowered and contribution revenues increased, shows that the deficit of the reserve fund is delayed by an additional 12 years and fund exhaustion is delayed by 18 years.

Table 3.7. History of financial projections for PSTPS

Financial calculation	Fund peak (Maximum accumulated amount)	First deficit	Total depletion of the reserve fund
1st (2001)	2018	2019	2027
2nd (2006)	2017 (KRW 15.9 trillion)	2018	2026
3rd (2010)	2022 (KRW 23.8 trillion)	2023	2033
4th (2016)	2034 (KRW 31.1 trillion)	2035	2051

Source: NABO Long-Term Fiscal Outlook of Public Pensions, July 2020.

3.5.3. Military Personnel Pension Service

The MPPS generally followed the rules of those of the GEPS and PSTPS except that none of the elements from the 2015 reform to the GEPS and PSTPS were applied to the MPPS. Also, as for the GEPS, the pension financial burden has been met by the government with expenditures already exceeding revenues.

The current expenditure of the MPPS is around twice the amount of total contribution revenues (i.e. from both employees and the employer). The government is currently providing additional funding equivalent to 0.09% of GDP. The funding gap will decline over time as a percentage of GDP, due primarily to the relatively small number of personnel involved and will stand at 0.07% of GDP in 2050.[13]

3.6. Policy options

Korea has made tremendous progress towards improving social security in old age over the last decades, but the pension system has not reached maturity yet. The introduction of the National Pension Scheme (NPS) in 1988 was a major achievement. The initial values of pension parameters have enabled to raise the income prospects of the first cohorts of NPS retirees well beyond what their contributions could have financed. This also means that these parameter values could not be maintained over time, and substantial reforms have been implemented to improve financial sustainability. Major reforms included: higher contribution rates, lower benefit promises and higher retirement ages. Moreover, the 1998 reform of the management of the National Pension Fund (NPF) led to significant upgrades in its governance and financial investment policy. Overall, the assessment of NPS income and financial prospects is backed by solid analyses conducted in regular actuarial reviews. Furthermore, the introduction of the safety-net basic pension in 2007 has provided small benefits to the most needy.

Despite significant progress, much more needs to be done. Current defined benefit pension promises generate low pension levels, still leading to high income vulnerability in old age. One severe difficulty arises from the exceptionally fast demographic changes that the country faces, which implies that even these low future pension levels cannot be financed in a sustainable way without further important reforms. This means that Korea has to tackle the formidable joint challenge of raising pension levels while enhancing pension finances. As both contribution levels and coverage rates are low, and the pension system remains fragmented, a number of reform options exists to make the Korean pension system better fit for purpose, raising old-age social protection in a sustainable way.

This review focuses on pension policies to improve contributory pensions, with at least two implications. Even though contributory pensions are not stand-alone and interact with the means-tested basic pension component, this review does not include recommendations to improve old-age safety nets. In addition, the effectiveness of some of the proposed policy measures would be enhanced by labour market changes, primarily related to the practice of enforced retirement before the statutory retirement age, itself closely related to seniority-wage practices. Yet, labour market reforms are not within the remit of this review. Recent OECD work has discussed these (OECD, 2018[14]).

3.6.1. Increasing contribution rates

Boosting contribution rates is a priority, in order to both improve financial sustainability over the long term and raise retirement income prospects. The current NPS contribution rate, at 9%, is very low compared with levels in other OECD countries, with the average rate being more than twice larger than Korea's. More than half of OECD counties have a contribution rate of 20% or more, and the highest is 33% in Italy. In Korea, the contribution rate of the government scheme is much higher at 17%. The sooner the contribution rate is raised the larger its effects will be and the later the reserve fund will be depleted or the larger the long-term size.

Conditional on sound finances, some of the increased revenues could be used to increase the NPS accrual rate, which would then lead to pension increases across the board. Moreover, maintaining at least a small reserve fund in the future, as has been decided in Japan for example (Box 3.2), would protect the pension system from short-term shocks, such as a sudden cyclical spike in unemployment resulting in a fall in contribution levels.

3.6.2. Extending the contribution period

There are no mandatory contributions to the pension system after age 59, unless individuals have not contributed for at least 10 years and are therefore not entitled to a pension at retirement age; in that case, additional contributions can be made up until age 65. This is despite the retirement age increasing to 65

by 2034. As contributions are not made, no pension entitlements accrue. Such a situation is unique amongst OECD countries. In every other country, except Japan, contributions are mandatory until at least the statutory retirement age; in Japan, where the statutory retirement age is 65, contributions to the basic flat-rate scheme are voluntary for those aged 60 to 64 if they have not met the eligibility criteria at age 60 or have not made 40 years of contribution to be eligible for a full pension.

If contributions were made until the future retirement age of 65, the projected net pension in Korea would increase by about 13%, from a replacement rate of 35.4% to 39.9% for an average earner with a full career from age 22 in 2020. Whilst this would still be well below the OECD average, this would represent a significant increase. Those with interrupted careers may even benefit relatively more from the contribution extension after age 59 since it can offset a larger part of their (shorter) career. Moreover, this increase will generate short-term NPS revenues.

3.6.3. Unifying the pension schemes

When pensions were initially introduced in Korea they covered only public-sector workers, as was the case historically in many other countries. However, over time there has been an alignment in the pension schemes within the majority of OECD countries, which now apply the same scheme to both public- and private-sector workers. Korea is among the only four OECD countries along with Belgium, France and Germany that have entirely separate pension schemes covering private- and public-sector workers.

Uniting all workers under one system would eliminate inequalities between different occupational sectors and reduce administration costs. Previous rights accumulated within any of the special regimes i.e. GEPS, MPPS or PSTPS should be preserved, but, after a period of transition, future rights should follow whatever reforms are made to NPS regulations. NPS assets should then be transferred to the unified scheme and not be used to pay liabilities that have accrued in special regimes. Gradually, all workers should be enrolled within the same pension system.

3.6.4. Raising the wage ceiling

Within the current NPS design, contributions and entitlements to the pension system are capped at around 130% of average earnings, which is very low in comparison to other OECD countries. This contributes to underfunding and low future pension promises. Raising the ceiling would improve financial balances over the medium term, thereby delaying the date at which point the reserve fund is depleted. Moreover, increases in the ceiling leads to higher pensions of all new retirees as the A value automatically increases.

3.6.5. Increasing coverage

Although in principle the pension system covers all workers, there are substantial gaps in the levels of coverage, particularly among the self-employed, with around 45% of the “individually insured” not being liable for contributions. There is currently no mechanism in place to effectively verify the income levels of the self-employed, which results in the under-reporting of income.

Although intended to increase coverage by offering incentives to encourage employees with low wages in small companies outside the pension system to join, the Duru Nuri Social Insurance Support Project (Chapter 2) has only slightly increased the number of NPS contributors. It has generally been an expensive scheme for very little reward overall. Therefore replicating such a scheme for the self-employed would have limited benefit. Rather there needs to be increased co-ordination between the National Pension Service and the tax authorities to ensure that an accurate recording of incomes, and therefore contribution bases, is achieved. Reducing under-reporting would increase the A value as the average income of the individually insured will rise, thereby raising pensions for everyone.

As is the case with Employment Insurance, many employers are also evading their obligations to enrol workers, as only 85% of regular workers are registered in the national pension system (OECD, 2018[14]). NPS coverage could be improved by increasing the penalties for employers who do not enrol their workers and expanding the resources and mandate of the labour inspectorate to control compliance of employers.

3.6.6. Expanding tax resources to finance pension redistributive components

By contrast to many OECD countries, revenues from the state budget play a very limited role as a source of NPS financing in Korea. As additional revenues will be required given their current low levels and the size of projected imbalances driven by ageing, financing from the state budget is likely to be part of the equation. In particular, as discussed above, redistributive components of pension systems can be financed by either contributions or taxes. NPS benefits are based on a very redistributive pension formula through the role played by the A value on top of other redistribution mechanisms, but they are almost entirely financed by current contributions and past contributions that have fuelled the NPF. There is ample room to raise non-contributory revenues should policy makers decide so.

3.6.7. Linking the retirement age to life expectancy

In the ageing context, increasing the retirement age is a common policy recommendation to encourage longer working lives and help with pension sustainability. However, in Korea as the pension system has yet to fully mature and benefits are low, the retirement age has less impact on working behaviours than in most other OECD countries. Hence, many Koreans work until a late age, with the average labour market exit age being around four years above the statutory retirement age. Despite this, the retirement age remains a key parameter even in Korea, as it should over time have a greater influence on the effective ages of retirement, particularly from the main job, contributing to limiting the usual practice of employees being forced to leave at an earlier age.

Population ageing is more rapid than in any other OECD country with Korea going from the second youngest country in 1980 to the oldest by 2060 based on UN projections of the demographic old-age to working-age ratios (Chapter 1). This rapid ageing results from a very low fertility rate and a large increase in life expectancy, both negatively affecting pension finances: remaining life expectancy at age 65 is projected to increase from 15 years in 1990 and 21 years in 2020 to 25 years in 2060 based on UN data. Financing a pension for 25 years based on contributions during 40 years will require much higher contribution rates, lower pensions or a combination of both. Increasing the retirement age further would help alleviate some pressure on contribution rates and pension benefits.

As a mechanism for automatically incorporating changes in life expectancy into the pension system, many countries have linked retirement ages to life expectancy. The exact form of the link differs across countries. In Denmark for example, the duration of retirement is being held constant, implying that all life expectancy gains are passed into increases in the retirement age. In most other countries, the balance between the working year and retirement period is being held constant, with around two-thirds of life expectancy increases being applied to the retirement age.

Applying the two-thirds rule in Korea from 2035, after the current legislated increases have finished, would result in a retirement age increase of two years up to 67 for those retiring in 2065. This would place Korea about one year above the OECD average, and would better reflect it having the highest old-age to working-age ratio from 2050. Beyond this life-expectancy link, the already legislated increase to age 65 could be accelerated, for example increasing by one year every three years rather than every five years as currently planned, thereby with age 65 becoming the statutory retirement age from 2030.

In many countries, recent pension reforms have reduced access to early retirement or removed it completely. The long-term policy of permitting early retirement five years before the statutory retirement

age means a 30% reduction in benefits, from an already relatively low level. Reducing this to two or three years would be more in line with that of other countries.

3.6.8. Increasing the flexibility to combine work and pensions

Korea is one of only seven countries within the OECD that applies apply earnings limits to the amount that people can earn while receiving pensions, beyond which pension benefits are reduced. These earnings limits mean that labour income is effectively taxed more, which creates obstacles to retirees working while receiving their earned pension entitlements. Earnings and pension should be treated independently, thereby granting the acquired pension irrespective of current earnings levels.

3.6.9. Providing greater pension protection for career breaks

There are two main reasons for career breaks – childcare and unemployment. For the former, Korea is the only OECD country, among those that provide childcare credits within the pension system, that does not provide credit for the first child. This therefore provides no support to new mothers, despite Korea having the lowest fertility level in the OECD. Credit within the pension system therefore needs to be provided for each child. The credit can either be based on previous earnings or at a flat rate, but should ensure that most workers face limited penalties with their future pension, and ideally the credit period should be extended.

For unemployment, only one year of labour market absence is covered within the pension system, with employees still being liable for 25% of the total contributions. This provides limited protection for future pension levels in comparison to most other OECD countries. The duration of unemployment credit granted to the pension system should be extended. As with childcare the pensionable base can be previous earnings or flat rate or could even gradually decline as the unemployment duration increases, which is a relatively common approach in other countries.

Recommendations to improve public contributory pensions in Korea.

- Increase NPS contribution rates considerably and as soon as possible. Use additional resources to increase accrual rates in a financially sustainable way and to preserve at least a small reserve fund
- Extend the contribution period after age 60 such that pension entitlements continue to accrue until at least the statutory retirement age
- Ensure a gradual convergence of pension rules covering different occupations towards a full integration of all schemes
- Raise the wage ceiling to contributions substantially
- Finance some pension redistributive components from the state budget
- Ensure active participation in the pension system of all eligible individuals, by improving co-ordination with tax authorities to verify income levels for the individually insured and increasing penalties for employers who do not enrol their workers
- Link the retirement age to life expectancy, reduce the currently 5-year gap between the early and the statutory retirement ages and consider moving faster to age 65
- Fully permit combining work and pension receipt from the statutory retirement age by removing the earnings ceiling beyond which pensions are reduced
- Extend the duration of both unemployment and childcare credits and include the first child in the latter.

References

Choi, K., B. Lim and J. Park (2020), "Evaluation of the Reverse Mortgage Option in Korea: A Long Straddle Perspective", *International Journal of Financial Studies*, Vol. 8/3, p. 55, https://doi.org/10.3390/ijfs8030055. [8]

GEPS (2020), *Government Employees Pension Service Annual Report 2020*, GEPS. [13]

GEPS (2019), *Government Employees Pension Service Annual Report 2019*, GEPS. [12]

Kim, W. and F. Stewart (2011), "Reform on Pension Fund Governance and Management: The 1998 Reform of Korea National Pension Fund"*, OECD Working Papers on Finance, Insurance and Private Pensions*, No. 7, OECD Publishing, Paris, https://doi.org/10.1787/5kgj4hqst9xx-en. [10]

Korea Housing-Finance Corporation (2021), *https://www.hf.go.kr/ehf/index.do*. [15]

NPS (2018), *4th Actuarial Review of National Pension System*, National Pension Service, Jeonju (in Korean), https://www.mohw.go.kr/react/policy/policy_bd_vw.jsp?PAR_MENU_ID=06&MENU_ID=06410507&CONT_SEQ=347332&page=1. [11]

NPS (2004), *2004 Annual Report on National Pension Fund Management*, National Pension Service Korea, https://fund.nps.or.kr/jsppage/fund/prs_e/prs_e_04.jsp. [9]

OECD (2022), *OECD Economic Surveys: Korea 2022*, OECD Publishing, Paris, https://doi.org/10.1787/19990707. [7]

OECD (2021), *Pensions at a Glance 2021, country profiles*, http://oe.cd/pag. [6]

OECD (2021), *Pensions at a Glance 2021: OECD and G20 Indicators*, OECD Publishing, Paris, https://doi.org/10.1787/ca401ebd-en. [2]

OECD (2019), *Pensions at a Glance 2019: OECD and G20 Indicators*, OECD Publishing, Paris, https://doi.org/10.1787/b6d3dcfc-en. [4]

OECD (2019), *Will future pensioners work for longer and retire on less?, Policy Brief on Pensions*, OECD Publishing, Paris, https://www.oecd.org/pensions/public-pensions/OECD-Policy-Brief-Future-Pensioners-2019.pdf. [1]

OECD (2018), *Working Better with Age: Korea*, Ageing and Employment Policies, OECD Publishing, Paris, https://doi.org/10.1787/9789264208261-en. [14]

OECD (2017), *Pensions at a Glance 2017: OECD and G20 Indicators*, OECD Publishing, Paris, https://doi.org/10.1787/pension_glance-2017-en. [3]

UNESCAP (2016), *Income Security for Older Persons in the Republic of Korea*, UNESCAP, https://www.unescap.org/resources/income-security-older-persons-republic-korea. [5]

Notes

[1] 2073 is the retirement date for those entering the labour market at age 20 in 2028, from which the accrual rate reaches the long-term low.

[2] More than half of OECD countries have a higher tax-free allowance and some countries like Hungary and the Slovak Republic do not tax pensions at all.

[3] This is despite both countries having a 6% penalty for each year of early retirement. This is due to the fact that Japan has no age ceiling for contributions to the pension system before the retirement age; therefore future pension accruals will also be missing, thereby increasing the loss for retiring early.

[4] Given the age pattern for the career break studied in the chart, the absence of unemployment credits combined with a DC scheme, such as in Chile and Mexico, implies a 13% cut in pension or 87% for the relative pension. For low-earners, whilst the situation in Korea is unchanged at 90% of the full-career case, the OECD average is slightly higher at 96%, reflecting greater protection to those with lower levels of income. In Korea the one-year of unemployment credit is based on past earnings so the proportion of protection is the same across the earnings spectrum, hence no change in the relative pension.

[5] Conversely, in Ireland and New Zealand, such career breaks are fully cushioned as the mandatory schemes only include flat-rate benefits in these countries.

[6] In Ireland, the self-employed participate in contribution-based basic schemes on similar terms as employees while the earnings-related schemes are voluntary for all.

[7] For a couple, the amount was KRW 480 000.

[8] OECD calculations based on the *Survey of Household Finances and Living Conditions, 2014-21.*

[9] For term type, up to 45% of the reverse mortgage payments (loan proceeds) can be withdrawn as a lump sum with an additional 5% paid at the end of the payment term, and the remainder paid monthly over the duration of the term chosen by the homeowner. For the tenure type, the entire mortgage amount, with no lump sum withdrawal, is paid as a monthly pension received for life, for both the homeowner and their spouse and can either be flat rate throughout or be higher for the first ten years and then reduced to 70% of the value. For example, an applicant at age 65 with a home valued at KRW 300 million (USD 270 000) under the tenure method can either chose to receive a monthly payment of KRW 752 000 (23% of net average earnings) for life or KRW 888 000 (27% of net average earnings) for the first ten years and then KRW 622 000 thereafter (Korea Housing-Finance Corporation, 2021[15]).

[10] A full-time employee at the minimum wage would have an income above 50% of the A value, so this 0.5 A value case is not representative of a full-time employee.

[11] For example, if the same lump sum were converted into a price-indexed lifetime annuity this would give a replacement rate of 17.6%, less than one-third of the pension that would be paid. For low earners the comparison is even worse as the 17.6% replacement for the lump sum is constant across all earnings levels, whilst the pension replacement rate for low earners is more than five times higher at 91.8%.

[12] The 1st Actuarial Report, giving a long-term estimate of the financial sustainability of the pension system by the NPS in 2003, accounted for the reduction in target replacement rate from 70% to 60%. It projected that the NPF would be in deficit by 2036 and totally exhausted by 2047. The second of these reviews, in 2008, took account of the 2007 reform which reduced the target replacement rate further to 50% immediately and then to 40% by 2028. The long-term sustainability was therefore improved in that fund deficits would not be reached until 2044 with exhaustion occurring in 2060. There have been no further reforms to the NPS since 2007 so the subsequent actuarial reviews have shown very little variation in their forecasts, mainly being affected by assumptions concerning increasing population ageing, higher participation rates and lower financial returns due to the latest financial crisis.

[13] Source: National Assembly Budget Office.

4 Governance, investment policy and risk management of the National Pension Fund

This chapter assesses the governance of the National Pension Fund, and its investment and risk management policies, using international best practices and the OECD Recommendation on the Core Principles of Private Pension Regulation. The chapter ends with some policy recommendations that could support the National Pension Fund in its mission and help these useful reserves to last longer.

Korea has large reserves to support the financing of its public pay-as-you-go pension system. These reserves are held in a separate fund, the National Pension Fund. Similar funds, known as public pension reserve funds, exist in over 20 OECD countries (OECD, 2021[1]). Korea's public pension reserve fund is one of the largest worldwide, with assets worth USD 796 billion at end-2020, which is 45% Korea's GDP (OECD, 2021[2]). Assets in the National Pension Fund even exceed those in the Korean retirement benefit system and voluntary personal pension system (worth USD 560 billion at end-2020).

Public pension reserve funds such as Korea's National Pension Fund have some commonalities with private pension funds. Public pension reserve funds and private pension funds are all in charge of managing pension assets. The guidelines and principles for efficient regulation and management of private pension funds are relevant for the operation of public pension reserve funds, in particular in terms of governance, investment and risk management. Their missions differ. Public pension reserve funds back a public pension scheme while private pension funds shall manage the assets in the best interests of their members. The ultimate owner of assets also differs. Assets of public pension reserve funds belong to the public institution managing the scheme or the state while assets of private pension funds belong to their members directly (OECD, 2021[1]).

This chapter provides guidelines to assist the National Pension Fund to achieve its mission, based on principles of private pension regulation and, where relevant, on the experience from other public pension reserve funds. To this end, the chapter intends to highlight when governance and investment practices of the National Pension Fund are in line with the OECD Core Principles of Private Pension Regulation (OECD, 2016[3]) and identify when they potentially diverge.

The analysis hereafter shows that the framework of the National Pension Fund is broadly in line with the OECD Core Principles of Private Pension Regulation (OECD, 2016[3]) in terms of governance, investment and risk management policies. The independence of the fund has been bolstered over the years and could be even further guaranteed by limiting the interlinkages between stakeholders designing the investment policy of the fund and the ones validating it. The investment policy of the fund has been targeting an increase in the diversification of the portfolio and more risk taking, which may help to achieve better risk-adjusted returns and further support the financial stability of the national pension scheme, in line with the objective of the fund. The National Pension Fund also takes into account ESG consideration in its investment policy, and it exercises its shareholder rights as the OECD Core Principles of Private Pension Regulation (OECD, 2016[3]) recommend. An active involvement in shareholder meetings can be beneficial to the investment performance of the fund as long as these rights are duly exercised.

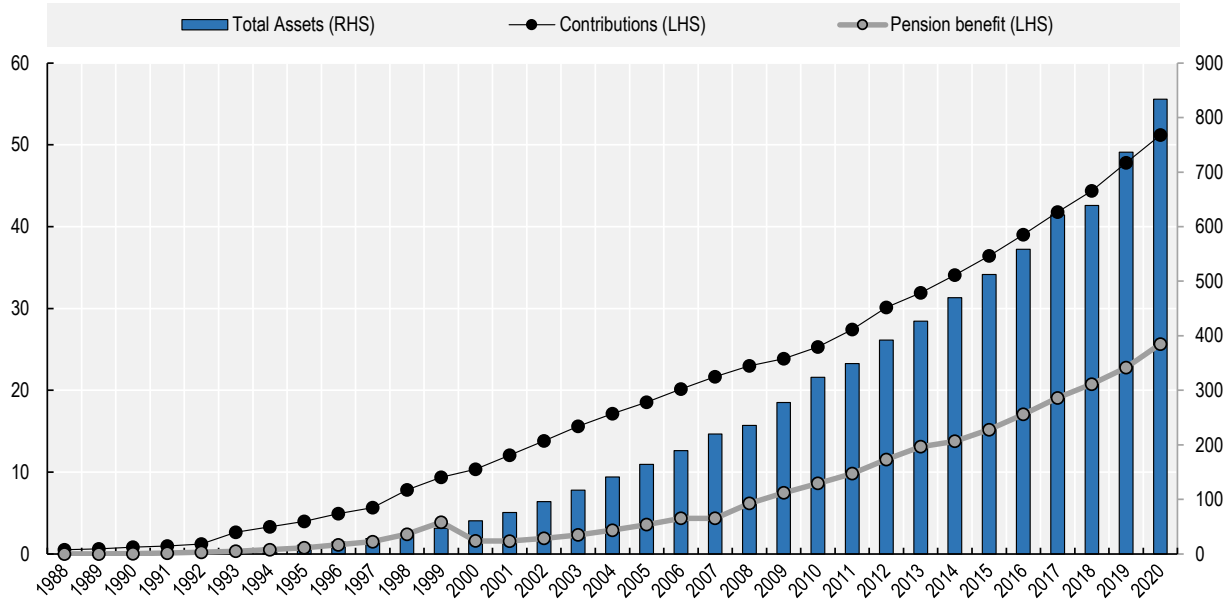
4.1. History of Korea's reserve fund

The National Pension Fund is the reserve fund of the national pension scheme, established in 1988 following the National Pension Act. The National Pension Fund was created to secure financial resources to support the benefit payments of the national pension scheme, in accordance with Article 101 of the National Pension Act. The National Pension Service (NPS) has been in charge of the daily operations of the national pension scheme and the related reserve fund. The management of the reserve fund has been assigned to a Management Committee, initially headed by the Minister of Economy and Finance.

The National Pension Fund has built up assets rapidly over 30 years of operation. It held KRW 834 trillion (or USD 796 billion) at end-2020 (Figure 4.1). The National Pension Fund has been accumulating assets from two main sources: the surplus of contributions to the national pension scheme – which is now mandatory for all employees, employers and self-employed aged between 18 and 60 – over benefit payments and other expenses of the scheme; and the income earned by investing this surplus.

Figure 4.1. Selected in- and outflows of the national pension scheme and Assets of the National Pension Fund, 1998-2020

In KRW trillion



Note: "LHS" means left-hand side; "RHS" means right-hand side.
Source: National authorities and annual reports of National Pension Fund.

StatLink https://stat.link/q0bxf9

Contributions have been growing over the years as the coverage of the national pension scheme has broadened and the contribution rate has risen. The scheme initially covered only those in the workplaces with 10 or more full-time employees, before being extended to workplaces with 5 or more full-time employees in 1992, farmers and fishermen in 1995, urban citizen in 1999 and workplaces with 1 or more employees in 2003. The contribution rate increased from 3% to 6% in 1993, and then 9% in 1998. Benefit payments have also been increasing but not as fast as contributions (Figure 4.1).

The investment income of the National Pension Fund, which is also a driver of its asset growth, was initially mainly coming from earnings from investments in domestic fixed income. Even though the National Pension Fund started to invest in domestic equities in 1990, most of the surplus from the national pension scheme was deposited at the Public Capital Management Fund (PCMF), as mandated in the PCMF Act. This created several concerns (Kim and Stewart, 2011[4]). The investment return of the deposits at the PCMF was lower than the returns of other financial instruments. The growth of assets of the National Pension Fund and deposits at the PCMF was also threatening the ability of the government to pay the interests on these growing deposits. There were also a risk of political arbitrage as the Minister of Economy and Finance was both Chair of the board of the National Pension Fund and the PCMF while these two institutions have different mandates.

The National Pension Act was revised in 1998 to address these issues, impacting the National Pension Fund in several ways. The Minister of Health and Welfare became the Chair of the Management Committee of the National Pension Fund instead of the Ministry of Economy and Finance. The number of members of Management Committee increased and included more non-governmental members to foster the independence of the National Pension Fund. The National Pension Service Investment Management (NPSIM) was also created in 1999 to manage and invest the assets of the National Pension Fund. The

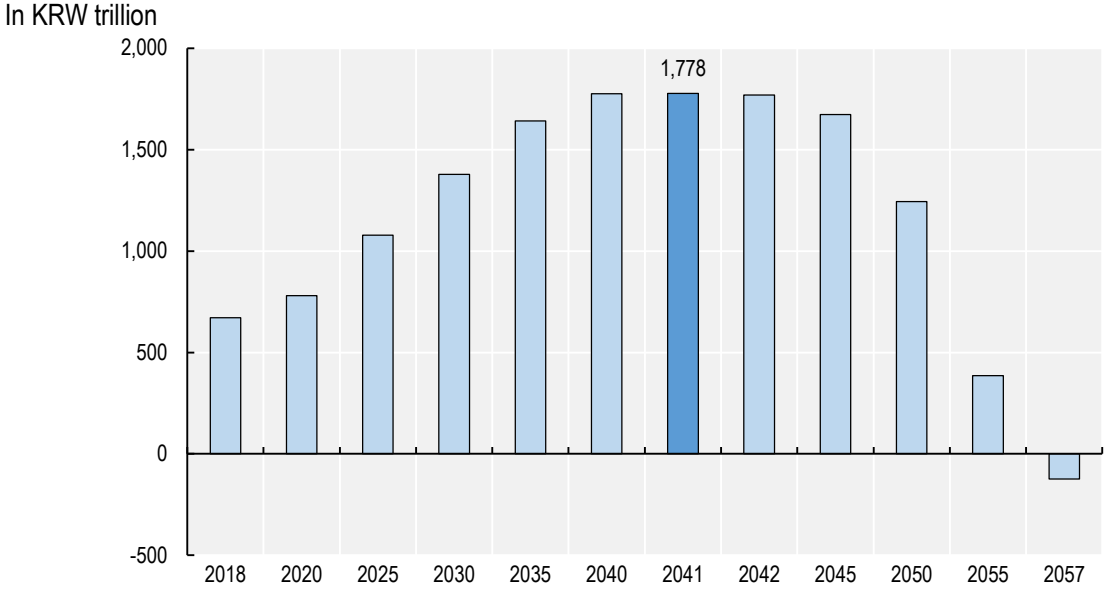
revised National Pension Act mandated the Minister of Health and Welfare to appoint the Executive Fund Director of the NPSIM, serving as the CIO.

The PCMF Act was also revised in 1998, phasing out the mandatory deposit of the surplus of the National Pension Fund at the PCMF (65% in 1999, 40% in 2000). The interest rate of the deposits was also amended with the revision of the Enforcement Decree of the National Pension Act. The deposit rate was set to be either the government bond yield or the national housing bond yield, whichever the higher.

The Fund has kept growing and seeking to diversify its investments domestically and abroad. It started investing in venture capital and overseas equities in 2002, domestic real estate in 2004, domestic infrastructure and private equity fund in 2005, foreign real estate in 2006, foreign infrastructure in 2007 (National Pension Service, 2021[5]). It has started to open offices abroad from 2011 to foster foreign investments (in New York in 2011, London in 2012, and Singapore in 2015).

The assets of the National Pension Fund are expected to continue growing over the coming years. The National Pension Research Institute carries out an actuarial projection every five years and provides an outlook of the assets of the National Pension Fund over the next 70 years. The National Pension Research Institute predicted in 2018 that the assets of the fund would increase until 2041, peaking at KRW 1 788 trillion, and then decline until the depletion of the fund in 2057 (Figure 4.2).

Figure 4.2. Fourth actuarial projection of the assets of the National Pension Fund



Source: National Pension Research Institute.

StatLink https://stat.link/qtfi0p

However, the evolution of the assets of the National Pension Fund may change depending on how the investment rates of return, the contribution levels, pension paid to beneficiaries of the national pension scheme, and the operating expenses of the NPS (among other factors) evolve compared to the assumptions of the National Pension Research Institute. These can be affected by the governance of the fund, the investment policy and risk management.

4.2. Governance of the National Pension Fund

The OECD Core Principles of Private Pension Regulation (OECD, 2016[3]) provide guidelines for the design and operation of private pension systems, which can be relevant for public pension reserve funds (such as Korea's National Pension Fund). For example, these OECD Core Principles touch upon governance. Good governance is also key for public pension reserve funds. It can help both private pension funds and public pension reserve funds to instil trust among all stakeholders and to achieve their mission.

Table 4.1 summarises the main guidelines of the OECD on governance. These guidelines relate to the identification of the responsibilities in the governance of the funds, the governing body of these funds, its accountability and the suitability of its members, the delegation of tasks, the appointment of independent experts (e.g. auditor, actuary), internal controls and disclosure of the relevant information. These guidelines provide benchmarks to assess where the governance framework of Korea's National Pension Fund is in line with the OECD's principle and where it diverges.

Table 4.1. Implementing guidelines of the OECD Core Principle of Private Pension Regulation on governance

Implementing Guidelines	Key features
Identification of responsibilities	Separation of operational and oversight responsibilities
Governing body	Creation, role and responsibilities of governing body
Accountability	To members, supervisor, competent authorities
Suitability	Membership of governing body
Delegation and expert advice	Sub-committees of the Board; internal and external expertise
Auditor, actuary and other third-party	Independence
Risk-based internal controls	Organisational and administrative controls; codes of conduct; internal reporting systems
Disclosure	Timely communication of relevant information to all stakeholders

Source: OECD (2018[6]) (adjusted).

4.2.1. Responsibilities

There is a clear assignment of the oversight and operational responsibilities among the different parties involved in the governance of the National Pension Fund following the OECD Core Principles of Private Pension Regulation (OECD, 2016[3]). The Minister of Health and Welfare oversees the administration and the management of the National Pension Fund while the NPS is in charge of the operational duties.

As part of the responsibilities, the Minister of Health and Welfare develops a plan for the management of the fund, which is presented to different bodies. This plan is reviewed by the governing body of the National Pension Fund and the State Council, before being submitted to the President for approval and then to the National Assembly for final approval.

The Minister of Health and Welfare delegates the operational functions to the NPS. The NPS has to implement the fund management plan that is approved. The NPS has an investment arm, the National Pension Service Investment Management (NPSIM), which is in charge of various investment activities, including investing the assets of the National Pension Fund and monitoring financial markets.

While the different roles are usually clearly separated, there seems to be an overlap between the design of the fund management plan and its review, as the Minister of the Health and Welfare who designs the plan is also the chair of the governing body of the National Pension Fund that reviews this plan.

4.2.2. Governing body

While the governing body of private pension funds would be expected to set out the mission for the fund (OECD Core Principles of Private Pension Regulation (OECD, 2016[3])), the mission of public funds is often established by the state instead (OECD, 2018[6]). This is the case in Korea. The state establishes the mission of Korea's National Pension Fund in its national law (Article 101 of the National Pension Act). The mission of Korea's public pension reserve fund is to secure financial resources to support the benefit payments of the national pension scheme.

The governing body of the Korea's National Pension Fund, which is the National Pension Fund Management Committee (FMC), has the main task of implementing the mission, among other tasks. The FMC assesses and approves decisions relative to the management of the fund. The FMC also decides on matters relating to the risk management of the National Pension Fund, its performance assessment, and compensation for example.

The FMC also determines key policies relating to the exercise of shareholder rights, which can contribute to the successful fulfilment of the mission of the fund. The NPS conducts shareholder engagement in five key areas: the dividend policy of companies it invests in, the remuneration cap for their directors, concerns over violation of law, improvements of the companies after repetitive votes from the NPS against decisions of the companies in the shareholders' meetings, and results of ESG evaluations. The NPS selects a focus list of companies and can engage in confidential dialogues and shareholder proposals to sort out issues. The OECD Core Principles of Private Pension Regulation (OECD, 2016[3]) acknowledge that the informed and effective use of shareholder rights is a way of seeking value for investments. Active shareholder engagement has therefore the potential to help the National Pension Fund getting better returns for its investments, especially given the size of the fund and the influence it can have in shareholder's meetings.

The NPS has pursued efforts to mitigate the risk of political interference in the exercise of the shareholder rights, increase transparency and ensure shareholder engagement generates long-term benefits for the National Pension Fund. The NPS adopted Responsible Investment and Governance Principles (also known as the Stewardship Code) in 2018 to enhance independency and transparency of shareholder rights and improve the long-term profitability of the National Pension Fund.[1] The NPS proposed a bill in 2020 for a handover of the authority of the FMC on shareholder activities to the lower Special Committee on Responsible Investment and Governance that mostly gathers representatives external to the government.[2] This handover would be a way of guaranteeing that the exercise of shareholder rights is carried out at arm's length of the government and for the long-term benefits of the fund, preventing the risk of indirect undue political interference in the corporate governance of the Korean companies. The National Pension Fund has also been transparent on shareholder activities, publishing these activities in its annual report.

4.2.3. Accountability

The OECD Core Principles of Private Pension Regulation (OECD, 2016[3]) stress the importance of the accountability of the governing body or the fund itself to supervisors and beneficiaries, which is the Korean population ultimately in the case of the National Pension Fund. While the assets of Korea's fund belong to the national pension scheme, these assets intend to secure the financial stability of the national pension scheme. The ultimate beneficiaries of these assets are therefore expected to the members of the national pension scheme and those that are or will be entitled to payments from it.

The accountability in the management of the fund is guaranteed by the oversight of the President and the National Assembly. The President has to approve the annual fund management plan that the Minister of Health and Welfare prepares and that is reviewed by the FMC and the State Council. The Korean Government then has to submit the plan to the National Assembly by the end of October of the year preceding the one for which the plan will apply. The National Pension Act (Article 107) stipulates that

the National Assembly shall receive the details of the operation of the fund and the use of the assets of the National Pension Fund deposited at the Public Capital Management Fund.

The OECD Core Principles of Private Pension Regulation (OECD, 2016[3]) also see the appointment of members and beneficiaries of private pension funds in the governing body as a way of promoting accountability within the board on the management of the assets. The National Pension Fund is in line with this guideline, as its current governing body includes a wide range of different stakeholders, including representatives of employers, employees and self-employed, therefore involving representatives of the Korean population in the administration of the fund.

4.2.4. Suitability

The governing body of the National Pension Fund (i.e. the FMC) has 20 members: the Minister of Health and Welfare as a chair, the CEO of the NPS, 4 Vice Ministers, 12 representatives of employers, employees and individually insured participants of the national pension scheme (e.g. self-employed), and 2 experts.[3] The chair of the FMC and each *ex officio* member remain in the governing body until the term of their tenure as Minister, Vice Minister or CEO. Other members of the FMC hold office for a term of two years and can be reappointed consecutively only once.

Candidates for membership in the governing body who are not governmental officials seem to be subject to some fit and proper standards as the OECD Core Principles of Private Pension Regulation (OECD, 2016[3]) recommend for members of the board of private pension funds. Each representative group of employers, employees and individually insured people recommends potential members to the FMC, who are then appointed by the chair of the FMC. Nominees of each group has to fill out and submit a work ethic examination report. If this report unveils potential conflicts of interest, the application is rejected.

In line with one of the OECD's implementing guidelines on governance, the Korean legislation lays out criteria that can disqualify an individual from being a member of the FMC. The National Pension Act stipulates that the chair of the FMC can dismiss members of the governing body if they become unfit to fulfil their duty, commit an illegal act (e.g. negligence, reputational damage), or have a conflict of interest. The chair of the FMC can also dismiss members who express their intention to resign.

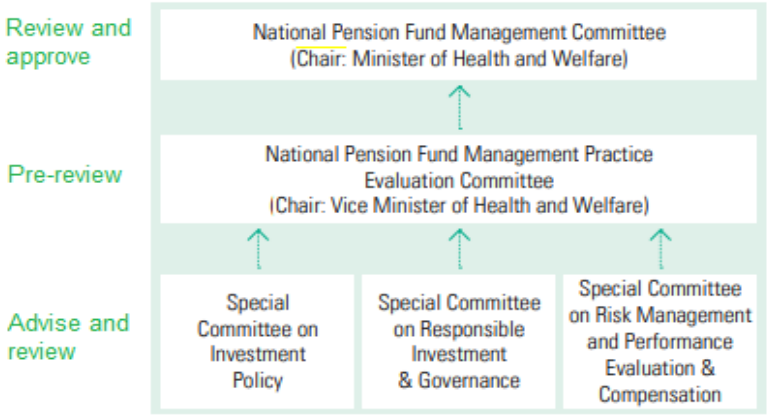
The FMC gathers a wide range of different stakeholders and representatives, fostering its independence, and seems to have collectively all the skills and knowledge to fulfil its duties as the OECD Core Principles of Private Pension Regulation (OECD, 2016[3]) recommend. The involvement of two experts are one of the means that can ensure the governing body as a whole have all the skills for its mission. These experts can be appointed according to the needs of the FMC. The FMC also acquires expertise through sub-committees established under its umbrella. Three members of the FMC directly sit on two of these sub-committees: the Special Committee on Investment Policy, and the Special Committee on Risk Management and Performance Evaluation & Compensation.

Although the FMC seems to have all the skills collectively to manage the fund, it is important to ensure that all members of the FMC are properly informed and receive the necessary advice to make informed decisions when these are complex, taking into account the various backgrounds and profiles of the members in FMC. According to Yun et al. (2015[7]), the complexity of investments in hedge funds has deterred the FMC to approve the investments in these vehicles earlier.

4.2.5. Delegation and expert advice

As per the OECD Core Principles of Private Pension Regulation (OECD, 2016[3]), the governing body of the National Pension Fund (i.e. the FMC) can rely on several sub-committees to support its activities (Figure 4.3).

Figure 4.3. Committees and sub-committees supporting the governing body



Source: National Pension Service (2021[5]).

The FMC is advised by the National Pension Fund Practice Evaluation Committee (PEC). The PEC reviews the agendas submitted to the FMC in advance and offers technical and professional advice on them.[4] This sub-committee is chaired by the Vice Minister of Health and Welfare and gathers 5 other *ex officio* government officials, 12 representatives of the employers, employees and individually insured participants, and 2 external experts. The 12 representatives of employers, employees and individually insured participants are recommended by their relevant professional organisations, and are selected among qualified lawyers, certified public accountants, and individuals majoring or holding a doctorate degree in social welfare, economics or business administration with at least three years of experience in a university, a public or research institute. This selection and nomination process ensures that members have a set of skills that will be useful for the provision of advice to the FMC. All the PEC members serve a term of two years that can be renewed, except the chair and government officials (serving only during their period in office).

The FMC also receives advice and assessments from three special committees:

- the Special Committee on Investment Policy: it provides advice on investment policies, carries out reviews and assessments on fund management, investment plans and standards.
- the Special Committee on Responsible Investment & Governance: it discusses the execution of shareholder rights in listed companies (pursuant to relevant rules and regulations) and reviews key matters related to responsible investments.
- the Special Committee on Risk Management and Performance Evaluation & Compensation: it recommends policies on risk management, performance evaluation to attract and retain talented staff, and assesses performance bonuses for employees of the NPSIM.

The three special committees have nine members overall. They all have three full-time members among their nine members. The Special Committee on Responsible Investment & Governance also has six experts in the relevant fields, while the two other special committees have three members of the FMC and three experts in the relevant field. The chair of each special committee is elected among the full-time members.

The three special committees conduct reviews on the FMC agenda in advance and provide advice. The chair of each special committee attends the FMC meeting to provide an overview and the result of the discussions in the special committees. The FMC is the highest assessment and decision-making body on fund management, making final decisions based on what was discussed in special committees.

4.2.6. Auditor, actuary and other third party

Korea's National Pension Fund seems compliant with the OECD guidelines for an independent audit and actuarial valuations.

The National Pension Act stipulates that an auditor shall audit the accounts, the status of management of operations and the properties of the NPS (Article 34). Grant Thornton Daejoo, which is a Korean Accounting Firm, recently audited the financial statements of the National Pension Fund, the statements of financial operations, and the statements of changes in net assets. This company carried out its audit in accordance with Korean Standards on Auditing, and independently of the National Pension Fund. The NPS has additionally its own audit division.

The National Pension Act (Article 4) and the Enforcement Decree (Article 11) also stipulate that an actuarial valuation should be performed every five years. This actuarial valuation was introduced alongside the 1998 amendment of the National Pension Act, so as to calculate the long-term financial balance of the national pension scheme. The first actuarial valuation report was released in 2003, the second in 2008, the third in 2013 and the fourth in 2018. The National Pension Research Institute (NPRI) carries out this actuarial projection. These projections involve experts from different organisations to set up the assumptions on the evolution of the population, the labour and financial markets and the broader macroeconomic context, which underpin the results. Statistics Korea provides the results of population projections for example. The Korean Development Institute (KDI) provides assumptions for major economic variables (GDP growth, wage growth, interest rate, consumer price). The NPRI also carries out a sensitivity analysis and examines the impact of different scenarios on the assets of the National Pension Fund.

The National Assembly Budget Office (NABO) recently performed a forecast of assets in the National Pension Fund for the first time. The main differences with the actuarial projection of the NPRI lie in the forecasting method and the assumptions for macroeconomic variables. The NABO used its own macroeconomic variables and tended to have more conservative, pessimistic assumptions than the NPRI. The NABO found the depletion of the reserve fund would occur 3 years before the date the NPRI forecast.

4.2.7. Risk-based internal controls

The OECD Core Principles of Private Pension Regulation (OECD, 2016[3]) advocate for adequate internal controls that ensure that all the parties involved in the fund act in accordance with the objectives in the law and associated documents, both for oversight and for operational activities.

The investment arm of the NPS, the National Pension Service Investment Management (NPSIM), is in charge of the operational aspects of the management of the National Pension Fund and seems to monitor a wide range of risks, as the OECD Core Principles of Private Pension Regulation (OECD, 2016[3]) would expect for private pension funds. The NPSIM controls risks that can affect the stability and profitability of the National Pension Fund, such as market risk, credit risk, liquidity risk, operational risk, and legal risk. The NPSIM has a dedicated risk management division to manage investment risks, a procedure to mitigate operational risks, a Compliance Office (independent from the NPSIM and reporting directly to the CEO of the NPS), and a Risk Management Committee (RMC) to manage all the risks related to the fund management. Several reports on operational risks are prepared regularly: monthly and quarterly reports including internal controls related to legal compliance, and ad-hoc reports on internal controls related to violations. The RMC receives a quarterly report and the CEO of the NPS a monthly one on the company-wide effort to manage risk.

The NPS is also subject to internal and external audits, from its internal audit team, independent auditors, Board of Audit Inspection and the National Assembly.

The OECD Core Principles of Private Pension Regulation (OECD, 2016[3]) recommend a code of conduct and conflicts-of-interest policy for all parties involved in the operation and oversight of the fund. The full compliance of the National Pension Fund with the adequate internal controls the OECD Core Principles of Private Pension Regulation (OECD, 2016[3]) advocate for depends on the existence of such code-of-conduct and policy on conflict of interests developed by the governing body of the National Pension Fund.

4.2.8. Disclosure

A detailed set of information on the National Pension Fund is publicly disclosed on a regular basis (Table 4.2), in line with the guidelines in the OECD Core Principles of Private Pension Regulation (OECD, 2016[3]). Key data on the National Pension Fund are available every month, such as assets, investment rate of returns by asset class. More information on specific asset holdings and the investment activities of the NPSIM becomes available on a quarterly basis. The NPS publishes a detailed report on the National Pension Fund every year.

Table 4.2. Public disclosure on the National Pension Fund

Frequency	Content
Monthly	Revenues, expenses and fund reserves; portfolio status and rate of return by asset class
Quarterly	List of large equities holdings; fixed income investments by bond type; list of external managers and partner securities firms
Annually	Statements of financial positions and financial operations; investment portfolios by asset class; investment holdings by asset class; responsible investment status
Occasionally	FMC meeting results; fund management guideline and fund management plan; fund management regulations and standards on selecting external managers and partner securities firms; voting records of listed stocks and reasons for votes against; other matters deemed necessary to be publicly disclosed in relation to fund management decision

Source: National Pension Service (2021[5]).

Since the 1998 revision of the National Pension Act, the chair of the governing body of the National Pension Fund (the FMC) also has to report on the FMC meetings. The Chair of the FMC has to make public a summary of the meetings, including the matters discussed and resolved. The Chair of the FMC has to publish the minutes of the FMC meetings one year after the date of the meeting (or after four years if an agenda item could affect the operation of the fund or the financial market stability).

The disclosure of all this information can benefit the National Pension Fund in several ways. The dissemination of information can enable an external audience to carry out performance and policy evaluations. This external review can lead to peer pressure, compensating the lack of competitive pressure (OECD, 2018[6]). Transparency also contributes to build trust from the population.

4.3. Investment and risk management policies of the National Pension Fund

The investment of assets is one of the main activities of any pension fund, public, private or reserve fund, managing assets. This activity enables all these institutions to earn an investment income, providing additional resources to finance expenditure or commitments. It also entails an investment risk that may need to be appropriately managed. Adequate investment and risk management policies are therefore essential for public pension reserve funds and private pension funds to achieve their mission.

One of the OECD Core Principles of Private Pension Regulation (OECD, 2016[3]) focuses on the investment of pension assets and the management of risk, providing guidelines relevant and applicable to public pension reserve funds. Table 4.3 shows a grouping of these guidelines, in the light of which the policy of the National Pension Fund can be looked at. These guidelines refer to the retirement income

objectives and prudential standards, the investment policy of the fund, the portfolio limits and other quantitative requirements, the valuation of pension assets and the performance assessment.

Table 4.3. Implementing guidelines of the OECD Core Principle of Private Pension Regulation on investment and risk management

Implementing Guidelines	Key features
Retirement income objective, prudential principles and prudent person standards	Alignment with retirement income objective; risk management techniques; Prudent person standard, fiduciary duty, requirement to establish investment process with adequate safeguards
Investment policy	Written policy; clear risk and return objectives appropriate for the characteristics of the fund. Asset allocation strategy with tolerances. Investment options for members. Review procedures.
Portfolio limits and other quantitative requirements	Definition; respect for diversification and liability matching
Valuation of pension assets	Transparent basis
Performance assessment	Monitoring procedure

Source: OECD (2018[6]) (adjusted).

4.3.1. Retirement income objective, prudential principles and prudent person standards

The National Pension Act defines the mandate of the National Pension Fund. The National Pension Fund intends to secure financial resources for the national pension scheme (Article 101).

The NPS is in charge of managing and investing the resources set aside, through the NPSIM, with the objective of maximising returns and ensuring the long-term stability of the finances of the national pension scheme, as per Article 102 of the National Pension Act.[5] The higher the returns are, the more resources will be available to support the national pension scheme, and for longer. The regulation on the management of the assets is consistent with the mandate and income objective of the National Pension Fund, and is there in line with the OECD guidelines.

The NPS also reports that the NPSIM follows a number of prudential principles, as the OECD Core Principles of Private Pension Regulation (OECD, 2016[3]) recommend, such as the profitability of the investments, stability of the assets (with a management within risk tolerance levels), liquidity considerations to ensure the payment of benefits.[6] The NPSIM also manages assets considering the impact on the national economy and financial markets, and ESG. The NPSIM focuses on complying with these principles and avoiding jeopardising them for other purposes not relating to its mission.

4.3.2. Investment policy

The National Pension Fund has a written guideline stipulating the investment policy, the objectives of the fund management, the principles, the organisational structure, roles and responsibilities, in line with the OECD Core Principles of Private Pension Regulation (OECD, 2016[3]). This guideline is formulated by the Minister of Health and Welfare, reviewed and approved by the governing body of the National Pension Fund (the FMC). The NPS then executes investments in line with the two investment plans that the FMC has approved: a mid-term (or target) asset allocation plan (with a 5-year horizon) and an annual asset allocation plan (with a 1-year horizon).

The mid-term (or target) asset allocation plan is a reference portfolio for the next five years, with a performance objective and tolerance for deviation, as the OECD Core Principles of Private Pension Regulation (OECD, 2016[3]) recommend. The FMC sets out an overall 5-year target rate of return and the risk tolerance level for the next five years, taking into account the outlook for the real economy and financial markets among other factors. The target rate of return is a relative rate, defined as: Real GDP growth rate

+ CPI rate +/- adjustments. As an example, the target return that was calculated in 2020 for the period 2021 to 2025 was set at 5.2%. The risk tolerance is set so that the probability is less than 15% that the 5-year cumulative investment return is lower than the cumulative inflation rate over the same period. The FMC then draws up a target asset allocation for each asset class to achieve this performance. It derives an optimal asset allocation given the expected returns and risks for each asset class, the correlation among asset classes and external factors (such as regulatory framework).[7] This mid-term asset allocation plan is updated every year. The mid-term asset allocation plan of 2020 for 2025 was an allocation of 15% of assets for domestic equity, 35% for global equity, 25% for domestic fixed income, 10% for global fixed income and 15% for alternative investments by 2025.

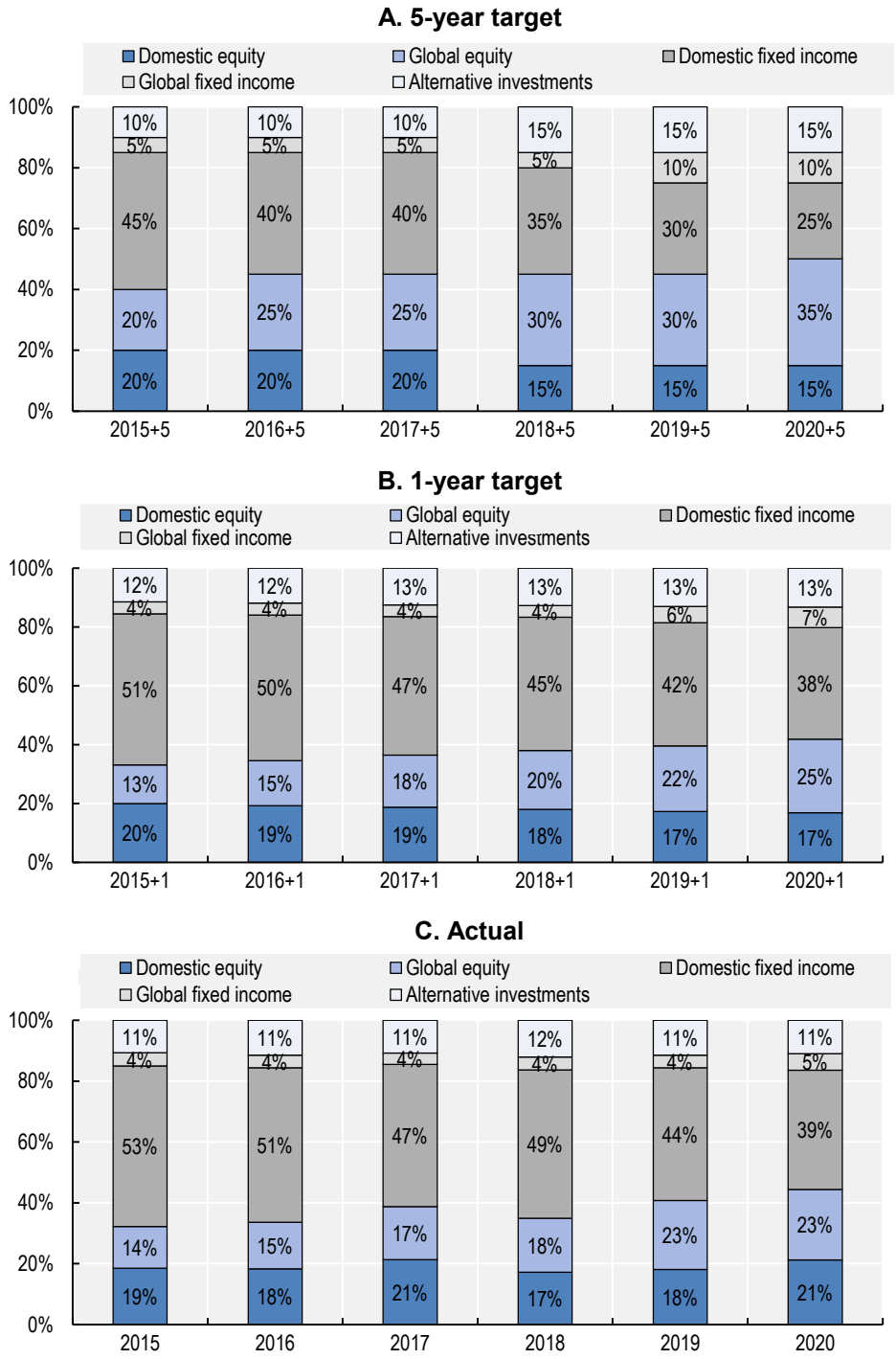
The annual asset allocation plan is an annual target portfolio. This mid-term portfolio indicates the target asset allocation to be achieved in stages throughout the following five years. In theory, once the mid-term asset allocation plan (reference portfolio) sets the target allocation ratios for each asset class, the existing portfolio should be rebalanced instantly. As this is not possible in practice, annual target portfolios are built to achieve the mid-term plan. The annual asset allocation plan proposes a target asset allocation by asset class and the permissible range for deviation, taking into account domestic and international investment conditions. The target portfolio in 2020 for 2021 was: 16.8% for domestic equity, 25.1% for global equity, 37.9% for domestic fixed income, 7.0% for global fixed income and 13.2% for alternative investments.

The NPSIM is in charge of executing the investments following the guidelines that the FMC approved. The NPSIM establishes monthly investment plans. These plans are reviewed and approved by its internal Investment Committee.

The target asset allocation of the National Pension Fund (5- and 1-year) has been aiming for a larger diversification over the years and for investments in asset classes that could bring higher returns (Figure 4.4). The target allocation to equities and alternative investments has been increasing while the target for fixed income securities has been declining. The target for foreign investments has also been on the rise. These targets have led to an actual increased diversification of the portfolio of the National Pension Fund, and a diversification of the risks across asset classes and locations. This approach is consistent with the mandate of the National Pension Fund, which is to maximise the returns, and therefore with the OECD Core Principles of Private Pension Regulation (OECD, 2016[3]). The increased diversification of the investments, including geographically, also provides a larger range of options, including outside the domestic market, for the National Pension Fund that continues to grow.

Figure 4.4. Evolution of the target and actual asset allocation of the National Pension Fund

In percent



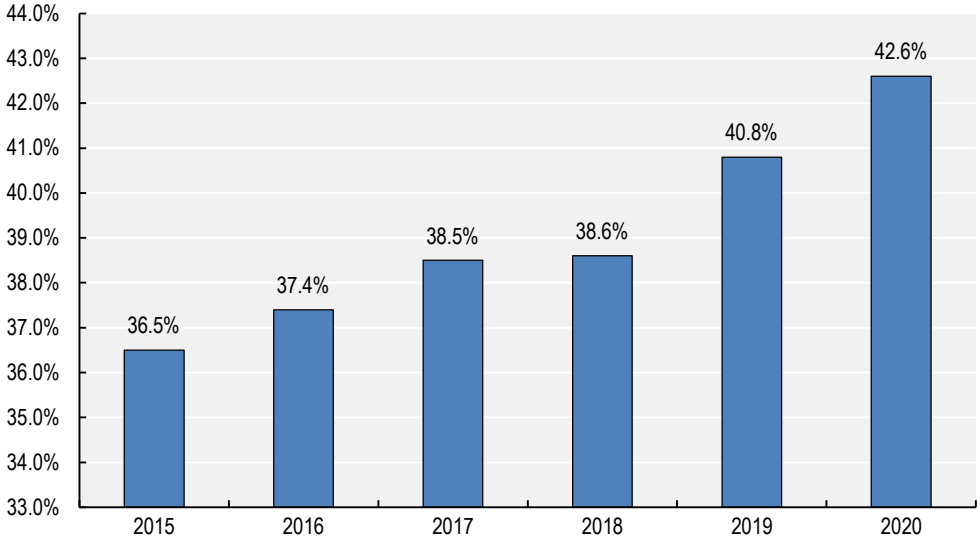
Note: The x-axis shows the year the asset allocation, actual or target, refers to. For instance, "2 015+5" means the 5-year target asset allocation was set in 2015 for 2020. The asset allocation excludes short-term assets, investment in welfare and other investments (e.g. company buildings, deposits), accounting for a minor share of the portfolio of the National Pension Fund.
Source: Annual Reports of the National Pension Fund.

StatLink https://stat.link/k30zif

The NPS has been expanded its expertise as it started investing in new and more complex instruments domestically and abroad. The NPS has created new positions and recruited experts to have the capacity to build in-house preliminary risk assessment. It has been also relying more on external experts (Figure 4.5). The NPS has sought opportunities in alternative investments by forming strategic alliances with global asset managers and major funds from other countries. As an example, the Fund has been involved in partnership with the Dutch pension fund APG and the Allianz Group (which head office is in Germany). The NPS has created and expanded its overseas offices (in New York, London and Singapore) to bolster its foreign investments. This capacity building can support the NPS in its new operations. An attractive remuneration policy of internal staff is also important to ensure the NPS can recruit and retain talented investment experts in its team, and potentially offset the increased turnover since the relocation of the NPS to Jeonju (approximately 3-hour away from Seoul) in 2017.[8]

Figure 4.5. Proportion of assets of the National Pension Fund invested in the financial sector outsourced for external managers

In percent



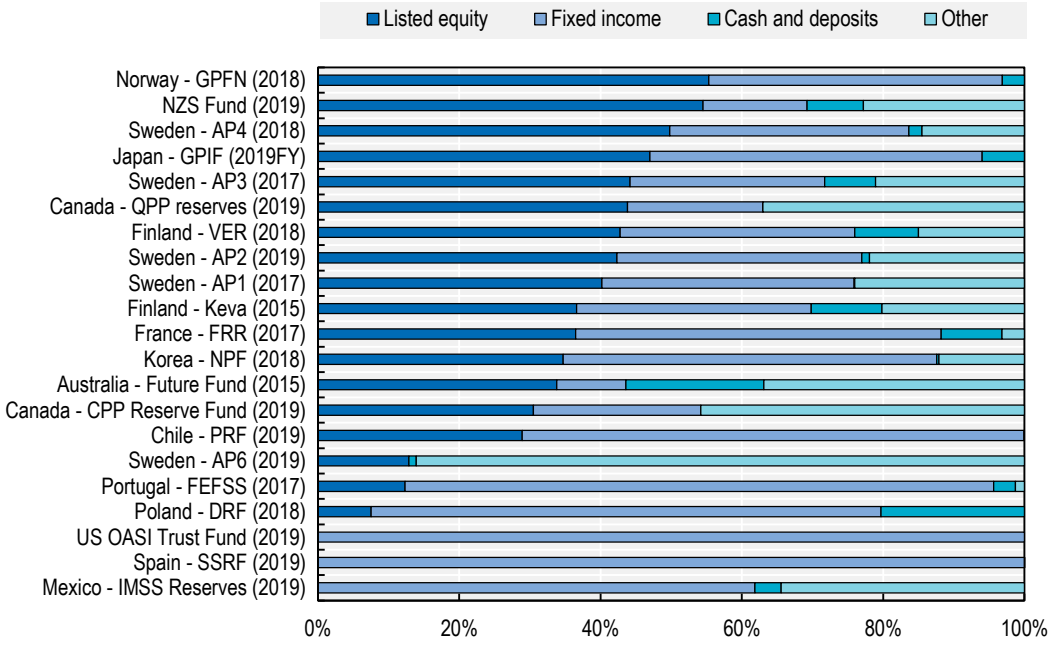
Source: National Pension Service (2021[5]).

StatLink https://stat.link/fclw2x

The exposure of the National Pension Fund to assets with potentially higher return potential such as listed equities remains lower than other reserve funds, such as those in Canada, Japan, Northern Europe and New Zealand (Figure 4.6). The New Zealand Superannuation Fund (NZS Fund) and the government Pension Fund Norway (GPFN) are the two reserve funds with the largest proportion of assets in equities, exceeding 50% of their assets. However, investments in equities by Korea's National Pension Fund would only reach 50% of its assets by 2025 according the 5-year target asset allocation set in 2020.

Figure 4.6. Asset allocation of selected reserve funds, latest year available

In percent



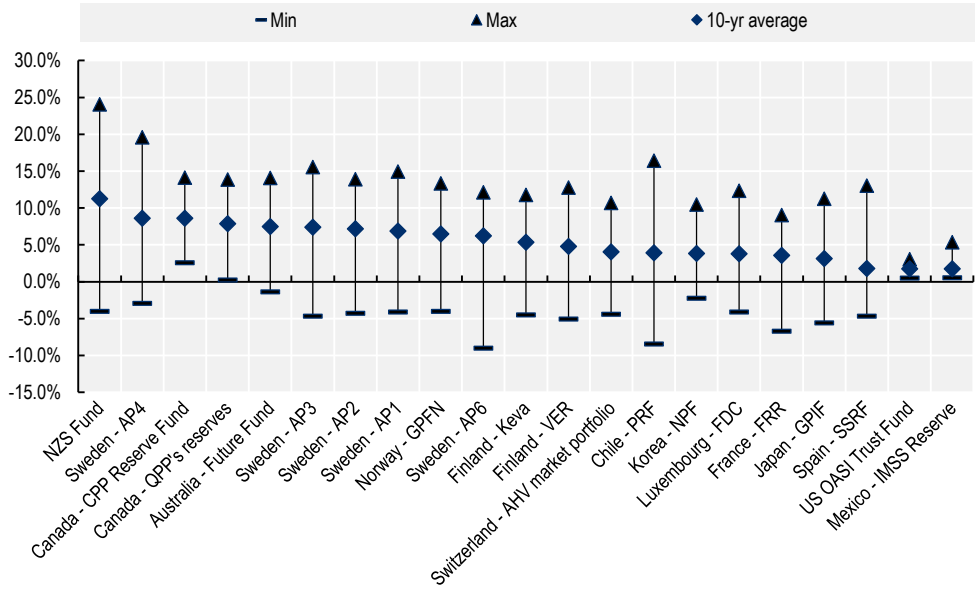
Note: The year is given in brackets. Negative values have been excluded from the calculations of the asset allocation. In the United Kingdom, the surplus is loaned to the government through the debt management office through call notice deposits. Reserves are invested in two types of bonds in Israel: fixed-interest rate bonds and variable-rate bonds.
Source: OECD (2021[1]).

StatLink https://stat.link/k8n05e

As a result, the investment performance of Korea's National Pension Fund has not been as high, over a 10-year period, as other reserve funds with a higher equity exposure (Figure 4.7). Korea's National Pension Fund recorded an average annual return of 3.8% in real terms between December 2009 and December 2019, while the NZS Fund recorded a double digit performance over the same period (11.3%). While Korea's reserve fund has not experienced an investment return as low in a given year as some other reserve funds taking more risks, the nature of the reserve fund allows to take on investment risks. Reserve funds such as the one in Korea have a long-term objective and therefore a relative long-term horizon and no short-term commitments towards specific members. Investments in riskier assets now can bring a higher investment performance over the long run and enable the National Pension Fund to benefit from compound interests.

Figure 4.7. Range of annual real investment rates of return of selected reserve funds over 10 years (between Dec 2009 and Dec 2019)

In percent



Note: This chart shows the minimum, maximum and 10-year (geometric) annual average real investment rates of returns over the period Dec 2009-Dec 2019 for all reserve funds except Japan's GPIFs (over March 2010 – March 2020).
Source: OECD (2021[1]).

StatLink https://stat.link/njwo8y

The FMC seems to be set to increase the exposure of assets to classes with higher return potential (such as equities). The FMC was even considering implementing a 10-year target plan to achieve this.[9] This idea behind a 10-year target was to have a more long-term perspective on the investment strategy. The strategy would be to invest the assets of the National Pension Fund in riskier instruments while reserves of the Fund continue to increase, and start reducing exposure and divest from risky assets when assets will be withdrawn to support payments to retirees of the national pension scheme (from 2041 according the latest actuarial assumptions). This approach looks similar to a life-cycle strategy for defined contribution plans at an individual level when they draw on their savings to receive benefits during retirement. While having a long-term horizon is a useful perspective to maximise the investment income over the life course, the increase in risk-taking may need to be accelerated and achieved earlier than in ten years. The FMC may also wish to consider an investment strategy for the overall lifetime of the fund, as would life-cycle strategies do. This strategy over the whole lifetime of the fund could help to maximise the investment income the reserve fund could get overall, and anticipate the "decumulation phase" where the national pension scheme will need to tap into the assets of the reserve fund and the Fund will have less time to recover potential losses in case of shocks in financial markets. This strategy would also enable to anticipate the impact the selling of assets of the reserve fund may have on financial markets in advance.

The NPS has also been incorporating ESG investments in its investment decision making as the Korean legislation has allowed. The NPS joined the Principles for Responsible Investment (PRI) in 2009. The amendment of the National Pension Act in January 2015 put in place a legal basis to incorporate ESG factors into investment decisions. The NPS has adopted ESG integration strategies towards some internally actively managed domestic equities since 2017. The NPS expanded its strategies to passive investments in November 2020 and developed a guideline on ESG integration strategies for domestic

equities. Portfolio managers in-house consider ESG-related information when considering new securities. Portfolio managers are required to provide their opinion in writing and ESG reports as attachment of a security review report if the ESG rating falls into low categories. The NPS has also been requiring external responsible investment manager to submit responsible investment fund management report since November 2020. Going forward, the Chairman and CEO of the NPS pledged to take the lead in ESG investing.[10] The NPS has decided to increase responsible investments to more than 50% of its assets by 2022. The Fund also intends to integrate ESG factors into its financial analysis of bonds.

The NPS has put in place an investment risk management process as part of its comprehensive risk management, as the OECD Core Principles of Private Pension Regulation (OECD, 2016[3]) recommend. The NPS manages and controls risks impacting the stability and profitability of the NPF, such as market risk and credit risk. The NPS monitors the levels of risk tolerance for each asset class and in total, set annually according to the asset allocation plan. The NPS also has a threat index that it developed in 2010 in the wake of the financial crisis, to assess how to react to financial market volatility.[11] It runs an emergency response team when the index surpasses 60, as part of its contingency plan. The threat is considered as grave when the index reaches 80. The emergency response team carries out real-time market monitoring, examines risk factors and prepares response measures for specific assets and the whole portfolio.

4.3.3. Portfolio limits and other quantitative requirements

The current legal setting on the investments of the National Pension Fund seems in line with the OECD Core Principles of Private Pension Regulation (OECD, 2016[3]). The national legislation does not mandate the National Pension Fund to hold a minimum share of its assets in any specific asset class, and does not specifically constraint the asset allocation of the National Pension Fund that would prevent it from achieving its objective.

4.3.4. Portfolio valuation

The valuation of assets of the National Pension Fund seems consistent with the OECD Core Principles of Private Pension Regulation (OECD, 2016[3]).The financial statements of the National Pension Fund have to be prepared and presented in accordance with the Korean National Accounting Standards. An external and independent auditor confirmed the financial statements complied with these standards (National Pension Service, 2021[5]). The NPS also clarifies the valuation method in its annual report where necessary. For example, the NPS specifies that it relied on external independent valuation companies to evaluate the fair value for equity securities with unavailable market quotations.

4.3.5. Performance assessment

The performance of the National Pension Fund is assessed regularly, in line with the OECD Core Principles of Private Pension Regulation (OECD, 2016[3]). A performance evaluation report is prepared every year by the National Pension Research Institute (NPRI) and an independent performance consultant (appointed by the Ministry of Health and Welfare). The evaluation is based on quantitative factors such as benchmark rates – in line with the OECD Core Principles of Private Pension Regulation (OECD, 2016[3]) – and qualitative factors such as the improvement of the fund management system and risk management practices. Benchmarks are set using market indices representing each asset class as references.[12] The results from the NPRI and the independent consultant are submitted to the Special Committee on Performance Evaluation and Compensation for review. This Committee then reports to the Practice Evaluation Committee for assessment. The investment performance report that has been developed is finally reported to the governing body of the National Pension Fund for review and approval. The report is finalised in June of the following year. The performance assessment is implemented in compliance with the (internationally accepted standards of) Global Investment Performance Standards.

4.4. Concluding remarks and policy recommendations

The National Pension Fund has grown fast since the Korean authorities started to save excess of contributions over benefit payments at an early stage of the implementation of its public pension scheme, the national pension scheme. The National Pension Fund has become in 30 years one of the largest reserve funds worldwide, with assets close to USD 800 billion at the end of 2020.

As it grew, the National Pension Fund has managed to overcome some of the initial challenges and obstacles that could have thwarted its mission to maximise returns to secure the financial stability of the national pension scheme. It has put in place safeguards to ensure the fund operates at arm's length of the government and to minimise the risk of political interference that could reduce the investment performance of the fund. More seats in the governing body of the National Pension Fund have been granted to non-governmental stakeholders, such as employees and employers, and external experts.

The National Pension Fund has also further diversified its investment strategy over the years, purchasing assets with a higher return potential domestically and abroad managing the risk adequately. This is in line with its mandate and can be a way of finding new investment opportunities while the size of the fund continues to grow.

The National Pension Fund is currently broadly in line with the OECD Core Principles of Private Pension Regulation (OECD, 2016[3]) developed for private pension funds and that can be applicable to public pension reserve funds. The governance structure of the National Pension Fund clearly identifies the oversight and operational responsibilities. The governing body has a clear mandate, with some fit-and-proper requirements for its members, and benefits from the advice of several sub-committees with the appropriate skills. The submission of the management plan to the National Assembly contributes both to the transparency of the plan and the accountability of the stakeholders involved in the management of the fund, even though the National Assembly seems mainly consulted and the process is unclear in the case where the National Assembly would have any objection or comment on the strategy. The National Pension Fund also engages actively in stewardship activities as the OECD recommends. The investment operations are delegated to the National Pension Service that has proper procedures, risk-based controls, and is regularly assessed by internal and external reviewers, ensuring it delivers according to its objective and mandate.

This analysis has, however, identified a few recommendations that could be helpful for the National Pension Fund to continue to fulfil its mission and align even further with the OECD Core Principles of Private Pension Regulation (OECD, 2016[3]):

- Separate further the parties involved in the design of the management plan of the fund and those reviewing it. The Ministry of Health and Welfare is currently involved in both the design of the plan and its validation. A further segregation of the roles would guarantee a more external review of the plan.
- Continue to exercise shareholder rights in the best interest of members and beneficiaries of the national pension scheme. This could be achieved by delegating this activity to experts external to the government. Safeguards could further instil confidence and trust that the shareholder rights are duly exercised to maximise the investment performance of assets in the National Pension Fund.
- Ensure the governing body of the National Pension Fund receives the necessary and appropriate information when it needs to make decisions on complex matters. This information needs to take into account the various backgrounds and profiles of the members of the governing body.
- Ensure the remuneration policy is attractive enough to recruit and retain talented staff involved in the management of the National Pension Fund. This policy should be in line with the strategy of the NPS in terms of turnover, taking into account the mission it has to fulfil ultimately.

- Continue to harness the most from financial markets and get the best risk-adjusted return to allow the fund to contribute the financial stability of the national pension scheme. The National Pension Fund may consider taking on more risks sooner and take advantage of the relative long horizon it has to recover potential losses it could incur in the equity markets, to earn higher returns in the long run. This could help the National Pension Fund to achieve higher returns as reserve funds in other jurisdictions record.
- Develop an investment strategy for the whole lifetime of the National Pension Fund as life-cycle strategies would typically do for individuals, in a view to maximising the overall investment income that the National Pension Fund could earn during its life course. It would also help to anticipate potential challenges and implications on financial markets and the economy when assets are drawn from the National Pension Fund to support the payments of benefits of the national pension scheme.

References

Kim, W. and F. Stewart (2011), *Reform on Pension Fund Governance and Management: The 1998 Reform of Korea National Pension Fund*, OECD Publishing. [4]

National Pension Service (2021), *2020 National Pension Fund Annual Report*. [5]

OECD (2021), *Pension Markets in Focus 2021*, https://www.oecd.org/finance/private-pensions/pensionmarketsinfocus.htm. [1]

OECD (2021), *Pensions at a Glance 2021: OECD and G20 Indicators*, OECD Publishing, Paris, https://doi.org/10.1787/ca401ebd-en. [2]

OECD (2018), *OECD Pensions Outlook 2018*, OECD Publishing, Paris, https://doi.org/10.1787/pens_outlook-2018-en. [6]

OECD (2016), *OECD Core Principles of Private Pension Regulation*, https://www.oecd.org/finance/principles-private-pension-regulation.htm. [3]

Yun, H., D. Kim and J. Kim (2015), *The Need to Set a Fiscal Target and Improve the Fund Governance Structure of the National Pension in Korea*. [7]

Notes

[1] The Stewardship Code is a code of seven principles on the stewardship responsibility of institutional investors. These principles include for example the establishment and disclosure of a clear fiduciary responsibility, of an effective and clear policy on conflicts of interests, of a voting policy and voting records. Around 150 companies, including the National Pension Service, had adopted the code in 2021. See JIPYONG LLC.

[2] NPS plan on shareholder derivative action draws strong protest from business - 매일경제 영문뉴스 펄스(Pulse) (pulsenews.co.kr)

[3] The four vice ministers are from the following ministries: Strategy and Finance; Agriculture, Food and Rural Affairs; Trade, Industry and Energy; and Employment and Labour.

[4] About Us > Governance - National Pension Service Investment Management (nps.or.kr)

[5] About Us > Mandate - National Pension Service Investment Management (nps.or.kr)

[6] Investment Policy > Investment Principles - National Pension Service Investment Management (nps.or.kr)

[7] See NPS (2021[5]) and Operating Policy > Asset Allocation Policy > Medium-Term Asset Allocation - NPS National Pension Fund Management Headquarters (in Korean)

[8] NPS' nagging concerns: talent shortage, slow alternative asset growth - KED Global

[9] NPS to take longer-term approach to asset allocation - KED Global

[10] NPS chief vows to lead Korea's ESG innovation (koreaherald.com)

[11] NPS raises virus-induced threat level to grave; runs emergency team - KED Global

[12] Benchmark indices are used for each asset class to guide investments and assess performance. These indices are reviewed annually and can be changed when appropriate when appropriate if the FMC approves it.

5 Funded private pension arrangements in Korea

This chapter analyses the key aspects of the regulation, design and outcomes of Korean funded private pension arrangements. It describes the structure of the system, outlines coverage and contribution levels, explains the tax treatment of these arrangements and explores the trends in assets and how they are invested. It also analyses rules around solvency and funding and the design of the pay-out phase. It then discusses the market structure and competition, as well as fees and supervision. The chapter then explores aspects of public education and attitudes towards retirement savings. It assesses these elements against international standards and practices, identifying key challenges as options for reform. It discusses the key considerations when it comes to having complementary public and private pensions, and then discusses a potential framework Korea can adopt for assessing the adequacy of potential retirement incomes. The chapter concludes with policy options to address all the challenges flagged.

Korea has a quasi-mandatory occupational pension scheme and a voluntary personal pension scheme that complement the mandatory public National Pension Scheme.

Ensuring greater reliance on complementary pension schemes is a good way to boost incomes from the public system and diversify sources of retirement income. However, to better serve this complementary role, the take-up of the schemes should be improved. As discussed in this chapter, this can be achieved by increasing the use of retirement pension plans available in the workplace, making private pension schemes more financially attractive, and improving public understanding about saving for retirement.

5.1. Structure of private pension arrangements

5.1.1. Types of private pension arrangements

The Korean funded private pension system has two main components: a quasi-mandatory retirement benefit system accessed through employment (2nd tier) and a voluntary personal component (3rd tier) (Table 5.1).

Table 5.1. Structure of the funded pension system in Korea

Occupational plans (2nd tier)	Quasi-mandatory	**Severance Payment**
		Retirement Pension Plans - Defined Benefit Plans - Defined Contribution Plans - Individual Retirement Pension Plans
Personal plans (3rd tier)	Voluntary	**Personal Pension Plans**

Under the Korean occupational benefit system, employers have to either provide a severance pay plan or a retirement pension plan to their employees. Severance pay plans are not retirement pension products since they are paid to employees when they leave their employment, which may not be at the point of retirement. Retirement pension plans are occupational pension plans designed to be alternatives to the traditional severance pay schemes. They provide members access to retirement income at the retirement age and include Defined Benefit plans (DB), Defined Contribution plans (DC), and Individual Retirement Pension plans (IRP).

An employer has to at least provide every employee a severance pay plan, but the company can instead set up a retirement pension plan. To set up a retirement pension plan, an employer needs to obtain the consent of a trade union if there is one joined by the majority of employees, and if there is not, obtain the consent of the majority of employees.[1] Occupational pension plans are therefore considered quasi-mandatory in Korea. As at 2019, 27.5% of workplaces in Korea had retirement pension plans for their employees.[2] If retirement pension plans have been selected, employers should prepare a covenant with the consent of their employees' representatives and submit the covenant to the Minister of Employment and Labour for approval (Financial Services Commission and KDI School of Public Policy and Management, 2014[1]). Once it is approved, employers enter into a contract with external retirement pension providers.

Employers providing severance payments to their employees can hold book reserves and administer assets in-house. Employers have traditionally had book reserves for their severance payments, as advance funding is not required. A reform in 1997 allowed employers to outsource the administration of assets to insurance companies (in retirement insurance plans) or banks and asset management companies (in retirement trusts), thereby funding their liabilities.[3] However, it has not been possible for new members to access retirement insurance plans or trusts as of 1 December 2005 as per the Employee

Retirement Benefit Security Act (ERBSA).[4] As such, retirement insurance plans and retirement trusts have lost prominence. Retirement insurance plans and trusts stopped operating at the end of 2010. Most severance pay plans (about 75% of severance pay liabilities) continue to be based on unfunded book reserves.[5] Benefits are typically paid out as lump sums, but annuitisation is possible. Employers participating in the severance payment system can still switch to retirement pension plans.

IRP plans were initially introduced for employers to transfer accrued retirement benefits to an individual's own account once the employment relationship ends, but now they serve additional purposes. An IRP plan can take two forms: an individual IRP plan and a corporate IRP plan. When an employee participating in a DB or DC plan leaves their job, an employer must transfer any accrued retirement pension plan assets from that employee's DB or DC plan into an individual IRP account. Amendments of the Enforcement Decree of the ERBSA in 2017 also allowed self-employed people, workers with less than one year of service, part-time workers, public officials and members of the armed forces to open an IRP plan.[6] Furthermore, if an employer with 10 or fewer employees establishes an IRP, s/he is deemed to meet the employer's obligation to establish a retirement pension plan for his or her employees. In this case, the IRP is referred to as a business type or corporate IRP.[7] The employer's obligations under a corporate IRP are comparable to a DC plan, although corporate IRPs have softer administrative requirements.[8] Of the individuals with IRP plans in 2019, the self-employed comprised 45.8%, workers under retirement pension systems comprised 32.8%, individuals under special occupational pension plans (e.g. civil servants) comprised 16.4%, and individuals who worked on average less than 15 hours per week comprised 5.0%.

Individuals in Korea have been able to save in voluntary personal plans since 1994. There are three main types of personal pension plans: personal pension insurance, pension savings trust, and personal pension funds. However, new enrolments in personal pension trusts have been suspended since January 2018. Pension providers are able to provide any type of personal pension plan to their members.

5.1.2. Private pension providers

To conduct pension business in Korea, whether personal or occupational, an entity has to be one of the following: a bank, an investment company, an insurance company, a credit union, a Korean Federation of Community Credit Co-operative, or the Korea Workers' Compensation and Welfare Service (KCOMWEL).[9] A retirement pension provider must be registered as either an investment manager or an asset manager, but most providers are registered as both. Investment managers are responsible for providing employers or policyholders with methods of managing reserves and information on each management method, designing a pension plan and conducting pension accounting (in the case of a DB pension plan), recording the state of reserves, informing asset managers of the management method instructions, and training subscribers. Asset management providers set up and manage an account, receive contributions, keep and manage reserves, implement instructions related to the management of reserves which are given by an investment manager, and pay benefits (Financial Services Commission and KDI School of Public Policy and Management, 2014[1]). Unlike other providers, the KCOMWEL can only conduct investment management work and cannot engage in asset management. It can also only offer DC pension plans to workplaces with 30 or fewer workers.

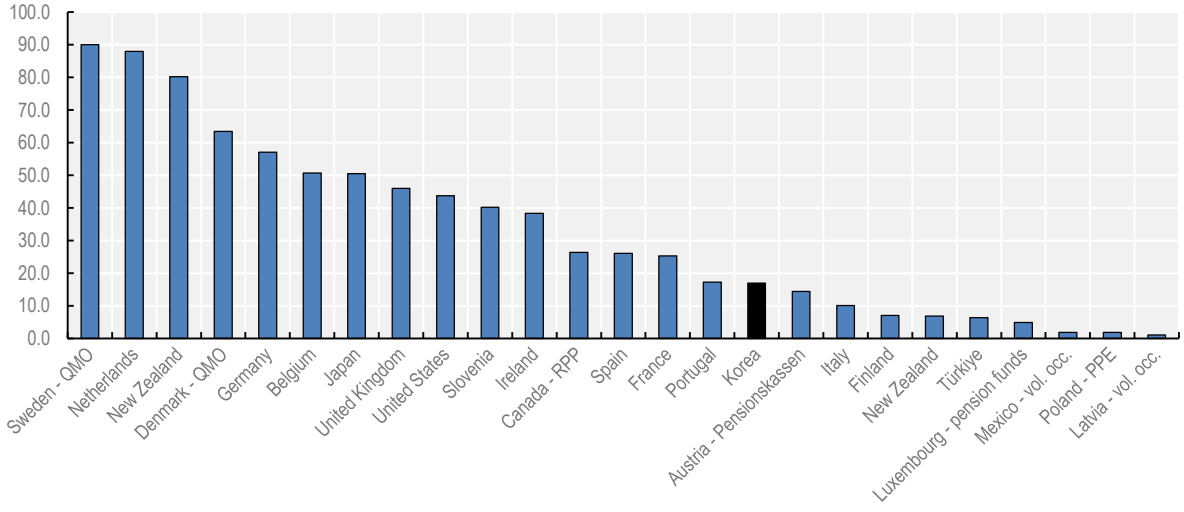
Plan providers do not differ significantly in terms of the plans they provide and investment management work they do, but there is a difference in terms of their asset management work. Banks, securities firms and insurers can handle different products because of the difference in their asset management contracts. Banks and securities firms (including some insurers) can act as trustees and are required to sign trust contracts, while insurers enter into an insurance contract-type asset management contract. Trustees can invest in various products such as deposits, instalment savings, funds, and derivatives, while insurance type contracts mean the providers are restricted to their own insurance products. Insurers, however, may use separated accounts to invest in dividend-oriented fund products.

5.2. Coverage

Compared with other OECD countries' quasi-mandatory or voluntary occupational plans, coverage of funded occupational pension plans (the retirement pension plan) was somewhat low in Korea in 2018, at around 17% of the working age population. While high coverage is not common in complementary occupational pension schemes across the OECD, Korea's coverage rate remains on the low side compared to other OECD countries with voluntary or quasi-mandatory occupational plans (Figure 5.1).

Figure 5.1. Coverage of quasi-mandatory and voluntary occupational plans in selected OECD countries, 2018 or latest year available

As a percentage of working age population



Note: Countries were selected for inclusion in the chart if their occupational systems were either voluntary or quasi-mandatory, in Korea. QMO = Quasi-mandatory occupational. RPP = Registered Pension Plan.
Source: Pensions Markets in Focus 2019, Korean authorities.

StatLink https://stat.link/x9p80n

Take-up of retirement pension plans among the working-age population is somewhat low for a number of reasons. Coverage requirements exclude some workers for both severance pay as well as retirement pension plans, but there are also many reasons why businesses have not fully transitioned to the retirement pension system.

There are a number of exceptions to coverage requirements. Workers whose consecutive service period is less than one year and workers whose average weekly working hours over a four-week period is less than 15 hours are not required to be covered by either the severance pay nor retirement pay schemes.[10] This coverage rule derives from a legacy issue, as severance payments and pensions originally served the purpose of rewarding tenure. However, the current objective of the retirement pension system should be geared towards preparing employees for retirement, rather than rewarding tenure. As such, there is a case to review this rule, and indeed, a bill is before parliament to widen coverage, although it has not passed the legislative assembly. Under the proposed amendment, all employees with a consecutive working period of one month or more, regardless of their contractual work hours, would be mandatorily subject to the retirement benefit system.[11] Passing this legislation would bring Korean retirement pension plans in line with Core Principle 8 of the OECD Core Principles of Private Pension Regulation, which stipulates that: "regulation should aim to prevent unreasonable exclusions from plan participation such as

period of service and terms of employment (e.g. distinguishing between part-time and full-time employees)".

Furthermore, workers who are employed in a special employment form and do not fall under the category of employees defined under the Labour Standards Act are not covered by retirement pension plans. While these workers can access pension plans through the personal pension system, the system does not offer strong incentives for saving for informal workers who do not benefit from tax breaks. Furthermore, self-employed workers, who are not employees, are not eligible for retirement pension plans, which are designed to be offered through an employer. While self-employed people have been able to access IRPs voluntarily since a legislative change in 2017, joining is at the discretion of the self-employed worker and does not come with the same contribution requirements as for standard retirement pension plans. Governments can offer dedicated retirement savings products to cater to non-standard workers such as the self-employed. Such products can include those that allow flexibility of contributions and ease of access.

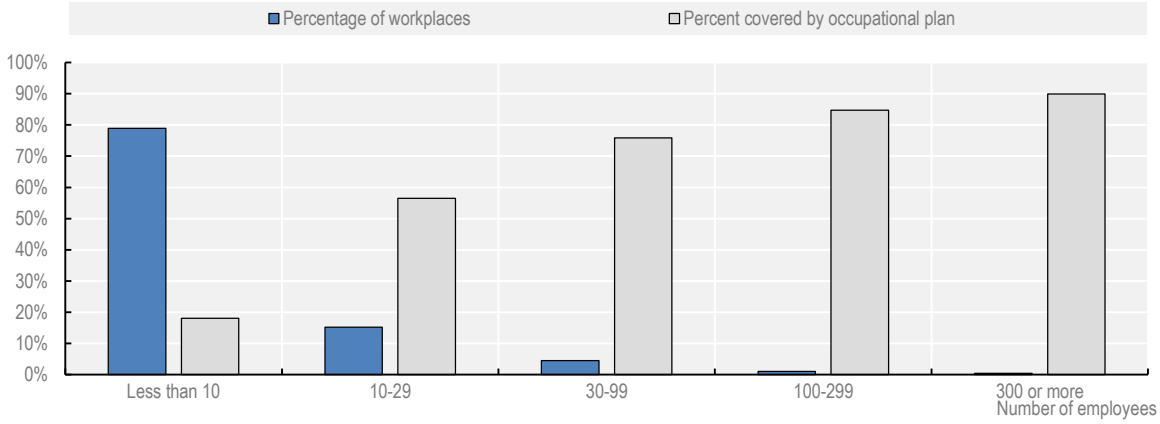
There are reasons why both employees and employers might resist a switch to retirement pension plans in the workplace. If either party opposes the transition, this can prevent the switch, since it relies on mutual agreement between them.

Some employees favour severance payments as they can access pay-outs earlier and because the severance payment scheme historically offered a better deal than retirement pension plans. For instance, if employees reach a deal with their employer, they can access their severance pay benefit even before the employment period ends, as part of an interim settlement. While early pay-outs from retirement pension plans are also permitted, eligibility conditions apply. There is also an argument that severance pay schemes have at least historically been a better deal for employees. Severance pay is a function of wages in the final year of work, and could offer a higher pay-out than the accumulated value of contributions under a DC plan. Historically, wages grew at generally higher rates than the investment returns from retirement pension plans, which tend to be invested conservatively in Korea, making pay-outs from severance schemes a better deal. While this may no longer be the case in Korea, it has slowed the transition period.

There are also reasons why employers might resist a switch to retirement pension plans. Some employers prefer the ability to defer cash contributions to the point of employment termination under the severance pay system despite a tax incentive to switch to retirement pension plans.[12] Firms offering severance pay schemes are only required to have book reserves for their liabilities, and are not required to fund them. However, should they switch to offering retirement pension plans, they would be required to transfer the accrued liabilities to a pension provider. Some have raised concerns that having to produce the capital to fund these liabilities for all employees at once may lead to significant cash flow problems for some employers.

In general, smaller businesses have resisted the transition to retirement pension the most (Figure 5.2). Larger firms are more likely to offer occupational plans to their employees (about 86% of firms with over 100 workers offer retirement pension plans). However, the 100-299 and >300 employee categories comprise less than 5% of firms combined. Most workplaces have fewer than 10 employees, and less than 20% of them offer retirement pension plans. This is why, overall, only 27% of workplaces offer retirement pension plans to their employees, while 51% of eligible workers were covered by retirement pension plans in 2019. The main reason smaller businesses resist transitioning to retirement pension plans is that they would face relatively greater cash flow challenges in having to fund their outstanding pensions liabilities, compared with larger businesses. Smaller businesses also tend to benefit less from the tax advantages of offering retirement pension plans, compared with larger businesses. Therefore, the incentive for them to replace the severance pay system is smaller.

Figure 5.2. Percentage of firms offering occupational plans by size, 2019



Source: Website of the Korean Ministry of Employment and Labour: https://www.moel.go.kr/pension/statistics/year.do.

StatLink https://stat.link/7plsoh

Notwithstanding the challenges, the Korean Government is considering mandating a full transition from severance pay schemes to retirement pension plans. There is a bill currently before the national assembly which would require all employers to set up retirement pension plans gradually.[13] The transition would happen by business size, with the smallest businesses having to switch to retirement pension plans by 2027. The rationale for the transitional phase is to help ensure smaller businesses prepare financially for the transition.[14]

Implementing this proposed shift in favour of universal retirement pension plans would be a good way to improve the adequacy of retirement incomes in Korea. The current proposal's transition period will help address the financial burden smaller businesses might face. Furthermore, some representatives of employer groups have already stated that firms, including small and medium enterprises, have had enough time to prepare for these reforms. As such, unless there is strong resistance to this change from small businesses, the Korean Government should consider a renewed push to pass the proposed law through its parliament. If there remains strong resistance to change, a next best option is for smaller businesses to be subject to a transition period that allows them to gradually increase their funding status (such as by 20% every year). This will avoid a situation of significant financial outlays at one time. Should such an approach fail, a second-best option could be that the government mandate retirement pension plans for all new employees or for all new businesses. This option would mean that eventually all workers will have retirement pension plans. But in the interim, there will remain a generation of workers subject to system that leaves them with lower income for their retirements than the subsequent generation.

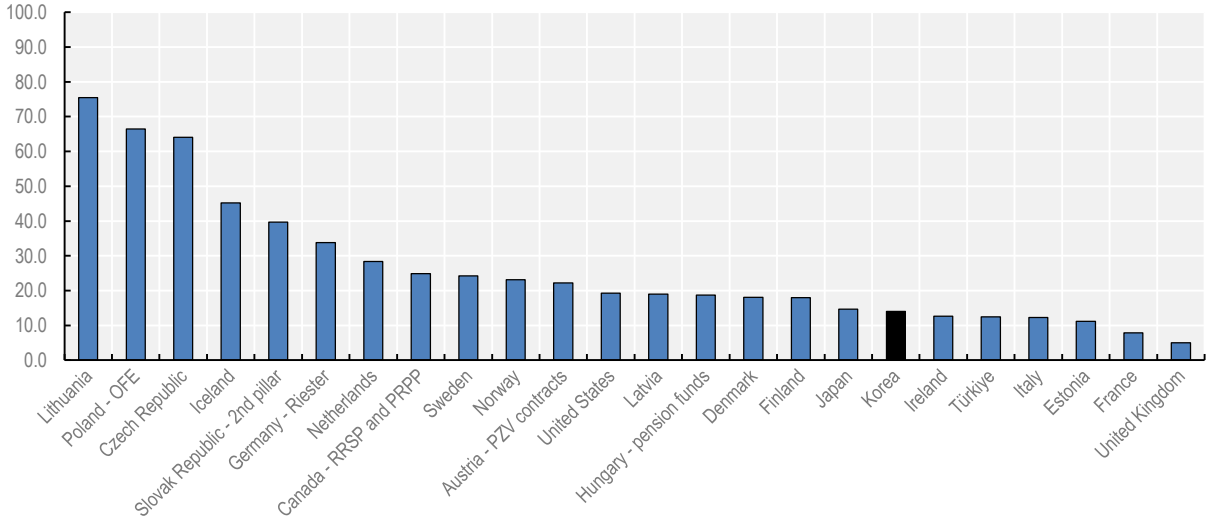
Smaller employers may face administrative difficulties in introducing retirement pension plans. There is some concern that smaller employers find it difficult to set up and administer retirement plans for their employees. The Korean Government has tried to address this issue by making it possible for business IRPs to qualify as occupational plans for firms with fewer than 10 employees, reducing reporting requirements. Furthermore, there is evidence that smaller businesses are sometimes unable to access pension products because providers prefer larger pots to manage. As such, one solution is for the government to set up multi-employer plans, which pool the assets of pension plans established by various plan sponsors. Such an arrangement has already been proposed by the Employee Retirement Benefit Security Act submitted to the National Assembly in July 2020. Those amendments propose the creation of a Small Business Retirement Pension Fund System (SBRPF), which forms and manages a joint fund financed by contributions from more than two employers and employees in small businesses. The SBRPF's operation would be overseen by the Korea Workers' Compensation and Welfare Service which

would run a Fund System Operation Committee. The Committee's role would be to decide on the general operation of the system, including a fund management plan. The Committee would be composed of representatives of employers and employees. Furthermore, a company with 30 or fewer employees would be financially supported for contributions paid by an employer and part of retirement pension fees, while being provided with reasonable services of public asset management and training. The National Assembly recently passed a bill amending the Employee Retirement Benefit Security Act and introducing the SBRPF system. This reform is a positive step in favour of increasing retirement pension plan coverage of employees in small businesses, and would likely improve the take-up of those plans.

As is the case for retirement pension plans, personal pension plan coverage in Korea is less than average for OECD countries. Personal plan coverage is among the lowest of OECD countries, at around 14% of the working age population. This is significantly lower than the OECD average of 26% (Figure 5.3). There are also no signs that pension plan coverage improved over the three most recent years for which data is available, as the coverage rate remained stable at around 14%.

Figure 5.3. Coverage of voluntary personal pension plans in selected OECD countries, 2018 or latest year available

As a percentage of working age population



Source: OECD Pensions Markets in Focus 2019, Global Pension Statistics; Korea Federation of Banks (Korea).

StatLink https://stat.link/2x0yh4

Of the people with personal pension plans, the majority are higher income earners and men. The data shows that more than half of personal pension plan holders earn more than 80 million won per year (Table 5.2). Males also represent the majority of personal pension plan membership, at 70.5% as at 2018. It is also important to note that the total value of assets held in personal plans are higher than those in occupational plans, indicating that greater savings are being directed into these vehicles by the people who have them. The earlier introduction of personal plans (in 1994 as opposed to 2005 for occupational plans) could explain that they hold more assets. However, it could also reflect that personal pension plans are used toward tax planning by higher wealth individuals.

Table 5.2. Share of personal plans by income groups, 2018

Wage and salary	Share of membership
KRW 20m or less	1%
KRW 30m or less	5%
KRW 40m or less	7%
KRW 60m or less	22%
KRW 80m or less	25%
KRW 100m or less	18%
More than KRW 100m	22%

Source: 2018 Statistical Yearbook of National Tax.

5.3. Contributions

The minimum employer contribution to DC retirement pension plans is 1/12 of an individual's pay. Employees can voluntarily contribute more to the DC plan, but total contributions cannot exceed 18 million won a year (about EUR 14 000).

Contributions by employers to DB retirement pension plans vary depending on the outcome of valuations, which are the responsibility of the financial institution providing the pension. The law states that contributions should be sufficient to provide a participant at retirement a prorated amount equivalent to average wages earned for 30 days for each year of his / her continuous service. A recent bill which is expected to come into effect on 14 April 2022 also means that authorities can impose fines when the contributions to the DB retirement pension plan made by an employer fall short of the statutory level.

Average contributions to retirement pension plans represent about 21% of the average wage in the economy and personal pension plans represent 7% (Table 5.3). Contributions to retirement pension plans are somewhat high compared to average incomes, particularly since the mandatory contribution rate to occupational plans is 8.3%. This suggests that higher income individuals might be benefitting more from retirement pension plans than lower income people.

Table 5.3. Average contributions to occupational and personal plans, 2015

	Occupational Plans			Personal Plans
	DB	DC	Overall	
Average contribution per member (2015, KRW)	6 200 000	10 800 000	8 000 000	2 600 000
Average contribution per member (2015, as percentage of average wage)	17%	29%	21%	7%

Note: The most recent GPS providing detailed information about membership of occupational plans was 2015.
Source: Global Pension Statistics, 2015.

5.4. Tax treatment of retirement pension plans and personal pension plans

Table 5.4 summarises the tax treatment of different components of retirement savings, by the source of contributions.

Table 5.4. Tax treatment by source

Source of contribution	Contributions	Returns	Withdrawal
Employer contributions	E	E	T
Individual contributions	13.2% / 16.5% credit	E	T

Note: T = Taxed; E = Exempt (usually up to a limit); credit = Tax credit. Individual contributions can be to either retirement pension plans or personal pension plans.
Source: OECD (2019[2]), *Financial incentives for funded private pension plans*, OECD Country Profiles, http://www.oecd.org/daf/fin/private-pensions/Financial-Incentives-for-Funded-Pension-Plans-in-OECD-Countries-2019.pdf.

Individual contributions to DC retirement pension plans and personal pension plans are taxed at the individual's marginal tax rate but benefit from a tax credit.[15] The tax credit is equal to 13.2% of the individual's contributions, but low income individuals get a higher rate of 16.5%.[16] However, this tax credit is not refundable (i.e. it reduces the tax due to 0 at the maximum), so it would not provide a significant tax benefit to low income individuals who are liable to pay low or no tax. The maximum amount of contributions that attract a tax credit varies between KRW 4 million (equivalent to about 9% of the average income in Korea) and KRW 7 million (equivalent to about 15% of the average income in Korea) depending on the mix of contributions to personal and occupational plans.[17] The limit is KRW 4 million a year if the individual only contributes to a personal plan (excluding IRPs), and an extra KRW 3 million is available to IRP members, bringing the total eligible contributions to KRW 7 million. A recent tax amendment further increased the KRW 7 million limit to KRW 9 million for contributions to IRPs for people aged over 50 to encourage them to contribute more to catch up. The limit is KRW 7 million a year if the individual only contributes to an occupational DC plan. If the contributions are a mix of the two, the limit is somewhere in between, depending on a formula. An additional tax credit may be applied when deposits of an individual savings account (ISA) reaching maturity are transferred to a pension account. In this case, the tax credit would equal 10% of the transferred amount (up to KRW 3 million). Individual contributions to occupational DC pension plans and personal pension plans cannot exceed KRW 18 million a year (EUR 14 000 or about 40% of the average income in Korea).

Employer contributions to retirement pension plans are not treated as taxable income for the employee. The minimum rate for employer contributions in defined contribution plans is 1/12 of the employee's total annual salary. The tax system provides an incentive for employers to offer their employees retirement pension plans rather than severance payments. Employer contributions into retirement pension plans are tax deductible from corporate tax. Moreover, charges for the Wage Claim Guarantee Fund are reduced by up to 50% if employers set up corporate pension plans rather than severance payment schemes.[18]

Returns on investment are not taxed and there is no ceiling on the lifetime value of private pension funds.

The taxation of pension income depends on the source of the originating contribution and whether the individual chooses a lump sum or an annuity.[19]

Table 5.5. Tax treatment of pension income by source and pay-out type

	If lump sum is selected	If annuity is selected
Employer contribution	Marginal rates are applied to a tax base which decreases with number of service years.	Tax due is 70% of that which would have been due if the lump sum option were selected. This rate falls to 60% if the pensioner's entitlement period exceeds ten years.
Individual contribution	Investment returns and contributions, which received a tax credit, taxed at 16.5%; otherwise, tax free.	Depends on total retirement income. If above KRW 12 million, taxation applies at marginal rates. Otherwise, tax rate is between 3.3% and 5.5% depending on the type of annuity and age of the annuitant.

Note: For a fixed-term annuity, the tax rate varies with the age of the annuitant (5.5% below age 70, 4.4% between 70 and 80, and 3.3% above 80). For a lifetime annuity, the tax rate varies as well (4.4% below age 80 and 3.3% above 80).
Source: Summarised from OECD (2019[2]), *Financial incentives for funded private pension plans*, OECD Country Profiles, http://www.oecd.org/daf/fin/private-pensions/Financial-Incentives-for-Funded-Pension-Plans-in-OECD-Countries-2019.pdf.

If the income started as an employer contribution, the tax treatment depends on which pay-out option chosen. In either case, first the tax base is calculated based on a formula that shrinks the base with more years of work.[20] The total tax paid for income taken as a lump sum is calculated with reference to another formula based on marginal tax rates.[21] If income is taken as an annuity, the tax payable is 70% of the tax that would be payable on a lump sum, or 60% if the pensioner's entitlement period exceeds 10 years.

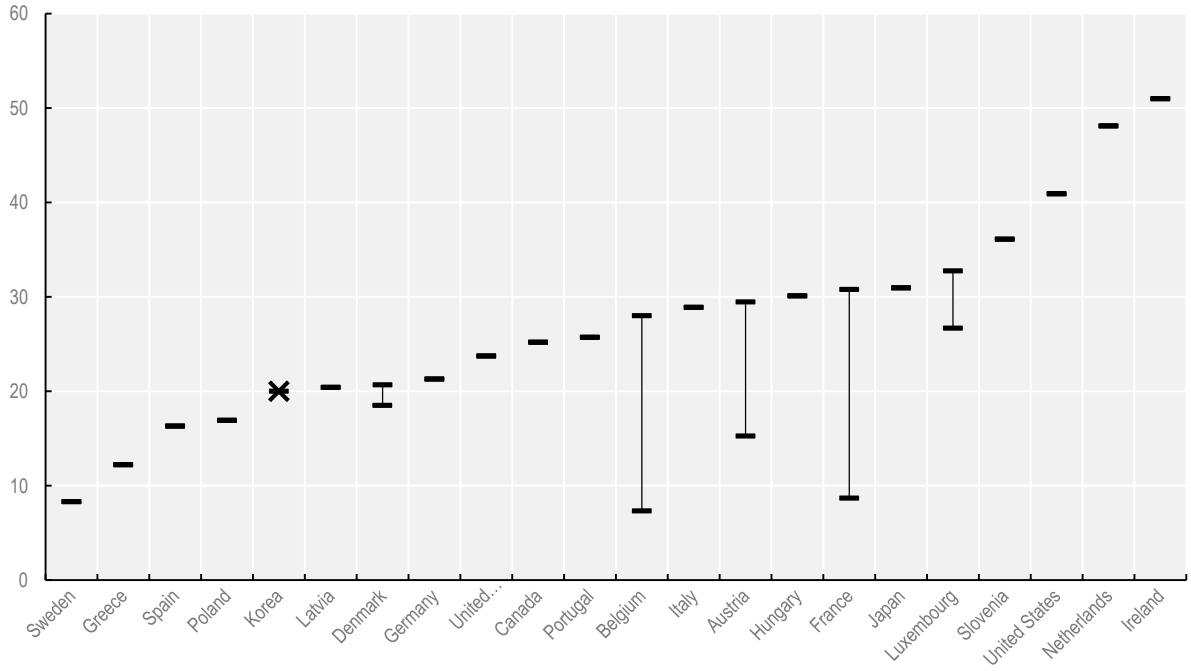
If the income started as an employee/individual contribution, the tax treatment again depends on which pay-out option is chosen. If the individual takes a lump sum, the tax treatment depends on whether the contributions already benefited from a tax credit or not. If contributions did not exceed the maximum set for the calculation of the tax credit (Table 5.5), the lump sum is taxed at the rate of 16.5% (including local income tax). By contrast, contributions that did not attract a tax credit (for example, if contributions in a given year exceeded the contribution limit that attracts a tax credit), they can be withdrawn tax free.

If the individual purchases an annuity, the tax treatment depends on the level of total pension income (including public pensions). If total pension income is below KRW 12 million, the individual can choose separate taxation. For a fixed-term annuity, the tax rate varies with the age of the annuitant (5.5% below age 70, 4.4% between 70 and 80, and 3.3% above 80). The tax rate of a lifetime annuity varies as well with the age of the annuitant (4.4% below age 80 and 3% above 80). On this basis, the tax benefit from taking an annuity compared to a lump sum is between 11% and 13.2%. If total pension income is above KRW 12 million, the aggregate taxation of the combined amount of total private pension income and other income applies.

Examining Korea's occupational and personal pension plans with comparable plans in other countries again shows that the tax advantage offered is lower in Korea than in comparable systems. Figure 5.4 shows that the tax advantage for an average income earner offered by retirement pension plans compared with voluntary and or quasi-mandatory occupational plans in other OECD countries. Korea is among the countries with the lowest tax advantage. A higher tax advantage would increase the relative value of retirement pension plans compared with severance pay schemes, but it is possible that the advantage offered may not enough to induce enough people to want to replace the severance pay system. Figure 5.5 again shows that Korea is on the lower side when compared with other countries with voluntary personal pension plans.

Figure 5.4. Tax advantage from occupational pension schemes for countries with quasi-mandatory or voluntary schemes

Present value of taxes saved over a lifetime by an average income earner, as a percentage of the present value of contributions

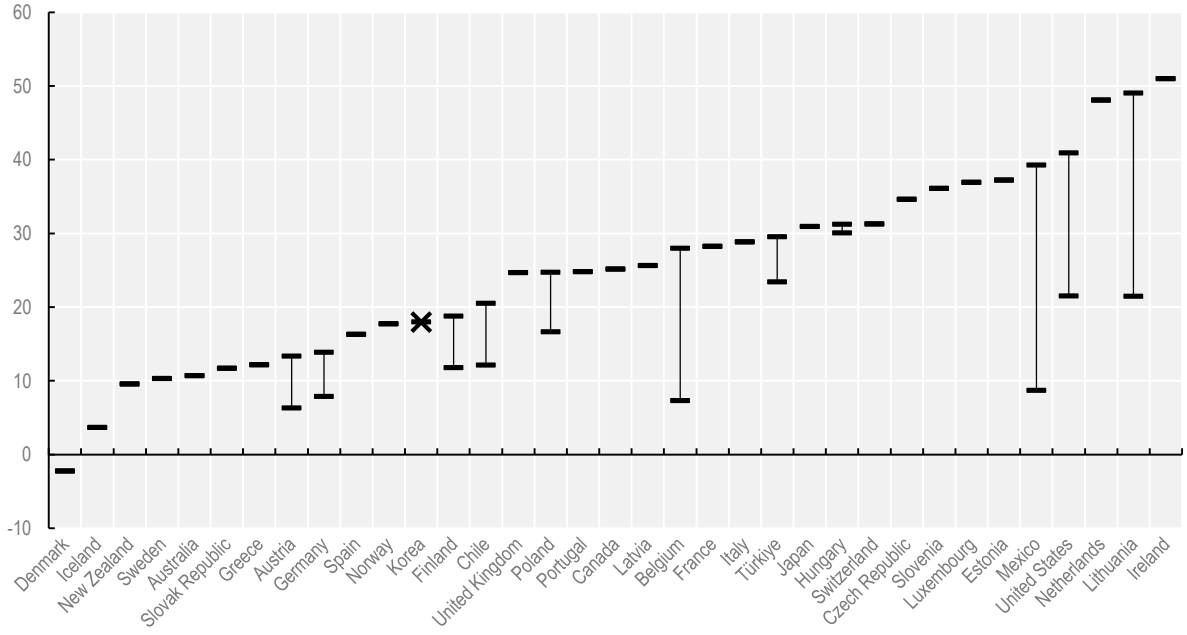


Note: Calculations based on the 2018 tax treatment of the main occupational pension plan in each country. Where ranges are included, that reflects different types of plans.
Source: Based on Table 3.2 of OECD (2018[3]), *Financial Incentives and Retirement Savings*, https://doi.org/10.1787/9789264306929-en.

StatLink https://stat.link/fsxlyo

Figure 5.5. Tax advantage from private pension schemes in countries with voluntary schemes

Present value of taxes saved over a lifetime by an average income earner, as a percentage of the present value of contributions



Note: Calculations based on the 2018 tax treatment of the main private pension plan in each country. Where ranges are included, that reflects different types of plans.
Source: Based on Table 3.2 of OECD (2018[3]), *Financial Incentives and Retirement Savings*, https://doi.org/10.1787/9789264306929-en.

StatLink https://stat.link/1ny80m

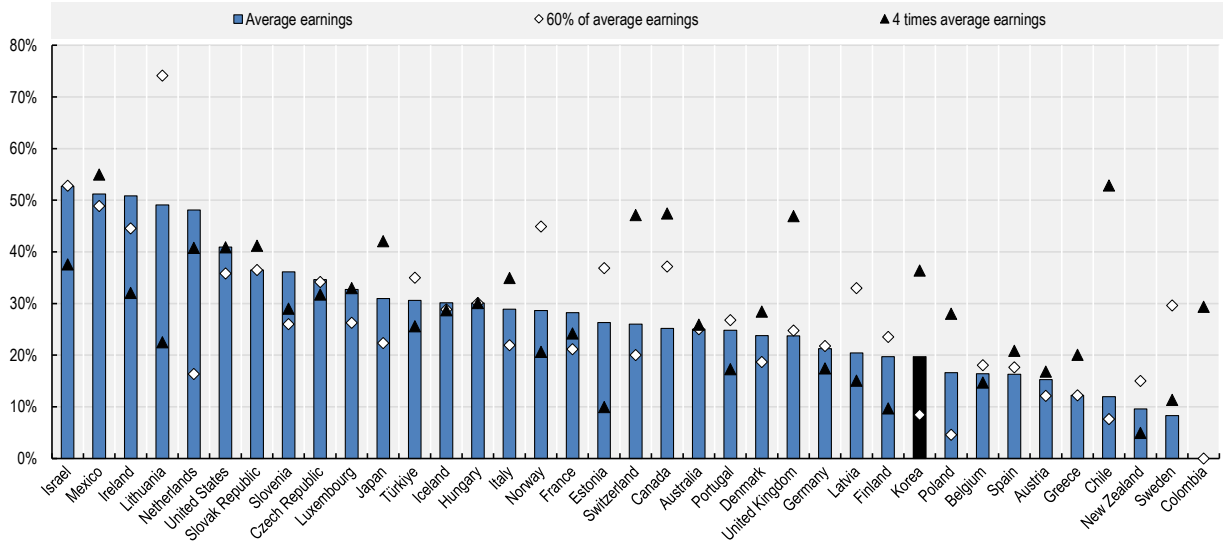
The tax system in Korea is complex, but reform to its structure should be considered as a medium-term goal rather than an urgent goal. Complexity can be a strong deterrent to utilisation. The rules around pension tax are difficult to understand, and a different treatment applies if the contributions originated from the employer (EET/EEt) or the individual (tEt/tET). There is room to simplify the tax system, since people need to understand the tax benefits of saving in retirement plans in order to encourage their use. But Korea has already recently reformed its pension tax system, and frequent change can also deter use. As such, any reforms to simplify the system structure should be considered as a medium term goal. In the more immediate term, to improve the attractiveness of retirement pensions and personal pensions, the Korean Government can consider parametric change within the existing structure. Such changes can include increasing the tax credit rate for individual contributions or amending the formulas to reduce the tax on pay-outs.

Changes to pension tax settings can also address more bespoke shortcomings in the pension tax system, such as inequality of tax benefits and incentives to select lump sums over annuities.

The current policy settings do not appear conducive to encouraging personal pension plans among low income people. Overall, the pension tax system delivers a tax advantage of around 20% for individuals on average earnings, but less than 10% for low income earners at 60% of average savings (Figure 5.6).[22] This is significantly lower than the tax advantages offered to lower income earners in other OECD countries. Furthermore, in Korea, the tax advantage enjoyed by higher income earners (those earning four times the average wage) is significantly higher than the average, making the tax benefits to private pensions unequal. While some other OECD have similar structures, most offer relatively similar overall tax advantage to different income groups.

Figure 5.6. Overall tax advantage for contributions, by income level

Present value of taxes saved over a lifetime, as a percentage of the present value of contributions



Note: Calculations based on the 2018 tax treatment of the main pension plan in each country. In Korea, the chart shows the tax advantage based on contributions to occupational pension plans.
Source: Based on Figure 3.9. of OECD (2018[3]), *Financial Incentives and Retirement Savings*, https://doi.org/10.1787/9789264306929-en.

StatLink https://stat.link/08vpx5

The Korean Government could consider, at the very least, measures that improve financial incentives for lower income people saving for retirement. This is both to encourage voluntary saving but also to improve the adequacy of their potential retirement income. Low income people, especially those who do not pay tax or who pay little tax, currently have little incentive to use the plans. This simply exacerbates what is often a pre-existing reluctance to forego short term liquidity in the face of limited finances. As such, the government should consider introducing non-tax financial incentives, which are payments made by the government directly into the pension account of eligible individuals. They can take the form of matching contributions or fixed nominal subsidies. Matching contributions involve the government contributing an amount that is equal to or proportional to an individual's own contribution, usually up to a nominal ceiling. Fixed nominal subsidies involve the government contributing a fixed amount to an individual's account when the individual makes a personal contribution, Subsidies are designed to attract low-income earners as the fixed amount represents a higher share of their income and are easy to understand.[23]

Non-tax financial incentives are better tools to encourage retirement savings among low income earners for several reasons. Non-tax incentives are not linked to the individual's tax status, making them attractive for all individuals. Furthermore, non-tax incentives are automatically saved into the pension account, while this would not be the case with the tax incentives in the Korean system. That is, individuals eligible for a tax credit may not save the value of the tax incentive in the pension account if they do not increase their after-tax contributions in anticipation of the receipt of the tax refund. Fixed nominal subsidies and matching contributions provide a higher overall tax advantage to low-income earners as the value of the subsidy represents a higher share of their income. In OECD countries that use non-tax financial incentives, the incentives are seen as a complement to tax incentives, so that all income groups get an overall tax advantage when contributing to a supplementary funded pension scheme, with an extra encouragement for low-income earners (OECD, 2018[3]).

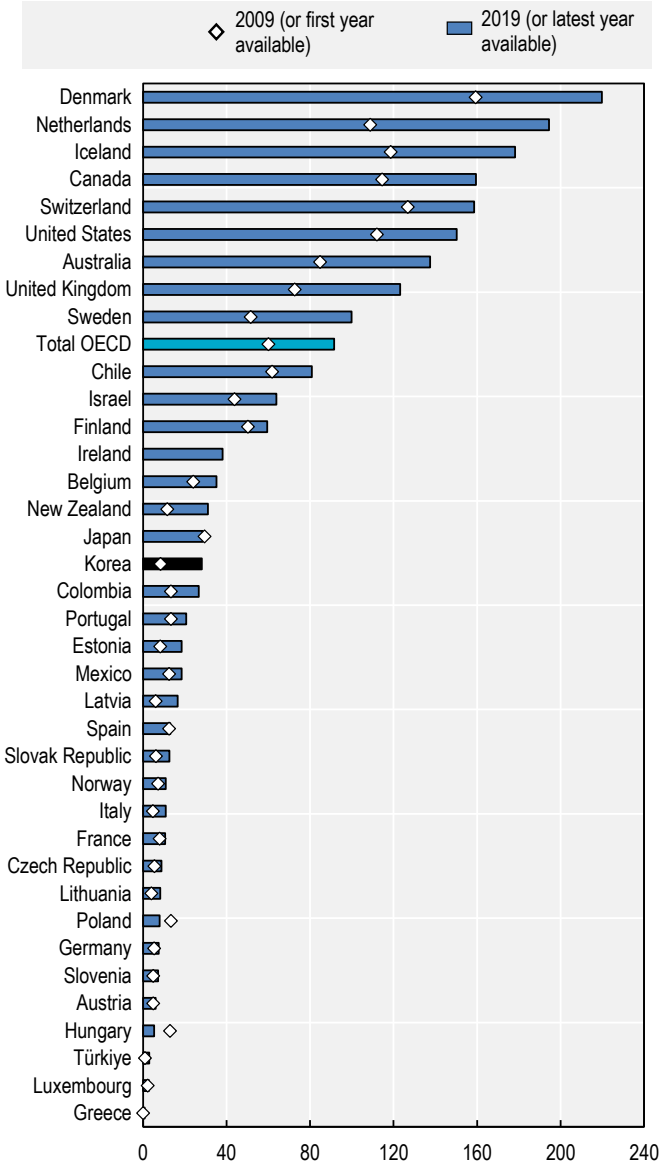
5.5. Assets and investment

5.5.1. Assets

Assets in the Korean funded pension system have been growing over the last decade (Figure 5.7). While they accounted for 8% of Korea's GDP at the end of 2009, pension assets represented close to 30% of GDP ten years later. Nonetheless, pension assets remained below the OECD total (92% of GDP) at the end of 2019.

Figure 5.7. Total assets in retirement savings plans, in 2009 (or first year available) and 2019 (or latest year available)

As a percentage of GDP



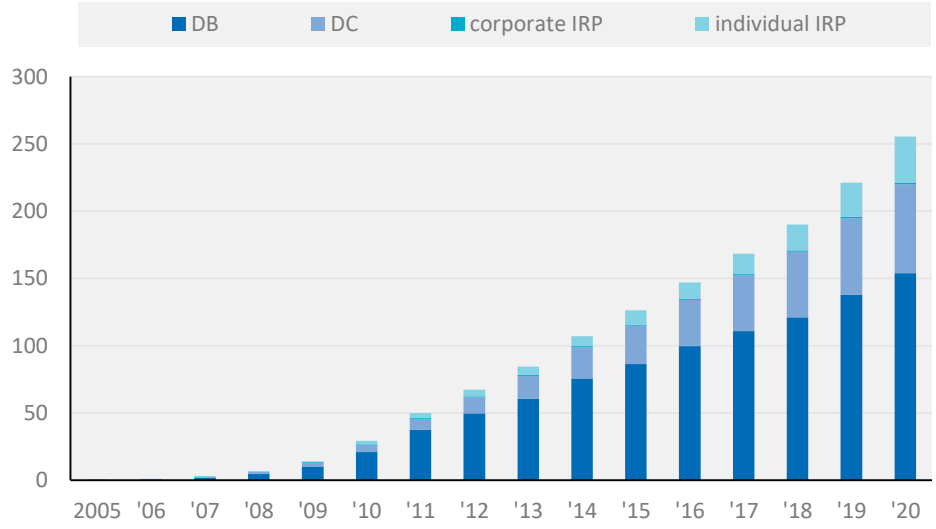
Note: The charts show the evolution of assets in retirement savings plans between 2009 and 2019, except for Finland (2011-19), Lithuania (2010-19) and Switzerland (2013-19). The totals are calculated as the sum of all pension assets (in USD) over the sum of all GDPs (in USD) of all reporting jurisdictions. The number of reporting countries differs between the beginning and the end of the period, but this has only a marginal effect on totals.
Source: OECD Pension Markets in Focus 2020.

StatLink https://stat.link/yhwiza

This increase is the result of the rise in assets in retirement pension plans (Figure 5.8), coupled with a rise in assets in voluntary pension plans (Figure 5.9). Assets in all types of retirement pension plans (DB, DC, and IRP) have increased since the introduction of these plans. DB pension plans are the main type of retirement pension plan, with assets amounting to KRW 154 trillion (i.e. 60%) of all assets in retirement pension plans (KRW 255 trillion). However, a gradual transition may be underway as DC and IRP plans have been gaining prominence and outpacing DB plans in terms of asset growth since 2011.

Figure 5.8. Assets in retirement pension plans, 2005-2020

In trillions of national currency

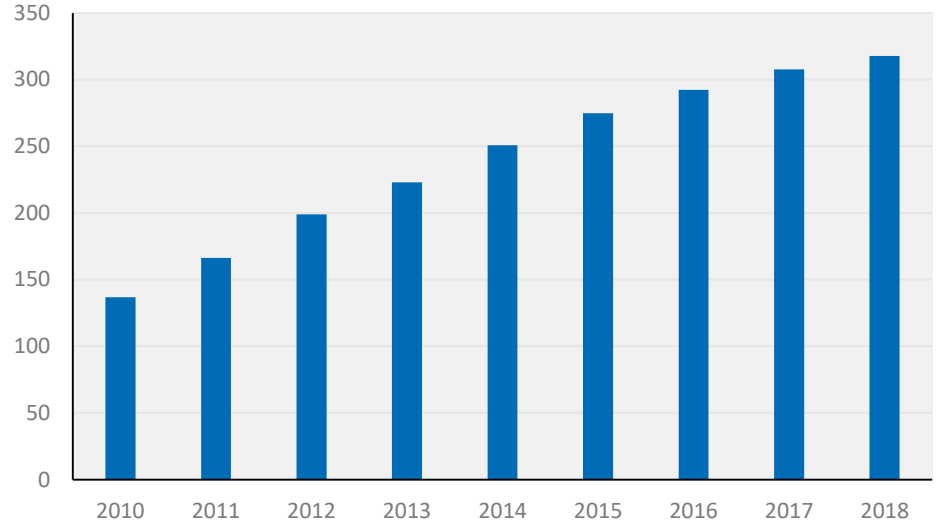


Source: FSS.

StatLink https://stat.link/69vyla

Figure 5.9. Assets in voluntary personal pension plans, 2010-18

In trillions of national currency



Source: OECD Global Pension Statistics.

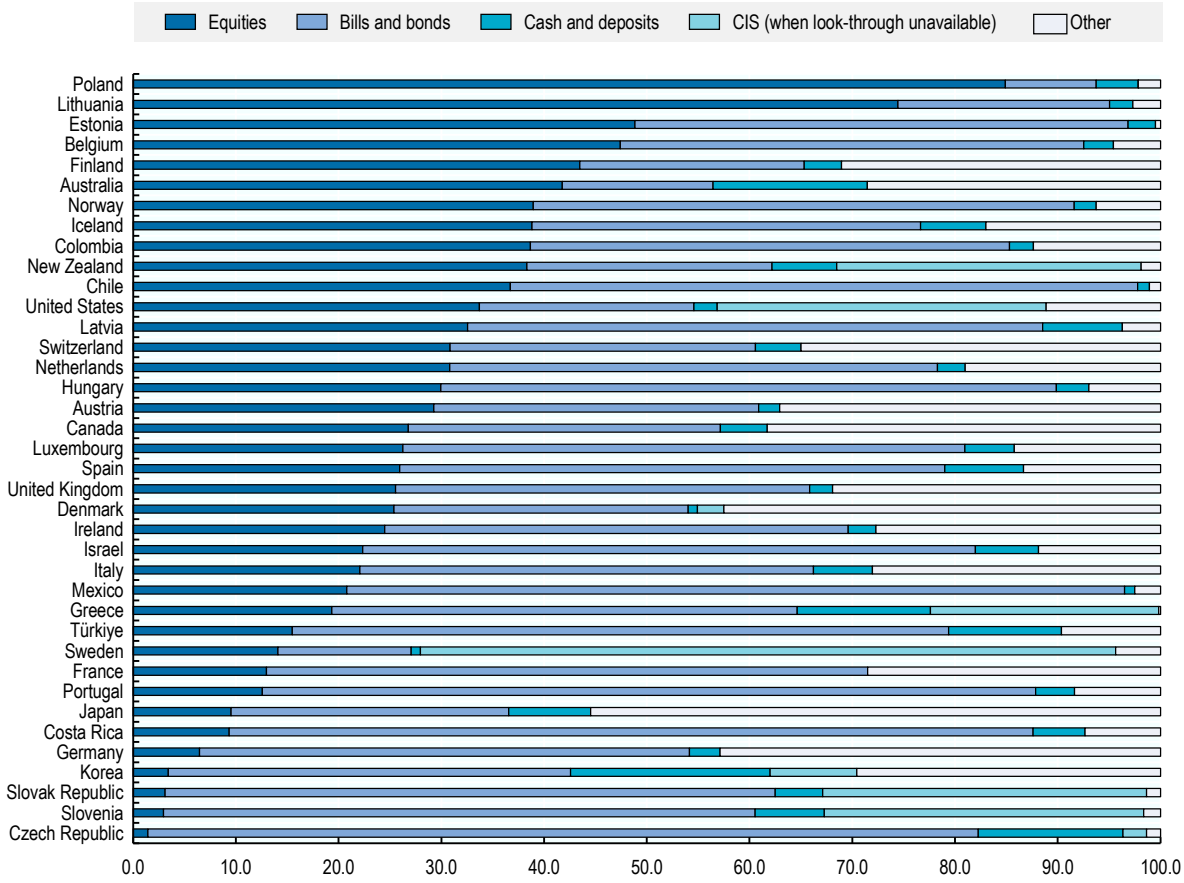
StatLink https://stat.link/3rt0ad

5.5.2. Asset allocation

Pension assets are invested more conservatively in Korea than in most other OECD countries. The proportion of assets that pension providers in Korea invest in performance-dividend type products is one of the lowest in the OECD (Figure 5.10). By contrast, guaranteed interest products (such as government bonds and deposits) account for most of the investments of Korean pension providers. The Korea Deposit Insurance Corporation protects deposits and guaranteed interest contracts.

Figure 5.10. Allocation of assets in funded and private pension plans in selected asset classes and investment vehicles, 2020 or latest year available

As a percentage of total investment



Note: "CIS" means collective investment schemes.
Source: OECD Pension Markets in Focus 2021.

StatLink https://stat.link/d8wtui

Employers setting up DB plans decide how to invest pension assets. They mainly choose to invest in guaranteed interest products, favouring the security that these products offer over the potential of investment income that riskier investment strategies could bring (Table 5.6). Returns that guaranteed products can offer may be limited in a context of low interest rates.[24]

Table 5.6. Asset allocation of retirement pension plans in Korea, by type of plan, 2020

As a percentage of total assets

	DB	DC	Corporate IRP	Individual IRP
Guaranteed interest products	94.0	79.0	86.5	64.8
Investment-linked products	4.5	16.8	10.4	26.2
Others	1.4	4.2	3.1	9.0

Source: Retirement Pension Statistics for 2020.

Members can choose their own investment strategy for occupational DC and IRP plans, and are able to change the choice of investment strategy at least once every half-year.[25] At least three operating methods with different risk and return structures shall be suggested to the participant at least once every half-year. One of the options should guarantee members that they will get back their contributions with interest.[26] This option may be popular among plan members as 65% of assets in individual IRP plans and nearly 80% or more in DC and corporate IRP plans were invested in guaranteed interest products at the end of 2020. Investment strategies that retirement pension trustees offer should be in line with the operating methods and standards prescribed by Presidential Decree. Until recently, there had not been any default investment option for members unwilling or unable to choose one when they joined a DC or an IRP plan. However, a bill passed in December 2021 to introduce a default option.[27] The legislation for the default option is expected to be finalised by June 2022 at the latest. The default option could only be based on investment vehicles that suit long-term investments – such as target date funds, money market funds and funds investing in infrastructure – and guaranteed-interest products. A default option such as a target date fund would be a suitable option to yield good investment returns while protecting people against severe value losses immediately prior to retirement.

Members shall be provided information to choose a method of operating reserves, such as information on the risk and return potential of each product or operating method. The retirement pension trustee is required to provide individuals with information on investment strategies that are readily obtainable and understandable. The law provides that the methods of and procedures for evaluating the performance of asset management shall be transparent.[28]

The investment operations of pension assets shall be implemented within the investment limits set by the Ministry of Employment of Labour (MoEL). While there is no restriction on investments in guaranteed assets such as high-grade government bonds, the current legislation sets a 70% limit on investments in a list of eligible risky or non-guaranteed assets for DB, DC and IRP plans (Table 5.7). This list includes corporate bonds, unit trusts, and real estate investment trusts (REITs) for all retirement plans.[29] Listed equity and private equity funds are also part of the eligible risky assets, but for DB plans only. Investment in some other risky assets, such as government bonds rated below BBB- and unlisted equity, are fully prohibited for all occupational plans. Investment in derivatives are only allowed for hedging purposes.

Table 5.7. Investment restrictions for pension providers by type of plan

Assets		DB	DC and IRP
Guaranteed assets	Government bonds (rated BBB- or above)	No limit	
Risk or non-guaranteed assets	Government bonds (rated below BBB-)	Not allowed	
	Unlisted Equity		
	Listed Equity	Up to 70%	Not allowed
	Corporate bonds		Up to 70%
	Beneficiary certificates (i.e. unit trust)		
	REITs		
	Private equity funds		Not allowed
	Derivatives	Only for hedging purposes	

Note: There is no limit on investments in funds with less than 40% in equity nor in target date funds.
Source: OECD Annual Survey of Investment Regulation of Pension Funds and Other Pension Providers, FSS and MoEL.

Korea has loosened investment restrictions for occupational pension plans recently. Investment limits in risky assets were raised to 70% in 2015. REITs listed on regulated markets have been considered an eligible risky investment since 2018 for DB plans, and since 2019 for DC plans and IRP. Following amendments to the Regulations on Supervision of Retirement Pension Plans in September 2018, deposits and savings of mutual savings banks have been considered as guaranteed assets and the 70% limit on investment in target date funds meeting the standards set by the FSC has also been eliminated (FSS, 2020[4]).

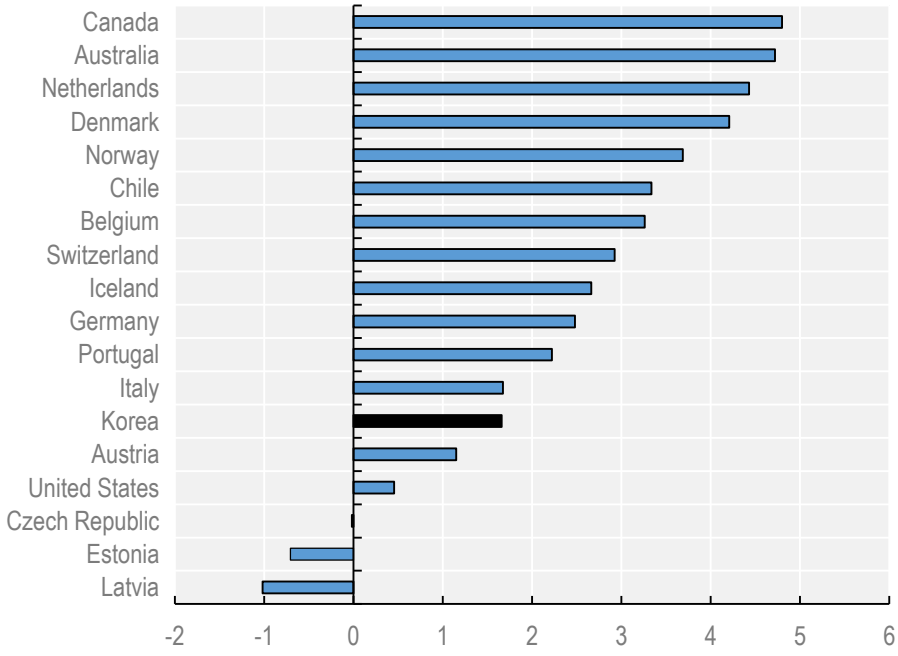
However, the limits that remain may still not be justified, as they might encourage conservativism. Particularly DC and IRP plans are not permitted to invest in listed equities, which may not be in line with the OECD's Core Principles of Private Pension Regulation that advise diversification of investment. Diversifying investment allocation helps to mitigate risks relating to specific asset classes, such as the risk of low returns due to lower interest rates.

5.5.3. Investment performance

Voluntary personal insurance contracts in Korea have recorded a positive investment rate of return on average over a 15-year period between December 2003 and December 2018, close to 2% (Figure 5.11). However, this performance is amongst the lowest, below the simple average among reporting OECD countries (2.3%).

Figure 5.11. Real geometric average annual investment rates of return of funded and private pension plans over the last 15 years

In percent



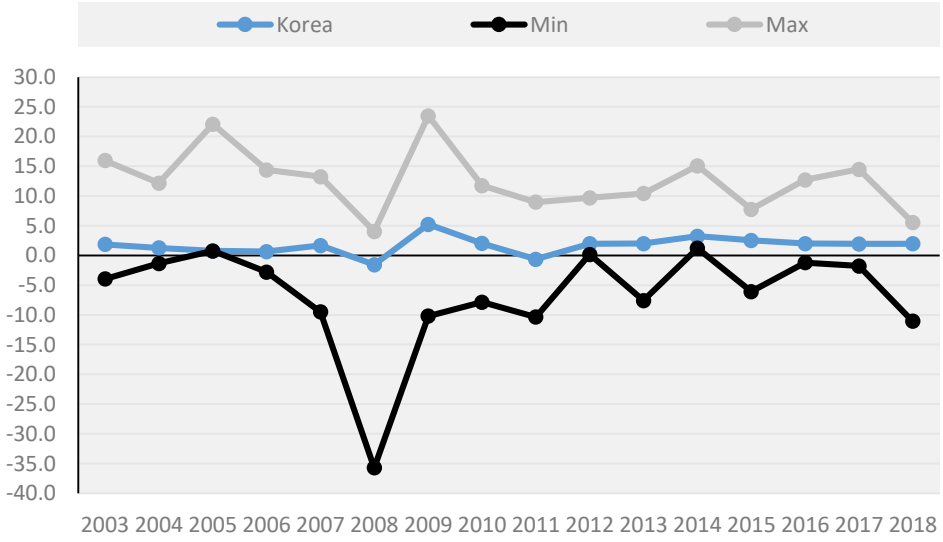
Note: Data for Korea refer only to voluntary personal pension insurance only.
Source: OECD Pension Markets in Focus 2019.

StatLink https://stat.link/1d4ez8

Voluntary personal insurance contracts achieved relatively stable real investment rates of return between December 2003 and December 2018 (Figure 5.12). Outcomes ranged between -1.5% (recorded in 2008) and 5.2% (recorded in 2009). They failed to achieve positive investment return only twice in 15 years, in 2008 and 2011. However, they reached returns above 5% only once, which top performers in the OECD area usually manage to exceed.

Figure 5.12. Real annual investment rates of return of voluntary pension insurance plans in Korea and pension providers in the OECD, 2003-18

In percent



Note: "Min" and "Max" show the lowest and highest real investment rates of return of pension providers in the OECD area. Countries recording the minimum and maximum real investment rates of return vary over the years. Data for Korea refer to voluntary personal pension insurance contracts only.
Source: OECD Global Pension Statistics.

StatLink https://stat.link/yk759c

The investment rates of return of occupational pension plans were also relatively low and stable over the last years, ranging between 1% and 2.6% between 2015 and 2020 (Table 5.8). This stable low investment performance was visible across the board, whether the investment decision belonged to employers (in the case of DB plans) or individuals (in the case of DC and IRP plans). Investment performance was also relatively stable, low and comparable across retirement pension providers, although financial investment companies, investing more in non-guaranteed products than other providers, tended to outperform (e.g. in 2017 and 2019) or underperform (in 2018) depending on how stock markets fared. Financial investment companies have historically achieved higher rates of return over the long-term than other providers, above 3% on average over the last ten years (FSS, 2020[4]).

Table 5.8. Investment rates of return of occupational plans, 2015-20

In percent

	By type of plan			By type of retirement pension provider					Total
	DB	DC and corporate IRP	IRP	Financial investment companies	Life insurers	Non-life insurers	Banks	KCOMWEL	
2015	2.11	2.38	1.76	1.98	2.24	2.40	1.98	1.86	2.15
2016	1.68	1.45	1.09	1.55	1.77	1.98	1.43	1.71	1.58
2017	1.59	2.54	2.21	2.54	1.99	1.79	1.60	1.58	1.88
2018	1.46	0.44	-0.39	0.39	1.40	1.72	0.97	1.58	1.01
2019	1.86	2.83	2.99	3.04	2.15	2.02	2.01	1.99	2.25
2020	1.91	3.47	3.84	3.78	2.39	2.03	2.26	1.90	2.58

Note: "." means missing.
Source: FSS.

The high proportion of assets invested in guaranteed products ensures the stable and positive investment returns of pension providers in Korea, but also exposes them to risks related to low and falling interest rates. Guaranteed products provide a stable source of income. However, long-term interest rates have been falling in Korea (from 5% in 2003 to 1.7% in 2019), making it more difficult to achieve high investment returns with newly-issued government bonds yielding less than maturing ones.[30]

The relatively high proportion of assets invested in guaranteed products mirrors a public preference for guaranteed products and the preservation of initial investments (Kim, 2018[5]). This preference is compounded by a lack of financial knowledge in investment, and the paucity of life-cycle products available in the market. However, there may also be geographical and generational differences in perspectives, with younger people more willing to participate in market growth and individuals in western and south-eastern regions appearing to prefer guaranteed returns less (Kim, 2018[5]). This presents opportunities for reform through greater public education on the risk/return trade-off.

While low investment returns may ultimately limit the amount of savings available at retirement and affect the adequacy of retirement income for members of DC and IRP plans, they could also represent a challenge for employers sponsoring DB plans. Employers currently tend to favour conservative investments that may entail little risk of financial losses in the short-term, have low costs and are easy to manage. However conservative investments may not generate returns that are high enough to cover the liabilities of DB plans. The liabilities of DB plans depend on future benefit payments that are influenced by wage growth. Hong (2019[6]) noted that investment returns of DB plans have been lower than wage growth for several years, with a gap between the two growing since 2014. Employers face the risk of having to cover the funding shortfalls coming from this gap through additional contributions.

Labour representatives have been advocating for the introduction of a fund-structure to improve the investment returns of retirement pension plans. A fund structure would imply the creation of a governing body that would involve employer and employee representatives. Employees would have a larger say in the decision of the investment strategy of the plan than in the current contract-based structure, in particular DB plans, and could urge for more risk-taking. The MoEL proposed a bill in 2018 in this sense. Given the current risk aversion of the Koreans when they can select the investment strategy in the case of DC plans, the introduction of a fund-structure may not necessarily be a guarantee *per se* that assets would be invested in a less conservative way. The governing body of a fund would have to have the appropriate skills and knowledge to make decisions, and seek to enhance its competence and knowledge where needed via appropriate training. Achieving higher investment returns over the long-term could also be possible in a contract-based structure through training and advice given to employers and employees (in the case of DC plans).

5.6. Solvency and funding requirements

An employer who has established an occupational DB plan is subject to funding rules assessable at the end of each business year.[31] Employer sponsors are required to target a funding ratio that has been progressively increasing from 60% in 2012 (Table 5.9).

Table 5.9. Minimum funding ratio by year

Year	2012-13	2014-15	2016-18	2019-21	2022 onwards
Minimum reserve ratio	60%	70%	80%	90%	100%

Source: Employee Retirement Benefit Security Act.

The DB plan reserve requirement at each financial year-end is the minimum funding ratio multiplied by the greater of the value of liabilities calculated on a solvency (termination) basis and on a going concern (ongoing) basis.

The calculation under the solvency basis is based on the average market value of the estimated expense for benefits for the 12 months immediately preceding the end of each business year. This value is subject to a lower bound of 90% of the current market value at year-end and capped at 110% of the current market value at year-end.

The calculation on a going concern basis represents the present value of pension benefits to be paid for workers based on their assumed total employment period minus the present value of estimated revenues for the estimated total employment period. The estimated wage growth, retirement rate, and mortality rate (known as base rates) reflect a business's accrued experience.[32] The expected rate of return is also renewed every 3 years to reflect the 36-month average yield on a 10-year treasury note.[33]

If the assets are found to fall short of (100% of) the minimum reserve (i.e. the minimum assets implied under the minimum funding ratio), the pension trustee is required to notify the employer and the representative of employees of the shortfall. If assets fall short of 95% of the minimum reserves, the employer is required to prepare a financial stabilisation plan containing measures to raise funds for the deficiency and payment plans to resolve the deficiency in the reserves within three years, and is required to preserve that plan for three years. Within 60 days from the date the employer is notified of the situation, they are also required to notify the labour union of the financial stabilisation plan if there is one for a majority of employees, or if not, notify all employees. The employer is required to faithfully implement the financial stabilisation plan, such as by paying contributions to make up for shortages in the reserves. Employers that do not deliver on their duty to replenish the plan's reserves will be subject to the Ministry of Employment and Labour's supervision and would receive a fine up to KRW 5 million. In 2017, more than half of workplaces had insufficient DB pension plan reserves, but a small minority failed to take appropriate remedial action.

If a plan sponsor fails to pay the whole amount of retirement benefit an employee is due under their DB plan due to a funding shortfall, the government pays the amount of underfunded benefit up to a limit of KRW 10 million. While this arrangement could help address funding shortfalls, it comes with the downside risk of encouraging poor decision-making by employers who know the government would step in, and shifts the burden of the funding shortfall onto the public purse. Furthermore, as the system matures and grows, the fixed amount of KRW 10 million may not be enough to meet the funding gaps from larger accounts. As such, alternative security mechanisms such as a capital buffer or guarantee fund would be better approaches to manage the risk of employers being unable to fund DB liabilities. These approaches are discussed in Section 5.4.

If the funding level exceeds 100%, then under the Employee Retirement Benefit Security Act (ERBSA), employers can use the surplus assets to offset contributions. If the level exceeds 150%, employers can obtain a refund of the surplus assets (above the 150% level).

Regulations specify that mortality tables used by pension providers must be credible and must meet certain specifications as to the size of the supporting data and the time period of collection. Life insurers often use the standard tables modified to reflect their own experience. Retirement pension providers use base rate assumptions to calculate appropriate reserves of DB plans of individual companies. The base rate assumptions reflect mortality, termination, retirement, salary increases and are used by an in-house actuary of a pension provider when conducting financial review each year. In principle, base rate assumptions are calculated on the basis of the company experience. However, small firms or newly established firms, which do not have prior statistics, can refer to base rate assumptions reported to the FSS and estimated as reference statistics for a three-year cycle by the Korea Insurance Development Institute. Meanwhile, when an employee leaves a company, upon request of an employer, a retirement pension provider transfers accrued pension plan assets from that employee's pension plan into an

individual IRP account, and then the employee directly purchases financial products (lifetime annuity, funds, deposits). When such products are purchased, the underlying mortality assumptions are expected to be reported to authorities as stipulated in the relevant act (Insurance Business Act).

The Korean Insurance Development Institute (KIDI) has been legally responsible for the construction of mortality tables (the EMT tables) for the life insurance sector since 1989. Insurers are required to use these tables for reserve calculations, though they can use their own experience for pricing. The KIDI updates the tables every three years and has to submit them to the FSS for approval. The rates are based on the mortality experience of the insurance sector (Korea Institute of Finance, 2013[7]). While the tables are static, the tables used for annuitants implicitly account for expected future mortality improvements and include additional safety margins. They are typically used by annuity providers and corporate sponsored pensions, and contain separate rates for annuity providers for the period before and after annuity payments begin, as well as separate rates for corporate-sponsored pensions. As such, three separate tables are applicable to the pensioner and annuitant populations. The EMT table for pensioners applies to pensioners before retirement, and is only used to ensure that the employer has sufficient reserves to meet its liabilities. The EMT table for life insurance applies to annuitants before retirement. The EMT table for annuitants applies to both populations after retirement.

Retirement pension providers (providing trust-based pension plans), except insurance companies, carry out activities, including keeping reserves in trust accounts, purchasing assets such as funds and deposits according to management instructions of pension participants, and paying the reserves back to participants. As they do not guarantee neither interest rate nor pension amount, they do not bear any liabilities associated with future pension payments beyond the range of reserves. Meanwhile, when an employee leaves a company, the employee can use his/her accrued retirement pension plan assets to purchase a lifetime annuity provided by a life insurance company (retirement pension provider or private pension provider). As for financial products offering a guarantee like a lifetime annuity, the related provider is required to report mortality pursuant to the Insurance Business Act (and not the Act on the Guarantee of Employees' Retirement Benefits). If fund-based retirement pensions were to be introduced in Korea in the future, the development of regulations or guidance on the assessment of liabilities of trustees which manage funds would be needed.

5.7. Pay-out phase

Once an employment relationship ends and until retirement, the rights or assets accumulated in an occupational DB or DC plan have to be transferred to the individual's IRP account. This can either be a new provider or the same provider who also offers IRP plans. When an employee stops working for a particular employer, a notice is sent to the provider requesting the retirement benefit payment. The provider then either transfers cash or makes in-kind payments to the IRP account designated by the employee. At retirement, the rights or assets in a DB or DC plan are transferred to the IRP account designated by the employee, through which benefits are paid. If the employee does not designate an IRP account, the rights or assets are transferred to a specific account operated by the relevant pension trustee.

The level of benefits that members can expect from DB and DC plans is loosely equivalent. The level of retirement benefits from DB plans should be set in a way that ensures that the amount of lump-sum benefits calculated based on the retirement date of an individual is equal to or higher than 30 days of the average daily wage for each year of his/her consecutive service.[34] Benefits from DC plans depend on the amount of contributions and the investment return on these contributions. The minimum employer contributions to DC plans is 1/12 of the individual's annual wage.

There are two main types of pay-out options in Korea: lump sum payments and annuities. Individuals can receive annuities from the age of 55. They need to have also participated in the plan for at least 10 years to be eligible for an annuity from their occupational plan, otherwise they will get a lump sum payment.

Annuities are paid over 10 years at least. These eligibility rules are summarised in Table 5.10. Programmed withdrawals are not allowed.

Table 5.10. Eligibility requirements by scheme and type of pay-out

Scheme	Type of pay-out	Age of eligibility	Other eligibility requirements	Term of payments
DB, DC and corporate IRP	Annuity	55 years of age or older	Membership of 10 years or more	10 years or more
	Lump-sum		None	Immediate one-off
Individual IRP	Annuity	55 years of age or older	Membership of 10 years or more / None if the IRP account is used to receive benefits from another plan upon retirement	10 years or more
	Lump-sum		None	Immediate one-off

Note: Individuals can access their savings in their individuals IRPs at any time but they will lose the tax concession if they do so.

Members can choose different types of annuity. Withdrawal options include a lifetime annuity, a periodic annuity and annuity certain. Which withdrawal option is available can depend on the retirement pension plan provider. While life annuities provide longevity insurance, other products with a fixed term (e.g. 5 years) expose individuals to the risk of outliving their assets.

The price of the life annuity is set in the terms of the contract with the pension provider. This price reflects the life insurer's mortality rate, interest rate, and expenditures. Insurance companies can request reference rates to the Korean Insurance and Development Institute (KIDI) that gathers industry-wide insurance statistics and produces mortality tables based on the experience of the industry.[35] Methods of calculating insurance premiums and the liability reserves must be reported to the Financial Supervisory Services.[36] Pension liabilities must be valued according to the International Accounting Standard.

Most members entitled to benefits in 2018 received a lump sum payment (Table 5.11). Lump sum payments were paid in more than 95% of the cases. Lee and Lim (2013[8]) explain that lump sums are often preferred to pay off mortgages on real estate investments. Pensions still represented 20% of benefit payment amounts, suggesting that people with larger pots were probably the ones opting for annuities, likely due to the tax advantages of doing so.

Table 5.11. Pay-out choice of members of occupational plans in 2018

	Number of beneficiaries	Benefit payments (100 million won)
Pension	6 145	12 643
Lump sump	290 227	46 359

Source: FSS.

People receiving an annuity tend to receive their pension monthly although payments can be paid at another frequency. The FSS reports that pension payments were made on a monthly basis in 83% of the cases, and on an annual basis in 16% of the cases in 2018.

Members of voluntary personal pension plans can also withdraw annuities and lump sums from these plans. People can take an annuity if they are 55 or older, have been a member for at least 5 years and request a payment within the limit set in the Enforcement Decree of the Income Tax Act.[37] Of people who choose a "pension" option for their personal pension plans, most opt for an annuity certain (over a predefined period) as opposed to a life annuity. As such, personal pension products may not contribute much to longevity protection.

Pension-backed loans and early withdrawals from occupational retirement pension plans are allowed under several circumstances. These include: the acquisition of a property or paying a leasehold deposit; illness or injury subject to hospitalisation of 6 months or more; court order of bankruptcy or personal turnaround; university tuition fees, wedding costs, funeral costs (except for early withdraws) and various natural disasters.[38] People are usually allowed to withdraw the whole balance of their DC or IRP plans if they meet the eligibility conditions (Table 5.12). Members of DB plans cannot withdraw their assets from their accounts but can secure a loan on some of their pension rights instead (Statistics Korea, 2019[9]).

Table 5.12. Conditions for early release

	Pension-backed loans	Early withdrawals
Type	DB or DC pension plan or personal IRP	DC pension plan or personal IRP
Limit	50% of the balance	100% of the balance
	In case of a natural disaster, the damage within 40 to 50% of the balance.	

Early withdrawals have soared over the last years, with the number of requests for early access to savings more than doubling between 2015 (28 080) and 2019 (72 830). The most common reason is for house purchase (35%), followed by long-term care (34.8%), deposits for housing rent (21.2%), and rehabilitation procedures (8.9%) (Statistics Korea, 2019[9]). Reasons for accessing savings under emergency circumstances vary by age groups. People in their 20s mainly use their retirement assets for renting a house, those in their 30s to buy a house and those over 40s for long-term care. The Korean authorities have tightened the conditions to access savings for medical reasons since 30 April 2020, limiting it to cases where expenses for long-term care over at least a 6-month period exceed 12.5% of the annual wage of the plan members.

Individuals can also withdraw their savings in personal pension plans before retirement. They benefit from a low tax rate if they do it for emergency reasons such as bankruptcy or medical reasons. Early withdrawals are also possible under normal circumstances without any emergency reason, but at a higher tax rate. Such withdrawals are significantly more common than withdrawals due to the emergency circumstances. To illustrate, in 2018, about 300 000 withdrawals from personal pension plans were arbitrary withdrawals, compared with about 10 000 which were due to emergency circumstances arising.

This is in line with anecdotal evidence in the academic literature arguing that individuals tend to use personal pension plans as short-term savings instruments and withdraw their savings early.[39] Some studies explain that the main reasons people withdraw their personal pension savings in Korea is to meet the costs of their children's education and the costs of their children's marriages (Lee and Lim, 2013[8]). The work argues that personal plans are popular due to tax incentives but although early withdrawals are penalised, people still view these personal pension products as good financial investment vehicles and accept having to pay marginal tax rate penalties to utilise them. As such, they are not used as long-term retirement savings vehicles. There is also further evidence that demand for personal pension products is declining, since yields have been falling and since the government reduced the tax benefits of private pensions (a change which mostly affected higher income earners).[40]

Overall, the combined effect of high rates of early withdrawals and opting for lump sums means that these products are, in the majority of cases, not used for the purpose of obtaining a steady income in retirement.

Additionally, there is a discrepancy between the eligibility age for the private pension system and the public system. From 2033, the normal pension age will be 65, and the early pension age will be 60. However, the eligibility age for access to occupational and personal plans is 55. It is important to align the retirement age from the private system with that of the public system, and one way to do so is to gradually increase the age of access to private savings. In order for occupational and personal pensions to directly complement pensions from the NPS, their access ages should be consistent. Ideally, the age of access to private

savings would aim to align with the normal retirement age of 65. When employees retire in their 50s, they may have limited income until the normal pension age of 65. The relatively early retirement age might be related to the practice of employers enforcing a strict mandatory retirement policy and the practice of honorary retirement. Many Koreans have historically relied on pay-outs from their employers to maintain their standards of living or to open small businesses. Increasing the age of access to private pension savings should therefore happen gradually while ensuring this does not leave old-age workers more economically vulnerable before retirement.

5.8. Market structure and competition

The following entities can become retirement pension trustees (pension providers) in Korea:

- Banks
- Investment traders, investment brokers, or collective investment business entities
- Insurance companies
- The National Credit Union Federation of Korea
- The Korean Federation of Community Credit Co-operatives

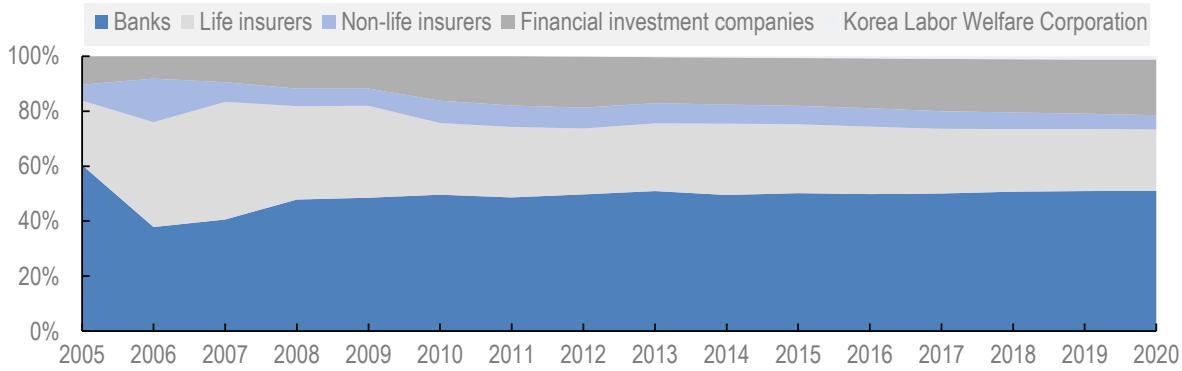
To become pension providers, the entities must meet the requirements of the Presidential Decree, such as financial soundness, personnel and physical resource requirements. Any retirement pension trustee can operate individual retirement pension plans.

With respect to personal pension plans, individuals invest in pension savings products provided by banks, asset management firms and insurers.

Retirement pension trustees can provide two main types of services: the administration of the plan (e.g. managing administrative records) and asset management (e.g. receiving and investing contributions). Employers can choose the same provider for these two main services (opting in such case for a bundled service arrangement) or use different service providers (unbundled service arrangement). Banks, insurance companies, securities companies can provide both types of services. By contrast, Korea Workers' Compensation and Welfare Service only administers plans.

Figure 5.13 shows that banks dominate most of the business for occupational plans, followed by life insurance companies, financial investment companies and general insurance companies. In 2020, banks occupied the largest share of business at 51.0%, which was followed by life insurance companies (22.3%), financial investment companies, (20.2%), general insurance companies (5.2%) and the Korea Workers' Compensation and Welfare Service (1.3%).[41]

Figure 5.13. Split of occupational plan assets



Source: FSS.

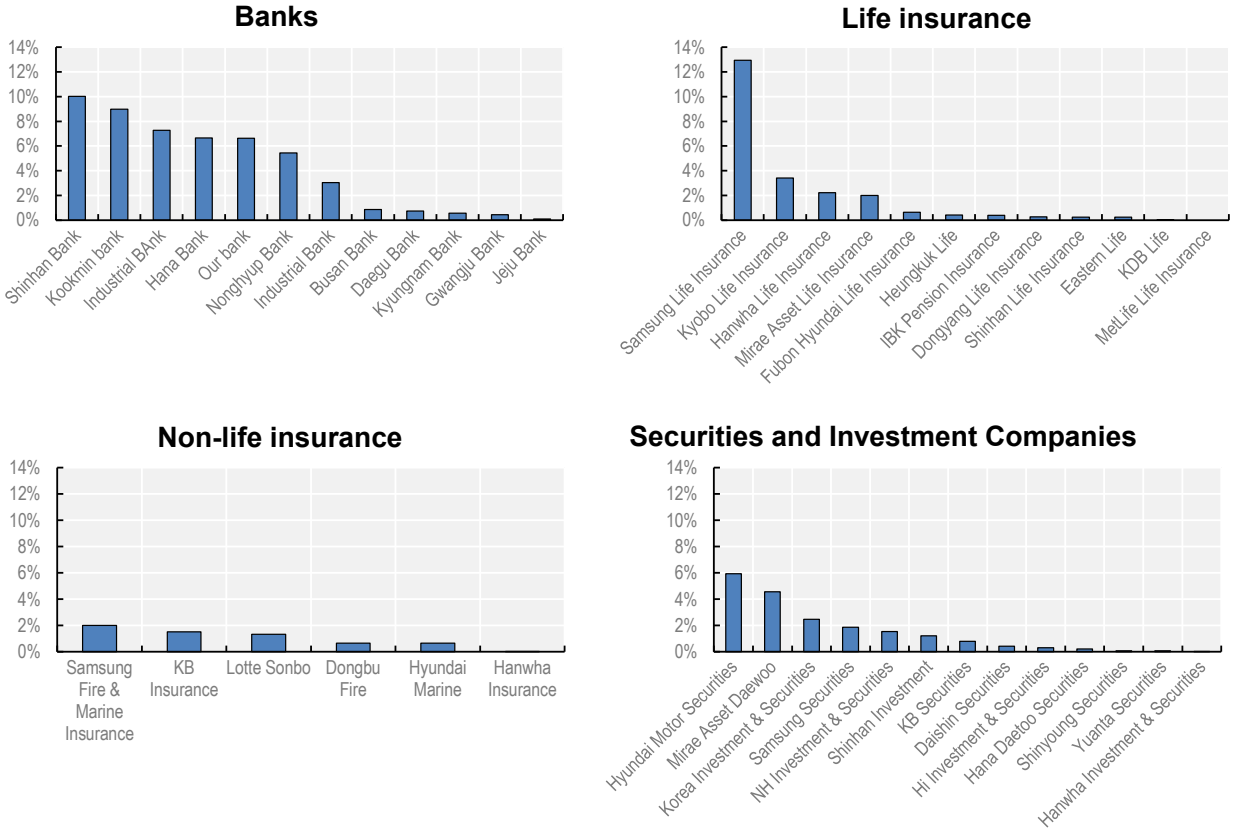
StatLink https://stat.link/bliojv

While the Korean market for retirement pension plan provision has a large number of players, there are signs that there might not be the same level competition by type of provider. Within the banking sector, there appears to be a reasonable amount of competition, since the largest 5 banks each hold between 6.6%-10% of the market share. The within-industry Herfindahl-Hirschman Index (HHI) for the banking sector is 0.14, which suggests moderate competition.[42] Similarly, the securities and investment companies industry has a HHI index of 0.19, which suggests higher but still somewhat moderate competition. However, the life insurance and non-life insurance industries are more concentrated, with HHIs at 0.38 and 0.24 respectively. There is therefore a case for the Korean authorities to monitor the competitiveness of some sectors and respond with policy changes if excessive market concentration is likely to lead to poorer outcomes to members.

Another potentially problematic feature related to the competitiveness of pension provision in Korea is the degree of ownership of banks. Banks hold the most assets in occupational plans, with just over a 50% market share (Figure 5.14). This feature is somewhat common in the international experience, since banks tend to have greater access to potential customers through their existing lines of business and are able to "sell" more products to them.

Figure 5.14. Assets backing occupational pension plans

Percentages of total occupational plan assets



Note: Data reflect combined assets in DB, DC and IRPs and held by different occupational plan providers (excluding the Korea Labour Welfare Corporation, which holds less than 1% of assets).
Source: Data are based on an FSS report (Retirement Pension 2018: Earning and operation status analysis) available at the FSS website: http://pension.fss.or.kr/fss/psn/bbs/view.jsp?url=/fss/pn/1295490315749&bbsid=1295490315749&idx=1554700676377&num=142.

StatLink https://stat.link/pwnf8q

Furthermore, it is important to note that while there are many potential providers in Korea, some are part of the same financial group. For example, Samsung Life Insurance, Samsung Fire and Marine Insurance, and Samsung Securities are all part of the Samsung Group, so together the group owns about 17% of the market for retirement pension provision in Korea. Due to the issues discussed, it may be important for the Korean authorities to monitor risks to competition and take policy measures to improve competition wherever possible.

One way to stimulate greater competition is through disclosure initiatives. In Korea, there are a number of ways members can compare the performance of different pension providers. A number of comparison tools are available to employers and individuals to compare providers across and within industries.

- The Ministry of Employment and Labour (MoEL) also releases information comparing different returns and costs by provider for retirement pension products. It is currently developing a system for users to compare different pension providers' fee structures, split by operational management fees and asset management fees.[43] The MoEL also publishes annual evaluations of retirement pension plan providers' investment performance, fee adequacy and customer service.

- Financial Supervisory Service (the pension system supervisor) has a provider comparison tool. It provides information for users to compare costs and yields across industries and within different provider groups by providing links to the relevant industry associations. The FSS also publishes comparison data of different personal plan providers and their products' average returns and fees through the pension savings plan comparison disclosure feature on Integrated Pension Portal website.[44] However, it does not make available a projection tool.

The FSS's Integrated Pension Portal also allows individuals to get a cumulative picture of their entitlements from the NPS as well as private pensions. The portal also makes it possible to obtain future simulations. However, there is little public information on this portal and as such it is difficult to form a view regarding its efficacy.

Providers themselves are required to report their business aggregates and results. They do so in their own reports (such as through annual reports) and their websites, following official templates. Industry associations also summarise reports and compare reserves and yields in a standardised way for occupational plans (DBs, DCs, and IRPs). For example:

- the Korean federation of banks provides a comparison of occupational pension costs, yields, and reserves for products offered by banks.[45]
- the life insurance association publishes annual statistics, but it is not clear where (and if) they publish numbers of accounts and assets for different products offered by life insurance companies.[46]
- the general insurance association publishes tables comparing general insurance pension products' product designs, terms, earnings rates, and reserves.[47]
- the financial investment association publishes information regarding outcomes for securities and collective investment companies.[48]

Personal plan providers are required to periodically send pension savings plan performance reports to their members. In addition, pension providers provide information on a rate of return and fees for their pension plans on their websites so that pension participants can search and browse, and the FSS provides an online integrated pension portal which offers a comparison tool on a rate of return and fees by financial institution and by product.

There are signs of increasing competition between pension providers. For example, some providers offer promotional deals to attract new membership, such as waiving the fee for new entrants or discounts for long-term customers. However, as will be discussed in the next section, this has not been enough to bring down the costs.

5.9. Fees

The Korean public generally view fees for pension products to be high relative to the cost of providing the service. On average, overall fees for retirement pension plans were about 0.42% in 2020 (Table 5.13). Total fees ranged between 0.38% and 0.62% of assets between 2016 and 2018, although fees varied between industries and types of plans (Table 5.13 and Table 5.14). While that level of costs would not be excessive if assets were managed actively, it may represent poor value for money given the assets are invested in savings products which are invested mostly in fixed income instruments with low returns. For this reason, the public tends to view their fees as excessive, particularly relative to regular everyday savings products offered by banks, which provide similar returns for lower fees.

Table 5.13. Total cost ratio by type of retirement pension plan

	All	DB	DC / Corporate IRP	Individual IRP
2020	0.42%	0.36%	0.55%	0.39%
2019	0.45%	0.40%	0.57%	0.42%
2018	0.47%	0.41%	0.60%	0.46%
2017	0.45%	0.40%	0.58%	0.44%
2016	0.45%	0.38%	0.62%	0.46%

Note: The cost ratio is calculated as: Annual total cost operation management fee + asset management fee + fund total cost) / year-end average assets, where fund total expenditures = fund commissions (transactional commission, management commission, trust commission, transfer agent commission) + transactional fees.
Source: MoEL and FSS.

Table 5.14. Total cost ratio by retirement pension plan provider

Year	Securities and collective investment companies	Life insurance	Non-life insurance	Bank	Korea Labor Welfare Corporation (Admin fees only)
2018	0.45%	0.45%	0.40%	0.49%	0.15%
2017	0.40%	0.48%	0.41%	0.47%	0.15%
2016	0.43%	0.44%	0.38%	0.47%	0.16%

Note: The cost ratio is calculated as: (Annual total cost operation management fee + asset management fee + fund total cost) / year-end average assets. The Korea Labour Welfare Corporation cannot handle asset management.
Source: Website of Ministry of Employment and Labour, Korea. https://www.moel.go.kr/pension/statistics/year.do

High fees are a key risk for Korea's funded pension system, since the perception of poor value can deter utilisation and discourage people from viewing them as genuine sources of potential retirement income. Some researchers already make the case that fees almost completely offset the investment returns in most personal pension products, leaving the tax deduction the only real advantage.[49]

There are a number of ways government policy can help reduce fees. The main one that the Korean system seems to rely on is increased transparency through disclosure of fees and comparison tools. However, while measures to improve transparency are essential, alone they are not enough to align costs and charges. The transparency measures discussed in Section 5.8 are important steps to encourage employers to select the best value pension provider, but those measures are not achieving enough. For example, banks remain the most popular choice of provider, despite having the highest fees (Table 5.14). Insurance companies are similarly the most popular choice of personal plan provider, despite not necessarily having the lowest fees and having the lowest returns on average. Furthermore, only 3% of businesses switched their retirement pension plan provider in 2019. Switching can be laborious since doing so requires the consent of the trade union or a majority of workers, but is low notwithstanding, indicating that disclosure mechanisms are not working enough.

The Korean authorities can consider other ways to reduce pension fund fees. These can include potentially introducing pricing mechanisms which may drive down fees or changing the fee structure.

The Korean Government can also take steps to reduce costs through direct pricing initiatives to limit what providers can charge. Chile, Sweden, Türkiye and the United Kingdom have imposed charge caps. To illustrate, the United Kingdom introduced a charge cap on workplace default funds. The cap applies to all direct and indirect administration and investment costs, but does not include transaction costs. The charge cap appears to have been effective in reducing fees for DC funds: all qualifying schemes (those that are eligible to be used as defaults) are now priced below the cap and the prices of other schemes have also fallen. However, charge caps can have unintended consequences. If the cap is set too high, charges tend to rise to the level of the cap. If the cap is set too low, plan providers might try to cut costs by offering lower quality plan designs.

Another direct pricing initiative is to introduce low cost plans. Australia, Estonia and Hong Kong (China) are examples of jurisdictions that have done so. In those examples, the providers were required to introduce simplified products with limited fees. In Australia and Hong Kong (China), the low cost option was also the default investment option. Some OECD countries have also attempted to influence the cost structure of providers by establishing new, centralised institutions. These institutions can present additional competition to plan providers. For example, the UK's NEST, a low cost provider, competes with other providers for auto-enrolment business. It offers low-cost solutions directly to underserved populations, and has an obligation to take on smaller accounts. The KCOMWEL in Korea already provides a similar function for small businesses. Over time, its functions could be expanded to larger businesses to be a low cost public provider, potentially a default provider, that other providers will be forced to compete with. This could help push down investment management costs.

There is also a case to revise the types of permissible fees. Asset-based fees are the only type of fee that is permitted for Korean retirement pension plans (Table 5.15).[50] However, asset-based fees can fail to provide incentives to investment managers to become more efficient or to share efficiency gains with clients.

Table 5.15. Fee structures in OECD countries

	Fees on salaries	Fees on contributions	Fees on assets	Fees on returns / performance	Other fees (e.g. exit fees, entry fees, switching fees)
Australia (except MySuper)	No cap	No cap	No cap except for low balances	No cap	No cap
Chile	No cap	x	Capped	x	x
Colombia	Capped	x	x	x	Capped
Costa Rica – ROP	x	x	Capped	x	x
Czech Republic – transformed funds	x	x	Capped	Capped	Capped
Czech Republic – participation funds	x	x	Capped	Capped	Capped
Denmark	No cap	No cap	No cap	No cap	No cap
Estonia – 2nd pension pillar	x	x	Capped	Capped	Redemption fee could be charged
Estonia – 3rd pension pillar	x	x	No cap	x	No cap
Hungary – voluntary personal pension funds	x	Capped	Capped	x	Capped
Ireland	No cap	No cap	No cap	No cap	No cap
Israel	x	Capped	Capped	x	x
Italy	x	No cap	No cap	Possible but rare	Capped
Korea – occupational DC	x	x	No cap	x	x
Latvia – state funded scheme	x	Capped	Capped	Capped	x
Latvia – private pension funds	x	No cap	No cap	No cap	x
Lithuania – 2nd pillar	x	x	Capped	x	Capped
Lithuania – 3rd pillar	x	No cap	No cap	No cap	Capped
Mexico – personal plans	x	x	No cap	x	x
Poland – open pension funds	x	Capped	Capped	Capped	x
Poland – PPK	x	x	Capped	Capped	No cap
Portugal	No cap	No cap	No cap	No cap	Capped
Slovak Republic – 2nd pillar	x	Capped	Capped	Capped	x
Slovak Republic – 3rd pillar	x	x	Capped	Capped	Capped
Slovenia	x	Capped	Capped	x	Capped
Spain	x	x	Capped	No cap	x
United Kingdom – default funds	x	x	Capped	x	x
United States	No cap	No cap	No cap	No cap	No cap

Note: "x" means that the type of fee does not exist or is not allowed in the country.
Source: OECD (2021[10]), *Pensions at a Glance 2021*, https://doi.org/10.1787/ca401ebd-en.

Performance-based fees may be a suitable alternative for Korea. Unlike price caps which specifically limit charges, performance-based fees aim to better align the interests of investment managers and pension fund members and sponsors. Performance-based fees must be structured in such a way as to give the right incentives to pension funds and their investment managers. Rewards should be paid for delivering high returns per unit of risk taken, and a fair share of returns should stay in the portfolio rather than being paid out in fees.

Finally, improved financial advice can help people better plan for retirement and switch to providers that offer better value. Most individuals get their financial advice from financial institutions themselves, which may not be the best place to get unbiased information about pension products. The National Pension

Service offers basic financial advisory services to their members. In addition to its own services, the NPS has to provide for matters related to support for people's preparation for old age so as to ensure a healthy and stable life in their old age. One option is to expand this service to provide comprehensive financial advice to people that includes a better understanding of their options for retirement pensions. Furthermore, Korea has an integrated online tool that allows people to cumulatively see their full entitlements under different pension arrangements. This tool could be expanded to one that allows users to see their potential retirement incomes under different scenarios, with information or links to how they can achieve the improved scenarios they might be seeking.

5.10. Supervision

The Ministry of Employment and Labour is mainly responsible for supervising retirement pension plans. After employers select retirement pension plans and prepare the covenant with the consent of more than half of their employees, they report the covenant to the Minister of Employment and Labour.[51]

Korea has a two-tier system supervisory system to supervise and monitor financial institutions that are registered as retirement pension plans or personal pension plans. The Financial Services Commission (FSC) assumes the primary responsibility for rulemaking and licensing. The Financial Supervisory Service (FSS) is responsible for prudential supervision, capital market supervision, consumer protection, and other oversight and enforcement activities.[52] The supervisor provides guidelines on how to perform investment management and asset management services and establishes detailed criteria for the management of the reserves. As the government regulatory authority, the FSC is staffed by civil servants, but the FSS as a specially legislated supervisory authority is staffed by private sector employees who are not part of the government civil service system.

The FSS is in principle independent. The Governor of the FSS is appointed by the President of Korea. Senior deputy governors of the FSS (up to four) are appointed by the FSC on the recommendation of the Governor, and deputy governors of the FSS (up to nine) are appointed by the Governor. An Auditor is appointed by the President of Korea upon the recommendation of the Chairperson of the FSC. A Chief Accountant is also appointed by the Governor of the FSS to assist with matters relating to accounting standards.

5.11. Public education and attitudes towards retirement

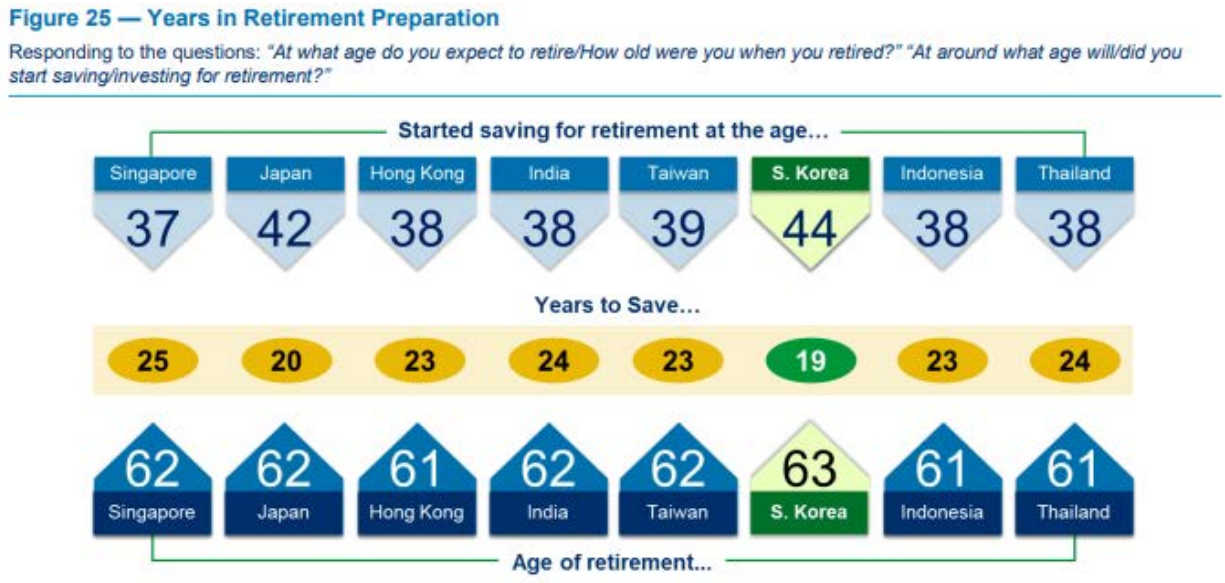
Research around consumer behaviours in Korea suggests that, overall, individuals do not tend to seek help from financial professionals on retirement planning. In one survey, 78% of respondents who were financial decision-makers in households stated that they did not seek professional guidance for their retirement planning.[53] Almost 1 out of 2 respondents were very involved in monitoring and managing their retirement savings. However, only one-third of them expect to have enough savings to last until the end of retirement. More than half of respondents were concerned that they may not being able to live the retirement lifestyles they want. But they also do not seek help from financial professionals, more than half of them would like to have more information and advice from their employers on retirement savings and planning.

The survey found that 77% of the respondents consider it their own responsibility to fund their retirement. This suggests that there is room for national financial education strategies to steer the national discussion towards gaining better professional advice, as long as that advice is trustworthy. Further, since 57% of respondents stated that they are willing to purchase a financial product that will provide guaranteed lifetime income, the strategy could be used to emphasise how annuities could be purchased and to communicate

individuals' different options. This suggests that there is scope to encourage an annuity market, in contrast to many other OECD countries where such an appetite tends not to exist.

Most Koreans intend to start saving for retirement later in life than their peers in the region (Figure 5.15). When surveyed Koreans were asked when they intend to start saving or investing for retirement, the average response was 44, while on average they expect to retire at 63. This leaves Koreans with a short timeframe to save enough for retirement, leaving many with no choice but to continue working later in life to avoid poverty in retirement. The same survey also found that 84% of respondents felt they would have 80% less than the retirement funds that they needed to have a comfortable retired life. It is important that Koreans start saving in private pensions earlier, and governments need to do more to encourage take-up of pension products that facilitate long-term saving.

Figure 5.15. Survey results about retirement preparedness



Source: Kim (2018[5]), Spotlight on Retirement: South Korea 2018, www.kidi.or.kr.

Improving education about retirement savings products is also a good way to help individuals with their retirement preparedness and address misconceptions about products such as personal pension plans. Some studies (such as Lee and Lim (2013[8]) state that personal pension plans, especially those offered by insurance companies, suffer from low take-up and high costs simply because people do not view them as retirement saving vehicles. People treat them as short-term savings tools, which in turn drives up the cost and pushes down demand. Some commentators have raised the point that Koreans have a deep-rooted distrust of long-term financial investments which manifests in low take-up and risk aversion in choice of investment strategies. Providers, in turn, prioritise tailoring their investment products to their risk-averse customers. When individuals do engage in long-term investments, Koreans also have a preference for real estate, which is where the data shows most of their assets are. However, Lee and Lim (2013[8]) make the case that Koreans are not opposed to insurance, but rather savings. They view that framing pensions as a form of insurance that protects individuals' principal investments is a way to make them see more palatable.

The Korean Government already has some good initiatives around financial education, but more could be done to better prepare people for retirement. The OECD (2019[11]) explains that the Korean Financial Education Activation Plan aims to improve the infrastructure for the provision of financial education (training teachers, developing incentives for adoption of financial literacy in the curricula, etc.), to enhance

customised education programmes, to improve the level of the programmes and instructors, and to establish a follow-up management and evaluation system. Financial education activities are co-ordinated by the Financial Education Council (FEC), a body led by the Financial Services Commission that co-ordinates basic policy directions, examines how financial education is provided by each institution and continues to upgrade the Financial Education Activation Plan. However, it does not appear that much of these efforts are directed explicitly at matters regarding retirement. As such, the government could consider extending financial education initiatives to better guide individuals to the retirement products and savings strategies that suit their purposes.

The government could also reach individuals through their employers or through financial institutions, as well as internet campaigns. Kim (2018[5]) found that of people surveyed on retirement planning, only 7% responded that they received information on investments, financial products, or retirement planning from their employer. Workplaces are currently an underutilised resource to reach people to help them plan for retirement. The government could also leverage existing financial institutions, which the majority of respondents in the survey stated that they trust (79%), by influencing the messaging that they provide. Most tended to rely on the internet and financial websites. Internet resources are therefore a good place to start. But face to face methods, such as through the workplaces and financial institutions are also effective.

5.12. Complementarity of public and private pension systems

A key question many countries face is how to design private pension systems that best complement public pension systems provided by the state. The OECD encourages countries to diversify sources of retirement income and to strengthen the degree of funding in the overall pension mix through a combination of PAYG and funded, public and private provision. Different combinations of retirement system arrangements can offer varying solutions for meeting pension systems' competing objectives. Different arrangements are also better capable of covering the various types of risks that people face throughout their lives. This is because the mechanisms through which shocks flow into different pension arrangements vary. For example, population ageing, low interest rates, or low economic growth can have a different impact on the NPS and private pension arrangements, or DB and DC pension arrangements.

The question of how to best design a complementary pension system is an important one in Korea, as the country is in need of pension reforms that will improve retirement outcomes for the population. Pension reform can present an important opportunity to reassess how retirement pension plans and personal pensions can better complement the retirement incomes from the National Pension Scheme in the future.

The NPS will likely remain the most important source of pension income for workers in Korea, but there is certainly potential for complementary pension arrangements to play a greater role. The fiscal strains facing the NPS have led to incremental reforms that have negatively affected pension adequacy. This suggests that complementary pension arrangements, such as retirement pension plans and personal pension plans, can fill the pension adequacy gap. Importantly, Korea is in a favourable position to transition to greater reliance on funded or private pension arrangements, if it should choose to do so. A high level of contributions to the public system would normally reduce the scope for supplementary pensions. However, this should not be an issue for Korea, since it has one of the lowest contribution rates to the public scheme in the OECD. Indeed, in countries where contributions to or benefits from public pensions are low, then supplementary pensions could help in improving pension adequacy for individuals. Putting a greater reliance on private, funded pensions can give policy makers more leeway to implement reforms necessary to improve the sustainability of the public system.

However, complementary pensions work best when they are linked to clear objectives and are designed to address specific risks. The role of complementary funded pensions in Korea should be a function of policy makers' objectives for the entire retirement pension system and what they believe is the most

suitable approach to meeting the various risks, which are discussed below. By understanding their objectives and the risks they face, policy makers can then determine which features of pension design best support the goals they intend to achieve, and whether these design features should be implemented via the NPS or private pensions.

5.12.1. Objectives and goals

When considering how best to design a complementary pension system in Korea, it is important for policy makers' decisions to reflect what they intend for the pension system to achieve. The main purpose of pension systems is to make sure that people have resources at old age, that is, income security. However, policy makers may have in mind other, sometimes related, objectives they wish to meet. What follows therefore explains the possible objectives policy makers may have in mind for the Korean pension system, and the potential risks that may arise under different pension arrangements. With this information, the onus is then on policy makers to form a view about how best to design complementary pension arrangements. Possible objectives can include:

- poverty relief: poverty relief at a minimum level is typically provided through public pensions or other social benefits in all OECD member jurisdictions. It is an element of a broader objective of retirement income adequacy. In Korea, the Basic Pension aims to serve this purpose. This universal provision cannot be successfully substituted by the private sector. As such, the Korean authorities would not consider a role for complementary pension arrangements in achieving this objective.
- consumption smoothing: this entails that people should be able to experience smooth utility when transitioning from working life to retirement. The objective of consumption smoothing is another element that is central to achieving pension adequacy. However, the NPS, without any significant changes that would boost income in retirement from it, will not alone achieve the objective because the level of income replacement it provides is relatively low. Consumption smoothing is more likely to be achieved through a combination of income from the NPS and private funded pensions. There is no single arrangement that "best" achieves consumption smoothing, since achieving the objective is effectively a function of the total income individuals receive in retirement. However, if policy makers' goal is to improve consumption smoothing outcomes for all individuals (as opposed to each individual considered in isolation), the objective may overlap with that of redistribution. As such, some pension arrangements would be better placed to deliver on a redistribution objective (as discussed below). Personal pension plans are also pension products that can help deliver on the consumption smoothing objective, if they represent new savings and as such do not divert other savings. If personal pension plans do not increase overall savings, then they would not improve retirement income outcomes for individuals and therefore would not assist with the consumption smoothing objective.
- redistribution: involves a transfer from those who would otherwise have a sizeable pension income to those who will have less. In OECD countries, the redistribution objective is commonly achieved through a public DB system which can have built-in progressive or redistributive features. And indeed, as discussed in Chapter 2, the NPS is a defined benefit scheme with a large redistributive element as the accrual formula is made up of two components that are equally weighted: one is based on the average contribution level of all participants while the other is calculated based on individual contributions. Redistribution is also possible within private funded DB arrangements; however, if one group makes a bigger claim on the assets of the scheme than is justified by its contributions, the difference will ultimately have to be made up by reducing benefits to other groups or by injections of funding from the plan sponsor. However, redistribution can also take place through other private pension arrangements via tax incentives for retirement saving, as is the case in Korea since more favourable tax incentives apply to lower income earners.

- providing insurance against risks during working life and in old age: risks may be common to the system as a whole, such as macroeconomic or financial market risks, or they may be related to the situation of the individual. Different types of pension arrangements play different roles in addressing the objectives and risks of pension systems (as discussed further in the next sub-section below)
- maximising coverage, which refers to how many people the system reaches, both as contributors and as beneficiaries. Mandatory systems are those which are best placed to achieve the objective of high coverage. The NPS plays a key role in this objective, with retirement pension plans potentially contributing to the objective should Korea implement the plan to make retirement pension plans mandatory for all employees. Personal pension plans tend to be the least useful in achieving this objective, since they are usually used by higher income earners. When it comes to the objective of maximising coverage, there remains a risk that non-standard workers (such as the self-employed) may continue to fall behind when it comes to pension coverage from any part of the retirement pension system in Korea.
- preserving inter- and intra-generational equity, which means that one group is not excessively disadvantaged to benefit another group. DB arrangements (whether through the NPS or retirement pension plans) can be designed in such a way that ensures inter- and intra-generational equity. However, the assessment and measurement of any risk and value transfers is necessary to determine whether the design of the retirement income arrangement is seen as fair vis-a-vis different groups of participants. It is not possible to achieve equity objectives through individual DC arrangements.
- fiscal or financial sustainability, which refers to the objective of keeping the cost of pension provision sustainable, for whichever entity bears the burden of that pension provision. The question of sustainability can have different subjects – it can refer to sustainability with reference to the state, employers, individuals, and so on. This issue is evident in Korea, where sustainability concerns relating to public finances have resulted in reductions in benefit promises over time. Sustainability concerns can also apply to employers, who may resist introducing or contributing more to retirement pension plans for employees. Individuals may also have financial sustainability concerns which manifest in preferences for severance payments, lump sums, and up front wages rather than contributions to their pension plans. Financial sustainability concerns, particularly from the perspective of employers and employees, can risk delaying or derailing other important goals for pension systems. As such, the objective of fiscal sustainability is often in tension with other objectives such as pension adequacy.

Policy makers have a key role in deciding what objectives they intend for a pension system to achieve, and then designing or reforming a pension system in order to meet those objectives. Given such objectives, a starting point for clarifying the role of complementary pensions is to first understand how the NPS will address policy makers' objectives and the risks inherent to pension provision. From this basis, policy makers can better visualise the role that supplementary pensions are expected to play, or rather, the gaps they intend to fill.

Using the objectives above, it is possible to illustrate with examples. For instance, the objective of consumption smoothing could be achieved through raising contributions to the NPS or private arrangements. However, either choice comes with trade-offs. The choice of which arrangement to use to help people improve their retirement incomes may come down to fiscal sustainability issues, practical issues of implementation or even what may be more palatable to the public. Conversely, other objectives, such as redistribution, can be easier to achieve through the NPS. However, redistribution can also be achieved through more generous but well-targeted tax incentives to lower income earners for saving in private pension plans.

5.12.2. Key risks in complementary pension arrangements

Another key question when considering the structure of complementary pension arrangements, is how pension design will account for the different risks. Risks are important, and can be considered in tandem with retirement system objectives, since policy makers should be prepared for the risks that come with any pension arrangements that aim to meet particular objectives. Risks may be more or less pronounced, depending on the mix of different pension arrangements. Some key risks are outlined below.

- Labour market risks include loss of employment and unfavourable earnings patterns. They can have a significant impact on the rate at which pension rights are accrued or the rate at which pension assets are accumulated, and thus on the level of pension income received. In Korea, these risks are partially mitigated through basic benefits that provide a back-stop security against the failure or inability to pay into schemes such as the NPS and private pension arrangements. However, the benefits do not completely offset the negative effects on retirement income adequacy that come with lost contribution years.
- Macroeconomic risks refer to factors stemming from the real economy that can have a bearing on pension outcomes.
    - low growth and low productivity affect both public and private pension systems. They make it less likely that an individual will receive an adequate pension income. Low growth and low productivity can also limit the fiscal capacity to fund the Basic Pension and result in lower contributions to the NPS and funded schemes. It may be difficult to raise contribution levels in both public and private schemes in a weak economic environment without reducing the pre-retirement consumption by too much compared to post-retirement consumption, especially for low earners. As such, low wage and productivity growth also make it harder for governments or plan sponsors to meet the promises embedded in DB arrangements, whether PAYG or funded.
    - Inflation reduces the future purchasing power of savings that people put aside today for the purposes of consumption smoothing in the future. While the NPS provides benefits that are indexed to price inflation, inflation may pose greater problems to private pension schemes, particularly DC retirement pension plans and personal pension plans.
- The risk of low interest rates can also affect any funded pension arrangements since low returns can inhibit asset growth. Low interest rates can result in lower pay-outs from funded DC schemes by reducing the returns on invested assets and lowering annuity values. They may also damage the sustainability of funded DB schemes as liability values increase. As such, they would pose a more immediate risk to funded pensions than to pensions from the NPS. However, low interest rates can reduce the size of the NPF Reserve fund, leading to it being depleted earlier than expected.
- Financial market risks refer to shocks that can reduce the value of accumulated assets. Retirement benefits in funded systems are particularly vulnerable to financial market risks because they are financed by accumulated assets and financial market shocks can reduce the value of those assets. As such, financial market risks can affect Korean pension assets through the NPS reserve fund or through the private funded pension arrangements. However, they can impact individuals differently. Financial market shocks can be particularly damaging for members of individual funded DC arrangements if the shock occurs towards the end of the accumulation period, when the individual has less time to rebuild their savings before beginning to draw down their assets. Investment strategies such as lifecycle or target date funds can help mitigate this volatility in investment. Financial market risks appear to be a key issue in Korea, and are at the forefront of investment policy decision-making that tends to favour conservative investment strategies over more aggressive investment strategies. While financial market risks are a legitimate concern, they should

be balanced against the risk of low interest rates which can also reduce the value of invested assets and jeopardise retirement income adequacy.

- Operational risks also principally affect funded systems, since excessive operating costs or badly-designed investment strategies will have a direct impact on the assets in a funded scheme. This is because it is always possible for a funded scheme, particularly DB schemes, to become insolvent without the right regulations in place. This tends to be less of an issue in public arrangements such as the NPS. However, it is possible for governments to help mitigate operational risks by putting in place schemes that guarantee pension arrangements. OECD countries such as Germany, Switzerland, the United Kingdom, the United States and Ontario (Canada) all have pension guarantee schemes in place for the private funded DB sector. Korea does not currently have one such guarantee scheme, and may wish to consider doing so to address any concerns around potential plan insolvencies.
- Longevity risk is the risk that an individual will live longer than expected and so exhaust their resources. Public DB PAYG offer protection against longevity risk to individuals by providing a lifetime stream of benefits. However, this leads to issues of sustainability and inter-generational equity if a relatively smaller working population is required to support the pensions of a relatively larger retired population over a longer period. Public systems such as the NPS are the most vulnerable to demographic shifts that alter the ratio between the size of the cohort that is working and contributing and the size of the cohort that is receiving benefits paid for by those contributions. Longevity risk within public arrangements can be reallocated more neutrally across generations by adjusting benefit levels and accruals. In the case of private DC plans, individuals bear the risk of outliving their savings except if they purchase products providing protection against longevity risk (such as a lifetime annuity).

A key question when it comes to designing complementary pension arrangements is which party bears the relevant risks. In public DB pension arrangements, such as the NPS, the State notionally bears all of the risks, although it is possible for individuals to ultimately share risks with the State should sustainability issues lead the State to reverse course on any promises. In private DB retirement pension plans the employer bears most of the risk, which again can fall on individuals in instances of plan underfunding. The growing role of DC retirement pension plans and personal pensions in Korea (like in most OECD countries) may leave individuals more exposed to many of the risks discussed. This is because individual DC arrangements establish a direct link between the value of accumulated assets and the level of retirement income, so any risks that impact the amount of assets a person can accumulate will directly affect their potential retirement income. Collective funded and public arrangements such as the NPS have greater scope for risk pooling and burden sharing but are also vulnerable to sustainability concerns in the event of lower contributions, lower returns on assets and higher claims.

As the role of private pensions in meeting the objectives of pension systems grows, so must their role in addressing the risks. Their capacity to do so will depend on their design. A functioning annuity market would allow DC arrangements to guarantee their members a lifelong income, with annuity providers bearing some proportion of the longevity risk. Private pensions are in general more vulnerable to macroeconomic and financial risks than public pensions, and as such, additional measures may need to be taken to protect individuals in those schemes. These can include mandating default investment strategies such as lifecycle strategies which protect individuals by ensuring investments are made in safe assets in the years prior to retirement. Such schemes also require stringent governance requirements to ensure that pension providers and investment managers manage assets in the best interests of members.

5.12.3. Benefits and shortcomings of funded arrangements

Most countries are increasing the role of funded pensions in pension systems. However, as discussed above, the growth of private funded pensions, such as retirement pension plans and personal pensions in

Korea, increases the possibility that individuals will be exposed to more of the risks. This is because building up savings comes with risks that do not apply to the NPS. Private pensions also shift much of the responsibility on individuals for ensuring savings are sufficient to last over their full lifetime in retirement. These risks are greatest for individuals saving into DC schemes.

However, funded pensions also offer a number of advantages compared to public, particularly PAYG pensions. They may provide stronger incentives to participate in the labour market and to save for retirement. They create a pool of savings that can be put to productive use in the broader economy. Increasing national savings or reallocating savings to long-term investment supports the development of financial markets. This could be a boon to Korea if greater retirement savings assets are directed away from conservative investments (cash and bonds) in favour of growth-oriented financial market instruments. Greater domestic savings also reduces dependency on foreign savings to finance necessary investment. Higher investment may lead to higher productive capacity, increasing GDP, wages and employment, higher tax revenues and lower deficits.

Invested assets can also prove to be a better deal than public pensions when contributions to PAYG fail to go to public investment and thus increasing the productive capacity of the economy as a whole. For example, retirement savings that are invested in a way that exploits opportunities in financial markets to earn more than the rate of the wage bill growth, which is the implicit rate of return of the NPS scheme, can lead to higher incomes to individuals. This argument is even more salient in a context of population ageing and low productivity growth. Within DC schemes, each cohort is self-funding, reducing labour market distortion.

Funded schemes can also enable employers to offer targeted recruitment packages to attract employees. This is already the case in Korea, where large conglomerates tend to offer retirement pension plans as part of an attractive package. Broader rollout of funded schemes such as retirement pension plans can extend these benefits to other, particularly smaller, workplaces.

However, funding reduces the opportunities for inter- and intra-generational risk sharing that is a source of economic efficiency within the public systems. Within schemes such as the NPS, risks can be shared between workers and retirees by adjusting contribution and benefit levels. The gains in social solidarity that are available through inter- and intra- generational redistribution within such schemes may also offset some of the fiscal costs. This type of redistribution could also happen via a non-contributory basic pension financed out of general tax revenues, or by adjusting the parameters of private funded DB schemes.

5.12.4. Trade-offs between DB and DC pensions

Should Korea choose to pursue reforms that lead to greater reliance on private pensions, particularly retirement pension plans, it is important for policy makers to weigh the trade-offs between the main two types of pension provision, DB and individual DC.

DC arrangements establish a direct link between contributions and retirement income, so are they provide the greatest incentive to individuals to contribute to pension plans. DC arrangements are mechanisms that automatically adjust benefits to demographic, economic and financial realities. However, DC plans transfer the responsibility for financial security in retirement onto individuals without offering them insurance against the multiple risks that can affect funded pensions. Notwithstanding, it is possible to introduce elements of insurance into DC pensions. For example, Chile covers some labour market and social risks with compensatory pension contributions from the state for periods of missed earnings such as maternity leave. Many OECD countries have also implemented policies that aim to protect individuals from financial market risks. For instance, some require DC providers to offer a default strategy that either follows a lifecycle approach or offers some other protection against financial market risk. In Estonia, Latvia and the Slovak Republic, individuals who do not make an active choice are allocated to a conservative strategy as a way to protect them against these risks. By contrast in Sweden, where the public system insures

individuals relatively (and therefore of itself protects members from the downside risk of financial market shocks), the default investment strategy in the funded pension arrangement, the Premium Pension Fund, is quite aggressive.

Individual DC plans are better suited to changing labour market patterns, such as multiple employers and increased self-employment, than DB schemes. Within DB plans a uniform contribution rate combined with a uniform accrual rate can lead to redistribution from lower earners to higher earners and from new members to long-standing members, which could impede labour mobility. However, career breaks early on are especially costly for members of DC plans in terms of building up retirement assets (because the opportunity for compounding returns is lost). Pooled DC plans that are not tied to a specific employer, such as the Canadian Pooled Registered Pension Plans, could be a means of addressing changing labour market patterns while offering more risk pooling than individual DC arrangements.

A key shortcoming of individual DC pensions is managing longevity risk. DC pensions adjust automatically to demographic changes, which means that individuals can face greater risk of inadequate pensions. For example, if life expectancy increases, payments from a DC pot will run out. Another shortcoming is that individuals find it difficult to smooth their consumption post retirement using DC arrangements. There is evidence that individuals are not good at planning for their retirement needs and spreading their accumulated wealth effectively. For instance, there is evidence from Australia that retirees underspend because they are afraid of exhausting their savings. However, some longevity protection can be added to DC systems. One option is to have programmed withdrawals with a deferred life annuity as a default option for the pay-out phase. Examples can be drawn from other OECD countries as well. For instance, Norway imposes a pay-out phase for accrued pension capital of at least 10 years. Mandatory annuitisation could call for an enhanced role for the public sector to maximise the benefits of risk pooling and avoid self-selection issues, and overcome behavioural barriers to choosing the right annuity. Examples of countries with mandatory publically provided annuities (under certain conditions) include Sweden, Singapore and Lithuania.

DB schemes also face some risks. In recent years DB schemes have faced threats to their solvency due to historically low interest rates, increasing longevity, and, in some countries, a series of financial crises that have left them unable to fulfil their retirement income promises to their members. As the sustainability of pure DB systems has come under threat, different methods of risk sharing have been introduced that push more of the longevity, economic and market risk onto members but retain the risk pooling of DB. New designs may be referred to as “shared risk schemes” or “collective defined contribution”. There are also security mechanisms to back guarantees, which can help that help providers manage the risks they face in providing DBs, but these come at a cost. Relevant security mechanisms include:

- A capital buffer, which helps ensure that the sponsor/provider of retirement income arrangements will have sufficient capital set aside to meet promised retirement income obligations with a high probability, even in the event of a significant adverse financial, demographic, or business shock.
- A sponsor covenant, which refers to the obligation of the sponsor of the retirement income arrangement, typically the employer, to make additional contributions to the plan if assets are not sufficient to finance the retirement income liabilities.
- A pension protection fund, which guarantees the payment of retirement income promises, either in full or partially, in the event that the sponsor becomes insolvent. Covered retirement income arrangements usually pay premiums to finance these funds, which effectively function as an insurance pool against the risk of sponsor default. How these premiums are set, the mechanisms the fund uses to cover the pension liabilities, and the extent to which the fund is backed by the government drive the strength of the protection fund.

Policy makers should consider the risks that come with each of DB and DC arrangements and respond with policy solutions that help bolster both arrangements. This will be particularly important once the government passes legislation expanding retirement pension plans to all employees, as all workers will be

subject to one of the two types of arrangement. The different strategies to manage the risks of DB and DC pension arrangements discussed above will be particularly salient to the case of Korea.

5.13. A framework for assessing retirement income adequacy in Korea

Retirement income adequacy is a key issue in Korea. The OECD's Pensions at a Glance 2021 showed that the replacement rate for mandatory pensions in Korea (31% of pre-retirement earnings for individuals with full careers, excluding personal income tax and social security contributions) is one of the lowest in OECD countries, and significantly lower than the OECD average (over 50%). This replacement rate reflects hypothetical outcomes from the National Pension Scheme for individuals at certain income levels with full careers. However, the NPS does not cover the entire population and people who are covered by it often do not contribute for the equivalent of a full career. As such, in practice, the income replacement rates received by many people in the population would be even lower.

Reforms that mandate retirement pension plans for all employees will improve retirement income adequacy for some people, but alone are unlikely to solve the retirement income adequacy issues in Korea. This is because there will still be many who are at risk of being left behind. This is because, as discussed in Section 5.2, there are some exceptions to coverage that apply to both retirement pension plans and severance pay plans, which would likely persist if retirement pension plans become mandatory. Those exceptions include people with short service periods or those who work less than 15 hours per week. Furthermore, some non-standard workers such as the self-employed or informal workers remain would not be eligible to participate in the plans, as they are not deemed to be workers. To add to the lack of universal coverage, it is also not clear whether the contribution rate to retirement pension plans will be sufficient to achieve the government's retirement income policy objectives.

As, such in order to understand the adequacy of the retirement incomes that existing pension policy is likely to deliver in Korea, the Korean authorities should conduct a full review of retirement income adequacy. Following the framework presented in Chapter 2 of the *OECD Pensions Outlook 2020* (OECD, 2020[12]) for assessing the adequacy of future retirement incomes, the review should:

1. Establish a retirement income adequacy **objective** for Korea's retirement system. Having an objective is important to establish what a retirement income system intends to achieve. Different objectives offer different perspectives for what an adequate income might entail. Examples of potential objectives are: alleviating poverty in retirement; maintaining individuals' standard of living in retirement; achieving equity; and ensuring people live comfortable retirements.
2. **Forecast** retirement incomes under existing policy settings, and use those forecasts to calculate **indicators** of retirement income adequacy. Using administrative datasets or representative samples of populations, it is possible to forecast future retirement incomes to get a sense for the range of potential outcomes. Those forecasts would be based information about pension assets and pension entitlements for individuals in the analysis. Using that data, it is possible to project future retirement incomes using assumptions about future demographic, labour market, and economic outcomes, as well as likely behavioural patterns. As much as possible, those assumptions should reflect genuine expectations of future outcomes and behaviours. Using the forecasts for retirement incomes, then indicators of retirement income adequacy can be calculated for each individual in the sample or dataset. Depending on the objective, different indicators can be calculated. Indicators include the forecasted level of retirement income, replacement rates, and equity measures.
3. For the indicators to be meaningful in assessing retirement income adequacy, they should be compared to adequacy **targets**. Targets are reference points for determining if retirement incomes are adequate. Setting targets involves establishing an adequacy standard. In particular, it involves forming a view on issues like an appropriate replacement rate, a minimum subsistence standard,

the standard of living that allows people to live comfortably, etc. Effective targets are ones which are impartial, based on evidence pertaining to a particular jurisdiction, and, where relevant, tailored to different types of individuals or stages of retirement. An independent body, such as a taskforce or academic body could conduct an impartial assessment of adequacy targets.

4. By comparing adequacy indicators across a sample or population and comparing them to targets, policy makers should make an **assessment** of whether the system provides broadly adequate retirement incomes. This assessment should refer to policy makers' goals, which in turn should reflect their tolerance for risk and tolerance for potential adequacy shortfalls. Policy makers can quantify these goals. For example, they can aim that a particular percentage of the population to achieve the adequacy targets that are right for them, or their policy goal could be to minimise adequacy shortfalls. By assessing the adequacy of future retirement incomes with reference to these policy goals, it is possible to identify adequacy shortfalls and formulate any policy responses. The process could then be repeated to test how different reforms could change retirement income adequacy outcomes.[54]

An independent taskforce could conduct this review, and can be given the power and authority to access the relevant data from stakeholders such as pension providers. This may require co-ordination with governments who may also have key administrative information and are also able to conduct surveys that might be needed. In particular, surveys might be needed to come up with appropriate adequacy targets or to inform assumptions around future behaviours, such as voluntary take-up and contributions to occupational and personal pension plans, as well as early withdrawals, where relevant.

5.14. Policy options

1. **Fully transition from severance pay schemes to retirement pension plans**. The Korean Government should proceed with its plans to legislate a full transition from severance pay schemes to retirement pension plans for all workplaces. The current plan, which involves a transition period to give smaller businesses time to adapt, is a suitable approach. The OECD's discussions with various stakeholders in Korea suggest that businesses are expecting the change to happen and have had sufficient time to adapt. Furthermore, the option for KCOMWEL to provide a low-cost solution for small businesses is a good way to cater to the needs of smaller businesses and potentially offer low-cost pensions provision.
2. **Limit exemptions to occupational pension plan coverage.** Korean pension policy currently provides that workers who have worked less than one year and those who work less than 15 hours a week are not required to be covered by occupational plans (even under the proposed bill what would mandate occupational plans). While recent legislation has made it possible for these people to become members of IRP plans, it is still not a requirement that they are covered by occupational plans. This should be changed, as per the OECD Core Principle of Private Pension Regulation No° 8, which provides that a member's entitlements should accrue and vest immediately upon entry into a plan.
3. **Boost tax incentives and introduce non-tax financial incentives.** The tax and non-tax financial incentives for retirement savings are low in Korea relative to other OECD countries. The government could expand tax incentives to encourage use of pension. This can be done within the existing system, for example, by increasing the tax credit rate for individual contributions or amending the formulas to reduce the tax on pay-outs. Furthermore, the fact that low income earners do not benefit from tax credits if they do not pay taxes means that they have almost no financial incentives to voluntarily contribute to occupational DC or personal pension funds. The government could address this shortcoming by introducing non-tax financial incentives such as matching contributions or fixed nominal subsidies to encourage contributions to pension schemes,

especially for lower income individuals. Alternatively, it could make the tax credits refundable to benefit low-income people.

4. **Simplify the pension tax system**. Different tax rules apply depending on whether contributions originated from the employer (EET/EEt) or the individual (tEt/tET). The Korean authorities could considerably simplify their system, and potentially transition to a universal EET system. The EET system delivers immediate full tax relief at the time of the contribution, it provides a better incentive for individuals to contribute, but this would come at a fiscal cost. Another potential shortcoming is that if existing contributions (i.e. accounts that have already been taxed under the tEt regime) are grandfathered, there would be two parallel systems, making administration harder. Of course, this might have to be a long-term solution, as the pension tax system has just recently come out of a transition period from the last set of reforms.
5. **Improve pension plan coverage for informal workers and self-employed workers.** There is low pension coverage across all pension plan types for informal workers and self-employed people. A large number of them are not covered by the NPS, and low coverage of private pension plans exacerbates this problem. There appears to be no bespoke policies to promote pension plan coverage for informal workers. This is a problem in Korea, given the old age poverty rates and low level of social safety net support. The government could attempt to reduce the level of informality itself by increasing the relative cost of being informal compared to being formal. To reduce this cost, the government could subsidise the pension contributions of low-income or informal workers, as discussed in the previous recommendation. This measure could be accompanied by the possibility of having a flexible contribution schedule and rate and innovative collection mechanisms such as through utility bills. Behavioural nudges that increase the likelihood that they will contribute could accompany those measures. Given that some self-employed workers have volatile earnings, they may value flexible contributions and hybrid pension products mixing an emergency savings account with a retirement savings account. However, these approaches raise adequacy issues and need to be complemented by reminders. To replace automatic payroll deductions, the self-employed could benefit from automatic savings mechanisms, using digital services and platforms they already use to run their business. Informal workers could also be offered the possibility to save small amounts automatically, for example through consumption, to reduce the impact of inertia and procrastination. Policy makers could make use of new technologies and easily accessible points of contact (e.g. convenience stores) to simplify the contribution process. Korean policy makers may also wish to consider, once retirement pension plans are mandatory for all workplaces, automatically enrolling the self-employed into retirement pension plans. The tax authorities or a pension provider such as KCOMWEL could play the role of enrolling the self-employed.
6. **Lift investment restrictions and encourage more suitable investment strategies.** The current investment regulation limits the possibility of pension providers to invest in non-guaranteed assets. These restrictions create barriers, limiting the possibility of pension providers to diversify their assets in a context of low and falling interest rates. The government should also take steps to address what appears to be an overly conservative bias for investment choices. For example, the government could promote life cycle investment strategies or target date funds as a solution that improves investment performance while also accounting for risk aversion in later years of life. The government should also de-link tax incentives from guarantees. Personal pension plan products currently only attract a tax deductible status if they offer guarantees. There does not appear to be a strong rationale to encourage guaranteed investment strategies in this manner.
7. **Pension providers should better communicate about risk and rewards of different investment strategies.** When given a choice of investment strategy for DC plans, most individuals and employers in Korea select a conservative investment option. Investing conservatively can significantly reduce investment gains and limit the accumulation of assets, particularly for younger people. Most do not seek financial advice before selecting their retirement savings investment strategy. It is therefore important that regulators ensure that individuals and employers receive

adequate information to compare their alternatives and make better choices with respect to their investment strategy. In doing so, they should be mindful of the behavioural biases that people have when making choices and adjust communication accordingly.

- Communication about investment strategies and their associated risks, rewards and costs needs to be adapted to the target audience. In Korea, for instance, communication to plan members and employers may require risks to be framed in a way that also emphasises potential rewards. This can help overcome individuals' risk aversion. One way to better communicate on risk is to frame it in terms of probabilities that people can understand. For example, risk bands can be used, with each band corresponding to the expected number of negative return years to expect over a particular saving period (see, for example, Table 7.1 of (OECD, 2020[13])).
- Jargon and complex metrics should be avoided when communicating to individuals about their investment options. Standardising the communication on risks may be necessary for comparison purposes, but should also be accompanied by visual aids for people to interpret risk measures. Providers using standardised risk indicators may mix them with other commonly used visuals or colours in order to ease communication.
- Policy makers should consider designing tools to assist people in determining their risk appetite. Entities such as the FSS can provide guidance on the mapping of risk and return categorisations to that of individuals' personal risk appetite. People should be able to understand whether an investment strategy's risk and return profile is appropriate, given their personal circumstances and preferences.

8. **Implement the requirement for pension providers to have a default investment option.** Individuals should receive appropriate information about the different investment options they have, but need to have a default option in case they are not willing or able to choose. This default option should be designed in a way to ensure it is aligned with the risk appetite of most people who will end up with this option. For example, the default investment strategy could be adapted to provide a more optimal lifecycle approach, providing a more gradual de-risking as individuals approach retirement and more flexibility around how different types of savings are invested.
9. **Consider introducing additional security mechanisms** to help providers manage the risks they face in providing DB plans. The government currently provides a cash injection of KRW 10 million if a retirement benefit is due when a DB plan is in a funding shortfall position. This can encourage poor decision-making by employers. The government can consider instead enforcing mechanisms such as a capital buffer or setting up a pension protection fund.
10. **Restrict permitted cases of early withdrawal.** Individuals are currently allowed to access their savings early under certain circumstances. This is contrary to the purpose of retirement saving products which are intended to provide income in retirement. Limiting the cases of early withdrawal to cases such as severe financial hardship is more in line with best practice in other systems. Limiting these cases of early withdrawals for occupational plans once they are mandatory should not be controversial, as it will no longer be needed as an incentive to use the plans. Banning withdrawals (albeit with penalties) under normal circumstances from personal pension plans also helps ensure the products are used for their intended purpose. On the other hand, for personal plans, limiting the cases of early withdrawal might discourage their use. However, it is important to limit early withdrawals for personal plans to ensure they are used for their purpose and to maximise assets at retirement. This might reduce their attractiveness, but making this change as a package reform alongside increased financial incentives might make the change more palatable. One way of introducing this change is to do so gradually – for instance, by starting with a cap on early withdrawals to ensure they still meet market demands, with the option of increasing those caps for new entrants over time, as society becomes more accustomed to longer-term saving instruments.

11. **Encourage people to purchase annuity products to protect them against longevity risks.** Most members tend to receive lump sum payments. As such, private savings do not protect Korean retirees against longevity risk as they face the risk of outliving their assets.
    - While annuities may not always be suitable, especially when private pension savings are small, it is important to remove any necessary barrier that could prevent people from selecting an annuity. It may be appropriate to eliminate the current requirement to be a member for more than 10 years of an occupational plan to be eligible to purchase an annuity.
    - Another way to better encourage individuals to purchase annuity products is by increasing the tax differential between lump sums and annuities. Under the current situation, individuals' preference for an immediate lump sum is enough for many to forego the tax incentive associated with an annuity, particularly when the amounts saved are small. One way to increase the tax differential between a lump sum and annuity is to reduce the rate of tax that would be due (currently 70%) under an annuity compared with a lump sum. Another option may be to remove entirely the tax incentives of taking out a lump sum (that is, the smaller tax base) to discourage individuals perceiving lump sums as a good deal.
    - The promotion of deferred annuities could also be an alternative to ensure people are protected from longevity risk at the end of their life while leaving them some flexibility on the way they use their private pension savings in the early days of their retirement.
12. **Increase the age of access to private pension plans to align it to the retirement** age of the public system. In order for occupational and personal pensions to directly complement pensions from the NPS, their access ages should be consistent. One way to do so is to gradually increase the age of access to private savings up to the future normal retirement age of 65. Many Koreans have historically relied on pay-outs from their employers to maintain their standards of living or to open small businesses. Increasing the age of access should therefore happen gradually while ensuring this does not leave old-age workers more economically vulnerable before retirement.
13. **Improve fee structures to better align the incentives of providers and members.** Fees based on assets do not provide incentives for fund managers to be more efficient, and may reward poor performance and penalise good performance. Asset-based fees are not linked to the relative performance of the fund compared to the market, and a fund that underperforms the market with positive returns can earn more in absolute terms than one who outperforms the market but with negative returns. Instead, performance fees could better align the incentives of providers and members while also helping ensure higher risk-adjusted returns. Performance based fees pay higher fees for higher risk-adjusted returns. Combining an appropriate investment benchmark with a performance-based fee structure would incentivise the fund managers to seek higher risk-adjusted returns with more innovative strategies. However, excessive fees are also a problem for conservative investment strategies, and switching to a performance fee structure is less likely push down those fees. As such, the Korean authorities could also reduce costs through appropriately designed direct pricing mechanisms such as fee caps, in line with approaches taken in other OECD countries. Another way to reduce costs is to encourage greater competition through a low-cost provider. This function could be performed by KCOMWEL in Korea which already provides a not-for-profit pension provision service which competes with other providers. Over time its function could be scaled up and extended to larger businesses.
14. **Improve financial knowledge around retirement income.** While Korea already has some financial education programmes, more can be done to specifically focus on how financial decisions today relate to retirement income outcomes in the future. Financial knowledge programmes could equip people with the tools to understand the relationship between the different schemes that can provide them income in retirement. People could be helped to assess their personal circumstances with reference to this system, and to decide to what extent contributing to the voluntary pension system would be beneficial to their individual circumstances. Financial education programs could

also aim to reach individuals through their employers or through financial institutions, which individuals tend to trust. Financial education programs may also be helpful when people transition to retirement to help them select the most appropriate pay-out options for them while ensuring they are covered against longevity risk. The public education programs can also target key areas of particular importance for the public to understand.

- Better communication about incentives to save. The Korean Government offers tax incentives to individuals who save through retirement pension plans and personal pension plans. However, much of the public may not understand that these tax incentives are available. They also may not appreciate how those tax incentives might compare to other forms of saving, such as through bank accounts or real estate. Public education campaigns can help publicise pension saving, particularly by focussing on how they can lead to higher incomes in retirement. Similarly, if the government proceeds with any plans to provide non-tax financial incentives to encourage individuals to save (as recommended above) that should come with a communication campaign aimed particularly at explaining those incentives to lower income earners in a simple way.
- The Korean public continues to favour short-term, or immediate, benefits over long-term needs. This manifests in a preference for severance payments, early pay-outs from pension plans, and lump sums. While such behaviours are difficult to reverse, one way to help shift the public mind-set is for public communication campaigns to highlight the risks of under-saving. It is important to highlight the need to balance people's current needs with those of the future which is difficult to predict and comes with genuine risks to long-term financial security.
- The evidence suggests that the general public in Korea mistrust private pensions. This is particularly true of retirement pension plans, as there is a perception that if an employer becomes insolvent then they will lose their retirement pension. However, since funded pension assets are held separately with investment, they would not be affected in the case of an employer's bankruptcy. It is important that the public better appreciate the safety of funded pension arrangements. As such, policy makers should try and capitalise on the benefits on funded arrangements by better communicating their benefits. The opportune moment for doing so would coincide with the passing of legislating that requires all employers to provide retirement pension plans to their employees. Severance pay, until RPPs, continue to rely on book reserves and may in fact be vulnerable to instances of employer bankruptcy. Accordingly, a communication campaign that accompanies the change should aim to capitalise on the benefits of RPPs over severance pay and reinforce the safety of funded pension arrangements.
- Finally, there is greater scope for financial education around investment to be targeted at employers and individuals. Doing so can help refocus preferences away from conservative biases and in favour of a more balanced understanding of risk and potential returns.

15. **Improve coherence of the pension system.** It is not yet clear how the public and private schemes are intended to complement each other. To date, many changes to the different pension system components appear to have happened in a piecemeal way and without a systematic plan to achieve particular objectives or address key risks. There are also no apparent adequacy targets for retirement income in Korea. Pension adequacy is a problem, and pension system reform is needed to improve retirement incomes for the population. The replacement rate on public pensions is relatively low and the private pension system, as it is currently designed, will not be sufficient to compensate for its shortcomings. As such, it is important that the Korean authorities take these important deliberative steps to formulate an overall plan for pension system complementarity as a foundation for any future reform.

References

Financial Services Commission and KDI School of Public Policy and Management (2014), *2013 Modularization of Korea's Development Experience: Institutions and Policy Measures for the Development of Korea's Asset Management Industry*. [1]

FSS (2020), *2019 Annual Report*. [4]

Hong, W. (2019), *Retirement Plan Returns and Participant Burden*. [6]

Kim, S. (2018), "Spotlight on Retirement: South Korea 2018", http://www.kidi.or.kr (accessed on 2 January 2020). [5]

Korea Institute of Finance (2013), *The Growth and Development of the Korea Insurance Development Institute (KIDI)*, http://cifc.newdept.com/files/reference/total/en/81042d06c27b4059dfc55ef537c7a8f1_20181018130117.pdf (accessed on 8 March 2021). [7]

Lee, Y. and B. Lim (2013), *Establishing the role of Personal Pension Plans as Supplementary System for National Pension and Ways for Future Development*, National Pension Research Institute. [8]

OECD (2021), *Pensions at a Glance 2021: OECD and G20 Indicators*, OECD Publishing, Paris, https://doi.org/10.1787/ca401ebd-en. [10]

OECD (2020), "A framework for assessing the adequacy of retirement income", in *OECD Pensions Outlook 2020*, OECD Publishing, Paris, https://doi.org/10.1787/760ca223-en. [12]

OECD (2020), *Average wages* (indicator), https://doi.org/10.1787/cc3e1387-en (accessed on 3 January 2020). [18]

OECD (2020), "Communicating on investment strategies", in *OECD Pensions Outlook 2020*, OECD Publishing, Paris, https://doi.org/10.1787/b1e52a63-en. [13]

OECD (2020), *OECD Pensions Outlook 2020*, OECD Publishing, Paris, https://doi.org/10.1787/67ede41b-en. [17]

OECD (2019), *Financial incentives for funded private pension plans, OECD Country Profiles*, OECD, http://www.oecd.org/daf/fin/private-pensions/Financial-Incentives-for-Funded-Pension-Plans-in-OECD-Countries-2019.pdf (accessed on 19 December 2019). [2]

OECD (2019), *OECD/INFE Report on Financial Education in APEC Economies: Policy and practice in a digital world*, https://www.oecd.org/finance/financial-education/2019-financial-education-in-apec-economies.pdf (accessed on 14 January 2020). [11]

OECD (2018), *Financial Incentives and Retirement Savings*, OECD Publishing, Paris, https://doi.org/10.1787/9789264306929-en. [3]

Phang, H. (2010), "Building private and occupational schemes in Korea", in Yang, J. and T. Klassen (eds.), *Retirement, Work and Pensions in Ageing Korea*, https://books.google.fr/books?hl=fr&lr=&id=DFuOAgAAQBAJ&oi=fnd&pg=PA96&dq=third+pillar+pensions+in+korea&ots=j7KOO8kz6V&sig=Rps0aYBwh2a1m3Nxa-CqxxgrE14&redir_esc=y#v=onepage&q=third%20pillar%20pensions%20in%20korea&f=false (accessed on 2 January 2020). [14]

Ryu, G. and S. Lee (2011), *Directions for policy support for individual pension subsidy for low-income families*. [16]

Statistics Korea (2019), *Retirement Pension Statistics in 2018*, http://kostat.go.kr/portal/eng/pressReleases/1/index.board?bmode=read&bSeq=&aSeq=382089&pageNo=1&rowNum=10&navCount=10&currPg=&searchInfo=srch&sTarget=title&sTxt=pension (accessed on 22 December 2020). [9]

Yang, J. (2010), *Retirement, Work and Pensions in Ageing Korea*, Routledge, https://doi.org/10.4324/9780203860182. [15]

Notes

[1] Article 4 of the Employee Retirement Benefit Security Act

[2] National Statistics Bureau, Retirement Pension Statistics 2018, available at: http://kostat.go.kr/portal/eng/pressReleases/1/index.board?bmode=read&aSeq=382089.

[3] See IOPS country profile of Korea: http://www.iopsweb.org/resources/IOPS-Profile-Korea-2017.pdf

[4] See also: https://koreajoongangdaily.joins.com/news/article/article.aspx?aid=2929911

[5] https://www.pensionfundsonline.co.uk/content/country-profiles/south-korea

[6] Act on the Guarantee of Workers' Retirement Benefits, Article 24, Paragraph 2; Enforcement Decree of the Act on the Guarantee of Workers' Retirement Benefits, Article 16-2. The eligibility criteria for an IRP are: individuals who received their retirement benefits in lump-sum distribution; members of a DB pension plan or DC pension plan who wish to set up an additional individual retirement plan funded through their personal contributions; self-employed individuals; individuals who worked for an employer that does not offer a retirement plan for less than one year, based on the length of continuous employment; individuals whose weekly hours worked without a retirement plan is less than 15 hours, based on a four-week average; individuals covered by a lump-sum retirement benefits programme; civil servants; military personnel; teachers; or employees of special post offices.

[7] https://www.pkf.com/korea/news/2017/retirement-pension-plans/

[8] For example, in workplaces with ten or fewer employees who opt for an IRP, the obligation to prepare the retirement pension covenant is exempted (Financial Services Commission and KDI School of Public Policy and Management, 2014[1]).

[9] Article 26 of the Act on the Guarantee of Employees' Retirement Benefits

[10] Employee Retirement Benefit Security Act

[11] This is part of an amendment to the Employee Retirement Benefit Security Act, submitted to the National Assembly in June 2020.

[12] https://www.pkf.com/korea/news/2017/retirement-pension-plans/

[13] Proposal for a Partial Amendment to the Workers' Retirement Benefit Guarantee Act, available at: http://likms.assembly.go.kr/bill/billDetail.do?billId=PRC_R1C9V0S6Z1Y1A1B7S4O6S4U4X0Y2H1

[14] According to the Partial amendment to the Workers' Retirement Benefit Guarantee Act Bill, the smallest businesses will only be required to transition to retirement pension plans by 2026: http://likms.assembly.go.kr/bill/billDetail.do?billId=PRC_R1C9V0S6Z1Y1A1B7S4O6S4U4X0Y2H1

[15] Individuals cannot make contributions to occupational DB pension plans.

[16] Low income individuals are those with an income lower than KRW 40 000 000 (or KRW 55 000 000 when the only income source is salary income).

[17] Average wages are from OECD (2020[18]). In that publication, the average wage figure is the national-accounts-based total wage bill divided by the average number of employees in the total economy, multiplied by the ratio of the average usual weekly hours per full-time employee to the average usually weekly hours for all employee.

[18] The Wage Claim Guarantee system and corresponding fund aim to provide compensation to provide payments to workers laid off from bankrupt companies.

[19] Note that there have recently been reforms to the tax rules and the ones describe here are current as of 2020 and follow from a transition period that lasted from 2016 to 2019.

[20] $Tax\ base$=($pension\ income$−$deduction\ for\ continuous\ years\ of\ service$)×12÷$number\ of\ service\ years$. Where the deduction is calculated as:

Service years (SY)	Basic deduction	Additional deduction
Less than 5 years	KRW 300 000 x SY	None
5 to 10 years	KRW 1 500 000	KRW 500 000 x (SY minus 5 years)
10 to 20 years	KRW 4 000 000	KRW 800 000 x (SY minus 10 years)
More than 20 years	KRW 12 000 000	KRW 1 200 000 x (SY minus 20 years)

[21] $Tax\ paid$=($tax\ base$−$deduction\ for\ income\ level$)×$progressive\ income\ tax\ rates$×$number\ of\ service\ years$÷12. Where the deduction is calculated as:

Tax base per annum	Basic deduction
Less than KRW 8 million	100%
KRW 8 million to 70 million	KRW 8 million + (60% exceeding KRW 8 million)
KRW 70 million to 100 million	KRW 45.2 million + (55% exceeding KRW 70 million)
KRW 100 million to 300 million	KRW 61.7 million + (45% exceeding KRW 100 million)
Over KRW 300 million	KRW 151.7 million + (35% exceeding KRW 300 million)

[22] These results are based on the tax rules in 2018. These rules have changed since then.

[23] Some Korean commentators also have already flagged that more can be done to encourage the use of personal plans in Korea, including through means such as matching contributions. See, for example Lee and Lim (2013[8]) and Rye and Lee (2011[16]).

[24]

https://www.kcmi.re.kr/en/publications/pub_detail_view?syear=2019&zcd=002001017&zno=1438&cno=5117

[25] Article 21 of Employee Retirement Benefit Security Act.

[26] See Article 30 of Employee Retirement Benefits Security Act. Article 25 of the Enforcement Decree of the Employee Retirement Benefits Security Act specifies the investment instruments or vehicles that are considered as guaranteeing the principal and interest, such as bank deposits and insurance contracts with a guaranteed return for example.

[27] https://100lifeplan.fss.or.kr/board/articleInfo.do.

[28] Article 30 of Employee Retirement Benefits Security Act.

[29] Assets in DC plans and IRP can be invested in REITs, following an amendment of the Enforcement Decree of the Act on the Guarantee of Employees' Retirement Benefits in December 2019.

[30] See OECD data portal: https://data.oecd.org/interest/long-term-interest-rates.htm.

[31] Article 16 of the Employee Retirement Benefit Security Act, available in English at: http://law.go.kr/engLsSc.do?tabMenuId=tab45#

[32] Article 3 of the Enforcement Rule on the Act on the Guarantee of Employees' Retirement Benefits. An MoEL decree providers for base rates which can be used if (1) it has been less than 3 years since the establishment of the business (except for establishment via merger or acquisition); (2) If historical data has been damaged by accident such as fire; or (3) If historical data is inept to be used for future projection.

[33] Article 16 of the Employee Retirement Benefit Security Act, available in English at: http://law.go.kr/engLsSc.do?tabMenuId=tab45#; wid

[34] The average daily wage is calculated as the total wages paid for 3 months immediately preceding retirement divided by days that befell in those 3 months.

[35] http://www.sit.re.kr/eng/biz_domain/pricing.jsp.

[36] Insurance Business Act.

[37] Article 40-2, paragraph 3.

[38] University tuition fees, wedding costs and funeral costs are allowed for pension-back loans only (and not for early withdrawals).

[39] See for example: Kim (2018[5]), Phang (2010[14]) and Yang (2010[15])

[40] https://www.hankookilbo.com/News/Read/201909290627383034

[41] National Statistics Bureau, Retirement Pension Statistics 2018, available at: http://kostat.go.kr/portal/eng/pressReleases/1/index.board?bmode=read&aSeq=382089.

[42] The Herfindahl-Hirschman index is a measure of industry concentration. The value of the index is the sum of the squares of the market shares of all firms in an industry. Higher values indicate greater concentration.

[43] http://www.moel.go.kr/pension/finance/rate2.do

[44] https://100lifeplan.fss.or.kr/main/main.do

[45] https://portal.kfb.or.kr/compare/retirement.php

[46] https://www.klia.or.kr/eng/reportStatistics/annualStatistics.do

[47] http://kpub.knia.or.kr/productDisc/retirePension/retirePensionInfo.do

[48] http://dis.kofia.or.kr/websquare/index.jsp?w2xPath=/wq/compann/DISRtrPsnCmpAnn.xml&divisionId=MDIS02003001000000&serviceId=SDIS02003001000

[49] See, for example, Lee and Lim (2013[8]).

[50] For personal plans, fees on contributions are also permitted for insurance products.

[51] Financial Services Commission and KDI School of Public Policy and Management (2014[1])

[52] Website of the FSS: http://www.fss.or.kr/fss/eng/wpge/eng111.jsp

[53] (Kim, 2018[5])

[54] A comprehensive discussion of the OECD's framework for assessing the adequacy of retirement incomes is available at OECD (2020[17]).

OECD Reviews of Pension Systems

KOREA

This review provides policy recommendations on how to improve the Korean pension system, building on the OECD's best practices in pension design. It details the key features of the Korean pension system and identifies its strengths and weaknesses based on cross-country comparisons. The Korean pension system consists of a mandatory pay-as-you-go public scheme, occupational schemes and voluntary individual schemes. The review also covers the first layer of old-age social protection in Korea. This review is the eighth in the series of OECD Reviews of Pension Systems.

PRINT ISBN 978-92-64-82120-0
PDF ISBN 978-92-64-77949-5