PENSION ADEQUACY REPORT 2018

CURRENT AND FUTURE INCOME ADEQUACY IN OLD AGE IN THE EU

VOLUME 2 - COUNTRY PROFILES

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Social Protection Committee

The 2018 Pension Adequacy Report: current and future income adequacy in old age in the EU

Country profiles

Volume II

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[1] The European Social Policy Network: http://ec.europa.eu/social/main.jsp?catId=1135&langId=en.

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Introduction

Volume II of the 2018 Pension Adequacy Report provides country-specific information on pension systems and an assessment of the current and future adequacy of pensions.

Every country profile gives, first of all, an overview of the pension system in the country (Section 1) and the main reform trends (Section 2). Section 3 focuses on the assessment of the current and future adequacy of pensions and related challenges. Section 4 concludes with the main opportunities for addressing pension-related challenges.

Finally, every country profile contains tables with background statistics, including the variant cases of the theoretical replacement rates. The main characteristics of the indicators used for the background statistics, as agreed by the Indicators sub-group of the Social Protection Committee, are described in the Annex.

Belgium (BE)

Highlights

- The statutory pension scheme constitutes the first and by far the most important pillar of the Belgian pension system. In spite of efforts, occupational funded pensions remain limited due to a still limited maturity, although the coverage is large. This is compensated by a more successful third pillar, in particular by individual life insurances. Finally, the 'fourth pillar' of home-ownership is highly developed in Belgium.
- Several measures, including raising the minimum early retirement age from 60 in 2012 to 63 in 2018 and the number of career years required for eligibility from 35 in 2012 to 43 years in 2019, efforts to extend working lives, improved solidarity in the pension system by recognising 'assimilated periods', and especially the recent efforts to increase the minima, contributed to reducing old-age poverty.
- The estimated net pension replacement rates are relatively high for the low (87.8%) and average (74.6%) earning groups.
- The legal pension age is increasing from the current 65 to 66 in 2025 and 67 in 2030; yet, increasing the low employment rate of older workers (45.4%) remains a key challenge.

1. General description of the national pension system

Three parallel, statutory pension schemes for retirement and survivor's pension, respectively covering employees, self-employed persons and civil servants, constitute the first and by far the most important pillar of the Belgian pension system. A residual public scheme guarantees a minimum income provision for older people without sufficient own resources (including pension entitlements). The supplementary pension schemes consist of a variety of occupational schemes, which since 2003 have expanded to cover about 75 percent of private sector employees and close to 45 percent of the self-employed. The third pillar is made up of personal retirement savings and life insurance schemes. Some 38 percent of the working-age population is making use of a personal retirement saving scheme, not including life insurance.

Public pensions: the statutory pensionable age for men and women is 65. From 2025 on it will be 66 and from 2030 on it will be 67. An equivalent of 45 years of seniority is normally required for eligibility for a full-rate pension. Shorter careers will result in proportionally lower pensions. Early retirement is possible for those that have completed a sufficiently high number of contribution years. Minimum ages and contributory requirements are gradually increasing. In 2017 employees could still retire at 62.5 with 41 years of seniority. For long careers, it is possible to retire at age 60 conditional on 43 seniority years or at age 61 with 42 seniority years.

The first-pillar schemes for the private sector are part of social security. Social security is financed from earnings-related contributions (employers/employees and the self-employed) or general taxation-based subsidies directly from the state budget, as well as some earmarked taxes. First-pillar pensions will get a transfer out of the general resources available to social security, corresponding to its 'needs' (expenditure to finance). The first-pillar pension for civil servants is financed directly from the state budget, except for survivors' pensions where a personal contribution is due by the civil servants.

For employees and self-employed persons, pension benefits are calculated as 60 percent of the capped average adjusted wage or business income over the contributory career. To obtain a full-rate pension, persons need to have contributed for 45 years. If the retiree has a dependent spouse with no, or a low, pension income of their own the percentage is raised to 75 percent. In case of early retirement, no penalty is applied, but the pension will be lower than in the case of a full career (45 years) as it will be calculated over a shorter career. Nevertheless, the benefit loss will be relatively limited as retiring early is only allowed after relatively long careers.

Because the calculation base is capped (gross earnings limited in 2016 to EUR 54,648.70), no formal maximum pension is defined, except in the civil servants' scheme. For civil servants, pension benefits are calculated on the basis of the average wage over the last ten years in service with a maximum of 75 percent of the final wage. All three systems can take into account periods for which no contributions have been paid (so-called 'assimilated periods' such as unemployment, illness, childcare, etc.).

Pension benefits are indexed to consumer prices. Partial adaptations to wage developments are possible through the system of adjustment to living standards negotiated with the social partners. For civil servants the '*perequation'* mechanism ensures that benefits are adjusted in line with the evolution of standard wages of civil servants.

Unlimited income from a professional activity is authorised from the age of 65 or provided the person concerned can prove 45 years of professional activity at the time of the pension. Before the legal retirement age and/or for those under 65, cumulating is authorised within a threshold. If the income from a professional activity exceeds the threshold, the pension payment is reduced by the excess. If the excess is larger than the pension, the pension is suspended.

Until 2014, the survivor's pension amounted to 80 percent of the benefit of the deceased calculated at the 'family rate' (75%). Eligibility for survivor pensions started at age 45. Since 2015, the system has been reformed and this minimum age will increase to 50 by 2025. Widows/widowers below that age will receive a temporary 'transition benefit' of 1 year (2 in the case of dependent children). This 'transition benefit' is calculated in the same way as a retirement pension (isolated rate – 60%). Widows/widowers above 65 will continue to benefit from the survivor's pension calculated as before.

Occupational pension schemes for employees and self-employed persons are considered as the second pillar in the Belgian pension system. For employees these supplementary pension arrangements are linked to the work contract following sector- or enterprise-level labour agreements. Before the 2003 Act on Supplementary Pensions, which sought to greatly expand the coverage of occupational schemes, these schemes almost exclusively benefited high-wage earners, to compensate for their very low level of replacement rates of the legal pension. By 2012 and following the 2003 law, coverage had widened to include about 75 percent of employees through single or group company schemes or schemes covering a whole sector of employment.

In addition, about 45 percent of the self-employed had joined one of the supplementary pension schemes for the self-employed. Occupational pension benefits are paid out in the form of either lump sums or annuities following the beneficiaries' preference, but in practice an overwhelming majority of pay-outs happen in the form of a lump sum. The occupational pension schemes are organised via pension funds and group insurances.

Third-pillar schemes consist of a variety of personal retirement saving schemes and individual life insurance contracts supported by different fiscal incentives. The contributions for personal retirement savings (annual ceiling of EUR 940 in 2017) and individual life insurance contracts (annual ceiling of EUR 2260 in 2017) are partly deductible from income tax. The tax relief is equal to 30 percent of the contributions.

2. Reform trends

Reforms adopted in 2015 continue the gradual increase in minimum eligibility ages for early retirement and in requirements about completed contribution years, while still providing exceptions for long careers. In addition, the eligibility age for 'time credit until retirement' will be raised from 55 to 60.

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In addition, the 2015 reform increases the current pensionable age from 65 to 66 by 2025 and to 67 by 2030. A novel approach to the promotion of longer working is also indicated by the abolishing of the pension bonus since 2015, allowing unlimited prolongation beyond 45 years of the period in which one can continue to work and build pension entitlements, and dropping restrictions on combining pension with work income after the pensionable age or the completion of 45 contribution years.

Several measures are proposed to improve the minimum pension by explicitly increasing the benefit, aiming at fixing its level at 10 percent above the poverty threshold for a full career and facilitating access to it. This improvement continued in recent years but some benefits such as the income guarantee for single older persons and especially the minimum benefits also for couples remain below the poverty line.

Further pension reforms under reflection that are to be completed by 2030 include the introduction of an automatic mechanism for adaptation to adequacy and sustainability challenges and a more transparent calculation of pension benefits based on a 'point' system. Further harmonisation of pensions for public and private sector workers is also considered, including an extension of the assessment period for civil servants. The government also announced automatic corrective mechanisms to adapt the pension system to demographic and financial evolution, beyond 2030. The government has also tasked a commission (national pension commission and an academic advisory board) with exploring a system of partial or part-time pensions.

Occupational pensions remain a major concern for the present government. Due to the persistence of low interest rates, the financial controller of the group insurances raised in 2016 the issue of the financial equilibrium of those providers of occupational pensions. Group insurances are the major provider of occupational pensions. When they cannot deliver the legally guaranteed minimum return, the employers would be obliged to compensate for the deficit, with the risk that they get into financial trouble. For that reason, the government invited the social partners to agree on a reduction of the minimum guaranteed return, which has been accepted. The guaranteed interest rate was reduced from 3.25-3.75 percent to 1.75 percent. The federal government continues to promote those funded pensions further, for the public sector as an alternative for certain categories of employees of the public sector and for the self-employed. The federal government is even envisaging measures to promote voluntary contributions to the second pillar, that could complement the existing provision through the employer. Employees will be entitled to ask their employers to contribute a higher share of their wages to the second pillar (summer agreement of the Belgian agreement on the 2018 budget).

Also the third pillar has been further promoted in the most recent 'summer agreement'. Personal retirement savings are set to become more flexible, with a choice of either saving EUR 1200 with a tax relief of 25 percent or saving the traditional sum of EUR 940 with a tax relief of 30 percent.

In 2017 the 'Silverfund' (created in 2001) was abolished.

Finally, periods of study may be purchased on a voluntary basis (however, at fixed 'price') and taken into account for calculating the public statutory pension. From December 2017 the legal conditions have been modified and harmonised over the different pension schemes.

3. Assessment of adequacy

3.1. Current adequacy

3.1.1. General assessment of current adequacy

While according to the EU-SILC 2013 survey Belgians aged 65+ still had a higher at-risk-of-poverty (AROP) rate of 18.5 percent compared with the rest of the population (15%), in not less than 3 years the AROP rate for those aged 65+ in 2016 reached 15.4 percent and is equal to the rest of the population. Moreover, the AROP rate for persons aged 65+ decreased by 5.8 percentage points (p.p.) compared with 2008.

According to the Study Committee on Ageing, disposable income and home-ownership mitigate the above-mentioned poverty risk of the elderly. When including the imputed rent in income, the AROP rate of persons aged 65+ reached 9.1 percent in 2014, to be compared with an AROP rate for the total population of 14.9 percent.

Belgium showed a gender gap in pensions of 26.6 percent in 2016 compared with an average EU-28 gender gap in pensions of 36.5 percent. On the other hand, the gender gap in pension coverage amounted to 15 percent in 2016 compared with an average EU-28 gender gap in pension coverage of only 5.7 percent. The gap between men and women in Belgium became smaller for both indicators between 2008 and 2016.

In the statutory pension scheme, the pension level depends on former earnings and length of the career, as pensions are calculated based on the number of career years. As a consequence, lower pensions are mainly the result of gaps in pay, employment and working hours. In the recent report *Gender Gap in Pensions* the low female employment rate and the high proportion of women in part-time work are defined as factors which have a negative impact on the gender pension gap for Belgium. Projections in the Study Committee on Ageing Report 2017 indicate, however, increasing activity rates for women and the upgrading of the minimum pensions, which could lead to a decrease in the gender poverty gap. Moreover, the fact that Belgium has a high home-ownership rate, some 80 percent of the elderly being homeowners, and that married couples make up a disproportionate percentage of homeowners, are likely key in diminishing the poverty risk among elderly married women.

The minimum pension for a single person with a full career is above the at-risk-of-poverty threshold; however, the minima for couples are below. Also for the self-employed the minimum pension increased towards the threshold.

In 2016, the employment rate of workers aged 55-64 years in Belgium was only 45.4 percent compared with 55.2 percent at EU level. As a result, there is still a large difference between the legal retirement age and the average effective retirement age. Moreover, the average effective exit age from the labour market was in 2016 somewhat lower for women compared with men (59.3 years for women and 61.3 years for men). Nonetheless, evidence shows a catching-up process whereby the increase of the legal retirement age for women from 60 to 65 had a positive impact on both the average effective exit age and the employment rate of women.

3.1.2. Redistributive elements of public pension schemes

The Belgian pension system includes several provisions of crediting: the so-called assimilated periods. During these assimilated periods, persons can build up pension rights when they are unemployed (including some periods of ‘time credit’ or thematic career interruption), ill or when they take up maternity or parental leave. Gender differences in assimilation profiles exist: data for 2011 show that for women 35 percent of all pension build-up was assimilated against 27 percent for men. The gender gap in terms of pay, employment and working hours is to an important extent reduced for pensions as a result of assimilation.

To eliminate the adverse effects of low wages (for instance, due to part-time work) and to guarantee a minimum pension level, there is a minimum credit per year of career, for those who have worked for at least 15 years in the wage earners’ scheme in a position that corresponds to at a least one third of a full-time equivalent employment. For each year of work below the minimum wage, a minimum right per career year will apply, up to within a yearly limit.

A guaranteed minimum pension can be granted on either of two criteria:

(1) the ‘severe’ career duration criterion: the wage earner must prove a career as a wage-earner lasting at least two thirds of a full career, with at least 208 full-time day equivalents per year;

(2) a more ‘flexible’ career duration criterion which allows years with part-time employment to be taken into account: the wage-earner has to prove a career as a wage-earner lasting at least two thirds of a full career with at least 156 full-time day equivalents per year.

In that case the person will receive for a complete career an annual amount of EUR 17,648.06 (household rate) or EUR 14,122.89 (single rate) (2017 figures).

In the framework of social assistance, residents older than 65 have the right to a means-tested minimum income guarantee for elderly persons supplement (the IGO/GRAPA), which is paid on top of whatever resources are available.

The minimum calculation basis, the guaranteed minimum pension and the minimum income guarantee are of particular importance for women, whose working careers tend to be shorter and far more marked by part-time work and low wages than men’s.

3.2. Retirement conditions for the self-employed and for people in non-standard employment

The statutory pension scheme is compulsory for self-employed persons. As a complement, self-employed persons can be covered by non-compulsory private insurance schemes. The voluntary supplementary pension scheme for the self-employed allows the self-employed to save for a supplementary pension. Some 46 percent of the self-employed exercising a main activity are covered by this non-compulsory private insurance scheme.

The level of the minimum old-age pension for self-employed persons shows a strong increase over the last decade. Since August 2016 the minimum old-age pension for self-employed persons has become even equal to the one for employees.

In Belgium, persons in atypical working conditions (such as part-time or interim) are covered by the statutory pension system. Entitlements will be calculated on the basis of their earnings. No waiting period is to be observed.

3.3. Future adequacy and challenges

Together with the increased exit age for ‘unemployment benefits with employer’s complement’ and early retirement, and similar reforms in the pension scheme for civil servants, the latest report of the Study Committee on Ageing demonstrated the positive impact of those measures on the improved pension adequacy and financial sustainability of the cost of ageing. In the reference scenario, the combined impact of these measures reduced the cost of ageing by exactly 2.1 p.p. of GDP, leaving the increase of the total ageing cost between 2014 and 2060 at 2.1 p.p. of GDP. So, the present reforms already succeeded in halving future additional costs. Weaker alternative scenarios are provided, but some more optimistic scenarios are also thinkable if an active employment policy for all age groups would be further developed. In the baseline scenario, the employment rate of persons aged 55-66 will increase by 25.3 p.p., from 43 percent in 2014 percent to 68.2 percent in 2060, including a 15.4 p.p. improvement attributable to the pension reform. The real exit age of the active population will increase from 60 in 2014 to 64.6 in 2060 as result of the pension reform, the reform of the unemployment with employer’s complement and the increase of the labour market participation of women. Moreover, the adequacy of pensions will improve. Previous pension reforms already reduced the poverty risk for pensioners and it will continue to decline by more than 30 percent between 2016 and 2060. Nonetheless, there is a growing concern about the adequacy of the public pension system. Although the recent reforms substantially improved budgetary sustainability, the statutory pension scheme is more and more considered as a basic pension.

Despite more than two decades of support for a supplementary pension system of occupational and private pension schemes, there are indications that this strategy may not have reached the objectives planned. In relative terms, the pension funds hardly increased in terms of percentage of GDP. Belgium remains one of the countries where pension funds are hardly developed. It was ranked 20 years ago as one of the countries with the lowest reserves, and it still is now. According to the recent OECD *Pension Outlook*, Belgium was one of the only countries where the reserves of pension funds, as a percentage of GDP, did not increase.

The ‘fourth pillar’ of home-ownership is highly developed in Belgium.

4. Main opportunities for addressing pension-related challenges

The Pension Reform Commission 2020-2040 (since renamed “Academic Council) inspired to a large extent the design of the future pension system in Belgium, and it has been invited to continue those efforts in a tripartite Pension Committee. The commission argued for a reinforcement of the first pillar, not only to prevent poverty, but also to guarantee income for all income levels.

The low employment rate of older workers and the low average effective age of labour market exit have a negative impact on the financial sustainability of the first pillar. In recent years, various measures were implemented by the Belgian government to address these issues. The employment rate of workers aged 55-64 in Belgium increased from 38.7 percent to 45.2 percent between 2011 and 2016. This is a strong increase within a short time period. However, these rates remain far below the EU average (which increased from 47.2 percent to 55.3 percent between 2011 and 2016).

5. Background statistics – Belgium

1. Relative incomes of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.76	0.77	0.76	0.02	0.02	0.02
Income quintile share ratio (S80/S20), 65+	3.2	3.6	2.9	0.1	0.4	-0.2
Aggregate replacement ratio (ARR)	0.48	0.51	0.47	0.03	0.07	0

2. Poverty and material deprivation

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+ (%)	16.4	16.0	16.8	-6.5	-5.3	-7.3
At-risk-of-poverty (AROP), 65+ (%)	15.4	15.2	15.5	-5.8	-4.9	-6.5
Severe material deprivation (SMD), 65+ (%)	2.1	1.9	2.2	-1.1	-0.3	-1.7
At-risk-of-poverty or social exclusion (AROPE), 75+ (%)	16.9	16.9	16.9	-8.5	-6.3	-9.9
At-risk-of-poverty (AROP), 75+ (%)	15.6	15.3	15.8	-8.1	-6.9	-8.9
Severe material deprivation (SMD), 75+ (%)	2.1	2.6	1.8	-1.3	1.0	-2.7
Relative poverty gap, 65+ (%)	13.3	13.4	13.1	-0.8	-2.0	-0.2
At-risk-of-poverty (AROP), 65+: 50% threshold (%)	6.3	6.0	6.4	-2.5	-3.3	-1.9
At-risk-of-poverty (AROP), 65+: 70% threshold (%)	33.2	29.5	36.1	-5.6	-6.2	-5.1
				Change 2014-2016		
Material and social deprivation, age 65+ (%)	8.4	6.5	9.8	1.2	0.6	1.7

3. Gender differences

Indicator	2016	Change 2008-2016
	Total	Total
Gender gap in pension income (65-79) (%)	26.6	-8.6
Gender gap in non-coverage (W-M in p.p.) (65-79)	15.0	-8.0

4. Housing and health situation of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Population 65+ living in overcrowded households (%)	1.0	0.5	1.4	0	-0.5	0.4
Tenure status among people 65+: share of owners (%)	78.6	81.5	76.3	2.4	2.8	1.9
Housing cost overburden, 65+ (%)	10.0	7.6	11.9	-9.7	-10.2	-9.2
Self-reported unmet need for medical care 65+ (%)	1.6	1.0	2.0	1.3	0.6	1.7
Healthy life years at age 65 (years) *		11.2	11		0.8	0.6

5. Pension duration

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Pension payment duration (2012) (years)		20.6	24.9			
Retirement duration (AWG) (years)		21.7	25.0		22.9	26.2

Data source: (1) (2) (3) (4) Eurostat, Sept.-Oct. 2017 (5) European Commission

*Notes: * - 2015 data*

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net (%)				Gross (%)			
		2016		2056		2016		2056	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Variant: old base case: 40 years up to 65	74.6				50.4			
	New base case: 40 years up to the SPA	74.6		75.0		50.4		50.7	
	Increased SPA: from age 25 to SPA	74.6		77.9		50.4		53.2	
	AWG career length case	77.1	75.2	82.5	77.3	54.3	52.5	58.5	54.7
	Longer career: 42 years to SPA			77.9				53.2	
	Shorter career: 38 years to SPA			74.8				48.3	
	Deferred exit: 42 years to SPA +2			80.0				54.1	
	Earlier exit: 38 years to SPA -2								
	Career break – unemployment: 3 years			73.4				49.7	
	Career break due to childcare: 3 years			73.4				49.6	
	Career break caring for family dependant: 3 years			73.1				49.3	
	Short career (20-year career)			44.7				26.7	
	Work 35 years, disabled 5 years prior to SPA			74.2				50.0	
	Early entry in the LM: from age 20 to SPA			83.5				57.7	
	Index: 10 years after retirement @ SPA			62.9				43.8	
	Extended part-time period for childcare			70.5				47.6	
	Pension rights of surviving spouses				75.0				50.7
Low (66%)	Variant: old base case: 40 years up to 65	87.8				61.1			
	New base case: 40 years up to the SPA	87.8		92.0		61.1		61.9	
	AWG career length case	87.8	88.5	97.9	95.9	61.0	59.1	71.3	66.6
	Career break – unemployment: 3 years			90.8				61.1	
	Career break due to childcare: 3 years			90.6				61	
	Short career (20-year career)			66.6				33.4	
High	New base case: 40 years up to the SPA	65.4		60.5		37.7		35.9	
	Average replacement rate across retirees								

7. Sustainability and context

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65 (years)	20.0	18.2	21.5	23.9	22.2	25.5
Old-age dependency ratio (20-64) (%)	30.8	26.6	35.1	46.9	42.9	50.9
Economic old-age dependency ratio (15-64) (%)	44.7	35.9	54.9	62.2	54.2	71.2
Employment rate, age group 55-64 (%)	45.4	50.7	40.2	62.2		
Pension expenditure as % of GDP (ESSPROS)	11.7*					

Data source: (6) Member State and OECD; (7) European Commission, DG ECFIN

*Notes: * - 2015*

Bulgaria (BG)

Highlights

- The Bulgarian pension system is undergoing a significant reform including an increase of the pensionable age and the qualifying period, and changes of rules on participation in the statutory funded scheme.
- Most indicators related to poverty and social exclusion display significant gaps between men and women, not reduced by the pension system.
- The ongoing increase of the pensionable age has improved pension system sustainability, but adequacy remains a challenge.
- It is important to create fair and transparent rules governing the pay-out of pensions from the statutory funded pillar, which is about to start.

1. General description of the national pension system

The Bulgarian pension system is developing from a fully unfunded to a mixed model. Currently the Bulgarian pension system has three pillars:

(1) statutory state pension insurance, functioning on the basis of the pay-as-you-go principle (first pillar);

(2) statutory funded pension insurance with universal pension funds (auto-enrolment with opt-out) for those born after 31 December 1959 and with mandatory professional pension funds for persons working in arduous conditions (second pillar);

(3) supplementary voluntary pension insurance, functioning as a funded scheme (third pillar), comprising personal and occupational schemes.

The statutory pension age in 2017 was 64 years for men and 61 years for women. Retirement can be deferred. The right to a pension once acquired cannot be lost. Special incentives to defer retirement are applied for the state pension insurance. In the funded pension insurance, contracts are based on the accumulated amounts on individual accounts, technical interest rates and biometric tables approved by the regulatory body.

The first public pillar provides entitlements related to old age and disability and survivors' pensions. The first pillar also includes non-earnings-related minimum pensions financed by the state budget for those who are not covered by social insurance contributions.

Participation in the first pillar is mandatory for all economically active persons, including the employed, self-employed, civil servants, military and police officials, and farmers. In 2016, there were 2,765,138 active contributors to the mandatory statutory pension scheme managed by the National Social Security Institute (NSSI) (59.7% of the population aged 15-64). There were 2,227,232 persons insured in regular jobs (not involving hazardous working conditions). 112,918 persons were insured for jobs involving hazardous working conditions. In 2016, the NSSI received a subsidy from the government of almost 5 billion BGN (EUR 2.556 billion) collected from general taxation. This sum is equal to about half of the total expenditure for 2016, which was 10.188 billion BGN (EUR 5.209 billion).

In 2016, the NSSI paid pensions to 2,180,890 pensioners on average per month.

The second and the third pillars provide statutory and supplementary old-age pensions based on privately managed fully funded pension schemes.

The second Pillar comprises statutory pension insurance provided by private open pension funds. The current contribution rate to the second pillar is 5 percent; for those opting out of the second pillar these contributions are channelled back into the first pillar. The total number of insured persons in the second pillar of the pension system at the end of the second quarter of 2017 was 3,879,003 (coverage rate: 83.8% of the population aged 15-64), of which 3,601,928 persons (coverage rate 77.8%) were insured in universal pension funds.[2] The first cohorts of men and women are expected to start drawing annuities around 2023, depending on changes to the retirement age.

Participation in the voluntary pension funds belonging to the third pillar is stimulated by tax relief. The tax base is reduced by up to 10 percent if the amount is paid as personal pension contributions. The employers may also contribute up to 60 BGN (31 EUR) monthly per worker and the amount is deducted from their tax base. At the end of the second quarter of 2017, funds in the third pillar had around 609,620 insured persons (a coverage rate of 13.2%).

Pensions are indexed yearly according to the increase of the average insurance income and the inflation index (CPI) in the previous year. Pensions were not indexed due to the financial and economic crisis between 2010 and 2012. There was partial compensation in 2013, when all pensions were indexed on average by 9.3 percent. From 2014 onwards, pensions were again indexed by the rule (1.9% in 2015 and 2.6% in 2016 and 2.4% in 2017 as of 1 July).

In 2015 a measure addressing adequacy of pensions was legislated for. As from January 2017, the accrual rate is gradually increasing from 1.1 percent to 1.5 percent per year. This parameter of pension formula will be increased each year by a percentage equal to the sum of 50 percent of the increase in the insurable income and 50 percent of the CPI in the previous calendar year. The new value of the accrual rate will be applied to both the newly granted pensions and the pensions in payment. The latter will be recalculated according to the new accrual rate instead of indexation until the year in which accrual rate reaches 1.5 percent. Once the rate reaches 1.5 percent, the so-called Swiss rule of indexation will be restored.

Apart from this recalculation, the minimum pension was twice increased ad hoc in 2017.

The statutory retirement age in 2017 was 64 years for men and 61 years for women; the required length of service was 38 years and 4 months for men and 35 years and 4 months for women. Both men and women who did not have the required contribution record could retire at the age of 66, provided they had paid social security contributions for at least 15 years.

A large number of workers in hazardous jobs, as well as military servants and civil servants of the Ministry of Internal Affairs and other special agencies, teachers, and ballet dancers are eligible for early retirement under special rules. Retirement rules under the statutory funded system concerning the universal pension funds are the same as in the statutory state system. There is only one additional option mentioned in the social security code, namely that the payment of pension can start 5 years before retirement but only in cases where the accumulated amount allows monthly payments that are not less than the statutory minimum pension.

2. Reform trends

There is ongoing reform to increase the pensionable age for all categories of workers, adopted in 2015. The pensionable age for women will increase by 2 months each year until 2029 and then by 3 months each year until 2037. The pensionable age for men increased by 2 months each year in 2016 and 2017 and will continue to increase by 1 month each year until 2029. This will lead to men and women having a statutory retirement age of 65 years in 2037. After 2037,

[2] The coverage of funded pension schemes is based on the total number of asset-holders, i.e. everyone who has ever contributed to the scheme. In contrast, the pay-as-you-go pension scheme only counts active contributors in the given year, hence the coverage rate appears lower.

the introduction of an automatic mechanism, in line with the increase of life expectancy, is expected. The required length of service will increase by 2 months each year until it reaches 40 years for men and 37 years for women.

A weighted indexation formula is consistently applied since 2014 after a temporary freeze in 2010-2013 during the global economic crisis when revenue in the social security system had dropped. The current pace of increase of the pensionable age will very likely stabilise the budget of the statutory social security system, provided that each year the government will continue to cover approximately half of the expenditure from general taxes.

From the beginning of 2017, the indexation is applied in a way which favours length of contribution over age. This measure is meant to reward longer participation in the labour market.

It is not easy to distinguish potential effects from the ongoing reforms on labour supply, especially among persons immediately before and after retirement age. The reason is the consistent implementation of the plan to increase pensionable age happened in recent years which were characterised by an overall reinvigoration of the labour market following the economic upturn. It will take longer to see how the duration and intensity of careers will be affected.

One of the most discussed changes in the pension system, introduced by a series of amendments to the legislation from July 2015, allowed opting in and out of the second pillar of the pension system multiple times. Despite concerns that the decision could further weaken trust in the private pension funds operating statutory pension schemes, given the lack of experience with funded schemes in Bulgaria, their performance and high fees, no statistically significant impact was noticeable in participation rates. The year-on-year growth of participation between 2012 and 2014 (the last year before the reform) and 2014 and 2016 was similar (5.6% for the first period and 4.5% for the second), pointing to the passivity of participants (which is also visible in the choice of a fund).

Adequacy of pensions took a very prominent position in policy debates, both before parliamentary elections and within the National Assembly. Poverty among the retired became a major topic of discussion and, in 2017, the government introduced a substantial increase in the minimum pension. From 1 July 2017 the minimum pension increased from BGN 161.38 (EUR 82.5) to BGN 180 (EUR 92), which is an increase of 11.5 percent and from 1 October 2017 to BGN 200 (EUR 102.3) – a further increase of 11.1 percent.

3. Assessment of adequacy

3.1. Current adequacy

3.1.1. General assessment of current adequacy

The S80/20 income quintile ratio among persons aged 65+ was 4.3 times, showing an increase compared with 2015 when it was 4 times. There was also a slight increase compared with 2008 of 0.3. Generally, this measure shows that inequality is lower among pensioners than among persons of working age and children (7.6 times in 2015). The S80/20 income quintile ratio among Bulgarians aged 65+ is around the average for the EU for this age group. In all age groups, Bulgaria has a S80/20 quintile ratio markedly above the EU average and close to the top.

The aggregate replacement ratio in Bulgaria improved markedly between 2008 and 2016 from 0.34 to 0.45. This is still one of the lowest aggregate replacement ratios in the EU but was reached from a very low starting point.

The relative median income of persons aged 65+ also increased in the period between 2008 and 2016, from 0.66 to 0.80. However, the increase for women was less remarkable than for men; it increased from 0.64 to 0.73, while among males it increased from 0.69 to 0.87 with an accelerated increase among men and a slower increase among women.

The at-risk-of-poverty (AROP) rate among persons aged 65+ was 24.3 percent in 2016 with a very large difference between women (30.1%) and men (15.9%). However, due to a break in the time series in 2016, for the purposes of dynamic comparison one should take the data for 2015 as a reference – 31.7 percent. In 2008, the percentage of persons aged 65+ below 60 percent of the median poverty line was 33.8 percent. The progress made in reducing poverty among persons of retirement age was not very impressive over the decade since Bulgaria joined the EU for both genders. It should be noted, however, that this indicator seems rather volatile, making large jumps in either direction from year to year.

The proportion of persons aged 65 and more living in deeper poverty – below 50 percent of the median income – was 12 percent in 2016 with a significant gender gap in the risk of falling into deep poverty between men and women. The risk for women is about two times higher than for men. In 2016, the AROP rate using 50 percent of the median income as the poverty line was 14.9 percent for women and 7.7 percent for men. However, Eurostat has indicated that this figure is not comparable with previous years. In the previous year (2015) the AROP for persons aged 65 and more was 19.2 percent. Taking 2008 as the baseline year, when the same poverty rate was 18.3 percent, the conclusions for the developments that occurred since 2008 would depend critically on which of the last available years is taken for reference. It is better, therefore, to look at the dynamics of the changes for the whole period. On this basis, we can conclude that an overall pattern of a gradual decrease in deep poverty among the elderly is discernible, though data for separate years are unstable. This volatility of poverty data for the age group of the elderly is a specific Bulgarian feature and not typical for most of the other EU Member States. It is very likely, therefore, that this is not a statistical artefact but rather reflects opposing forces and developments influencing the incomes of elderly persons in Bulgaria.

The relative median at-risk-of-poverty gap has not changed significantly since 2008. In 2016, it was 16.3 percent of the poverty line. In 2015, it was 21.9 percent, while back in 2008 it was 18.2 percent. So, in general, the depth of poverty remained fairly unchanged over the whole period since 2008. It should be noted that, during the same period, the overall poverty gap for the whole population was much wider – around 30 percent.

The at-risk-of-poverty or social exclusion (AROPE) rate among persons aged 65+ remains very high (45.9%) with a large gap between women (52.3%) and men (36.5%). The gap becomes even larger with older persons aged 75+. In this age group the total is 53.1 percent with a gap of 20 percentage points (p.p.) between women (60.4%) and men (40.5%). The main reasons include career gaps but also the fact that primarily elderly women remain alone in single-person households. Compared with 2008 there is a significant decrease in the overall AROPE rate. However, it should be noted that no matter which of the last few years we take the decrease among men largely exceeds the decrease among women leading to the large gap observed in 2016 which did not exist in 2008.

The new indicator of material and social deprivation shows a moderate decrease among persons aged 65+ between 2008 and 2016 of -4.4 percent, more pronounced among men (-7.0%) than among women (-5.5%). The material and social deprivation indicator for persons aged 65+ has a much higher rate (62.5%) than the severe material deprivation component included in the AROPE rate (42.2%).

In 2016, employment rates for both males and females aged 55-64 in Bulgaria were quite high – 58.3 percent for males and 51 percent for females. The gap between men and women in terms of employment is smaller than in most EU Member States.

In 2015, remaining life expectancy at the age of 65 was 16 years – 14 years for men and 17.6 years for women. This is the lowest life expectancy at the age of 65 among all countries in the EU. It should be noted that 40-year projections are based on the assumption of a much more compact distribution of life expectancy among EU Member States. For Bulgaria, this means assuming a significant increase in the duration of life.

In terms of housing conditions, the situation has developed in different directions. The overcrowding rate among people aged 65 and more has dropped significantly since 2008, from 24.8 percent to less than 17 percent. The decrease in overcrowding looks like a stable trend but the housing cost overburden rate among the elderly has risen sharply from 16.7 percent in 2008 to 24.4 percent in 2015. As the tenure rate in Bulgaria is very high (88.9%) the housing cost overburden is most likely related to the rise of utility costs and the rising costs for the maintenance of old private housing stock.

In terms of access to healthcare most of the persons aged 65+ and all of the persons aged 75+ do not face problems with the lack of health insurance which persist in the Bulgarian healthcare system. Retired persons and persons who get social pensions are insured by the state. There are however territorial disparities in access to healthcare which affect primarily the elderly. In less urbanised areas, which usually have a high proportion of the elderly population, access to healthcare is problematic due to irregular or non-available public transport and high transportation costs. It should be noted however that the period 2008-2016 was marked by a dramatic decrease in self-reported unmet need for medical care among persons aged 65+ of 16.7 p.p., more pronounced among women (-18.7).

3.1.2. Redistributive elements of public pension schemes

Conditions related to health and lifestyle will become increasingly important in the context of the increasing pensionable age. Longer working lives will require longer years in good health. Currently, the average years in good health in Bulgaria are roughly equal to the retirement age, which means that the expected number of healthy life years at age 65 is low, implying that a significant share of the elderly will suffer from disability or chronic illness soon after their legal retirement.

In 2017, the minimum pension was increased twice (in July and October) reaching 200 BNG at a cumulative pace significantly exceeding the usual rates of indexation. The total increase was approximately 24 percent – from 160 BGN (82 EUR) before the first increase to 200 BNG (102 EUR) after the second increase, while the average growth rate for all pensions was 2.4 percent. This decision has a strong redistributive effect and will contribute to reducing the official poverty rate among retired persons. Criticisms came from both employer organisations and trade unions, with the argument that a policy of more rapid increase of the minimum pension runs against the principles of contributory fairness and violates the existing indexation rules. The accelerated increase of the minimum pension was, however, a discretionary decision, which is neither part of the overall indexation framework nor of any mid-term commitments.

Maternity leave does not constitute a career break in terms of pension rights. Maternity and other related to childcare periods are credited as contributory service without making any social insurance contributions. During these periods the health insurance contributions are paid by the respective employer. Unemployed persons who are not entitled to unemployment benefits are not insured and do not build pension entitlements.

3.2. Retirement conditions for the self-employed and for people in non-standard employment

In 2016, there were 155,876 self-employed persons insured for pensions, sickness and maternity, while 86,797 self-employed persons were paying contributions for pensions only. The self-employed cannot opt out from paying social security contributions even in months in which their income is very small.

There are no specific rules concerning the allocation of pensions to self-employed persons in Bulgaria. The formula for the calculation of the amount of the pension is the same. The Bulgarian pension formula takes into account the whole duration of service and the insurable income in each month. It thus strongly favours unbroken careers, which works to the disadvantage of many categories of the self-employed and people in irregular employment.

Self-employed persons who have been granted pensions are not obliged to pay social security contributions. Since the law does not define the types of pension which grant an exemption from paying social security contributions, all pensioners are exempt, i.e. those receiving personal, survivor’s, disability and other pensions. But self-employed pensioners can choose to pay social security contributions.

Social security contributions are also not paid by self-employed persons who are insured for sickness and maternity for the time of temporary incapacity for work, pregnancy and childbirth and raising a child or adoption of a child from 2 to 5 years old.

3.3. Future adequacy and challenges

In the new base case, both net and gross theoretical replacement rates (TRRs) are expected to increase in 2056 in comparison with 2016. Future TRR projections (both gross and net) show no difference between the replacement rates for average- and low-earners, indicating that pensions (and taxation) may have little influence on reducing inequality.

Various career breaks of 3 years are expected to have a similar small impact reducing TRRs by less than 3 p.p. Deferring exit by 2 years however will lead to a substantial increase in the TRR raising it by 11.4 p.p. for those retiring in 2056. This reflects the policy to stimulate deferred retirement by tripling the accrual rate for each year of employment after pension age. At the same time, retirement duration is expected to increase by 4.6 years for men and 3.8 years for women by 2056, according to Ageing Working Group (AWG) estimates.

A major challenge for Bulgaria will be to address the existing and future gender gap in most indicators of poverty, material deprivation and overall social exclusion.

4. Main opportunities for addressing pension-related challenges

Monetary poverty among persons of retirement age remains higher than among other age groups. Pension adequacy remains a challenge. The government may have to undertake an accelerated increase of the minimum pension in some of the next years, despite strong opposition by some employer organisations which can be expected. The pension indexation formula depends on inflation and the growth of the average wage (insurable income) with equal weights. This means that, in periods of relatively high inflation, the indexation rate leads to accelerated growth of pensions vis-à-vis wages, i.e. to the improvement of indicators such as replacement rates. In times of low inflation, the indexation leads to pensions lagging behind wages. In recent years, Bulgaria has had a long period of very low inflation and even deflation. Current annual inflation is about 2 percent. In 2016, it was close to 0 while the average annual wage grew by 9.5 percent.

There is evidence of a continuing lack of interest on the part of insured people in the performance of their pension funds. On average, 80 percent of all newly registered members of private pension funds were assigned to the fund by a special commission of the National Revenue Agency which, according to the law, has the obligation to assign persons who did not express any preference. Restoring trust should also involve strengthening the legal protection of the interests of persons insured in the statutory and supplementary funded pension schemes to avoid the repetition of, in the assessment of a recent World Bank and IMF technical note, 'previous bad conduct'.[3]

The private pension funds operating as part of the statutory funded pension scheme will start paying out benefits around 2020. The rules for paying pensions are not defined yet apart from some very general provisions in the social security code. A discussion has started involving the government, employer organisations and trade unions, and representatives of the private pension funds.

[3] Randle, A. (2017). *Insurance and Pension Supervision Technical Note*, May 2017, the World Bank.

5. Background statistics – Bulgaria

1. Relative incomes of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.80	0.87	0.73	0.14	0.18	0.09
Income quintile share ratio (S80/S20), 65+	4.3	4.3	4.1	0.3	0.6	0
Aggregate replacement ratio (ARR)	0.45	0.50	0.42	0.11	0.13	0.06

2. Poverty and material deprivation

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+ (%)	45.9	36.5	52.3	-19.6	-27.2	-14.5
At-risk-of-poverty (AROP), 65+ (%)	24.3	15.9	30.1	-9.5	-10.9	-8.5
Severe material deprivation (SMD), 65+ (%)	37.5	30.6	42.2	-23.5	-28.9	-19.8
At-risk-of-poverty or social exclusion (AROPE), 75+ (%)	53.1	40.5	60.4	-18	-28.0	-12.2
At-risk-of-poverty (AROP), 75+ (%)	29.8	16.8	37.5	-10.6	-12.8	-9.6
Severe material deprivation (SMD), 75+ (%)	43.4	33.7	49.1	-22.6	-30.2	-18.3
Relative poverty gap, 65+ (%)	16.3	16.0	16.4	-1.9	1.5	-3.8
At-risk-of-poverty (AROP), 65+: 50% threshold (%)	12.0	7.7	14.9	-6.3	-4.2	-7.8
At-risk-of-poverty (AROP), 65+: 70% threshold (%)	36.2	26.2	43.0	-11.4	-16.4	-8.0
				Change 2014-2016		
Material and social deprivation, age 65+ (%)	57.4	50.1	62.5	-5.5	-7.0	-4.4

3. Gender differences

Indicator	2016	Change 2008-2016
	Total	Total
Gender gap in pension income (65-79) (%)	27.43	0.64*
Gender gap in non-coverage (W-M in p.p.) (65-79)	-1.8	-2.0*

4. Housing and health situation of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Population 65+ living in overcrowded households (%)	16.9	13.0	19.5	-7.9	-6.7	-8.9
Tenure status among people 65+: share of owners (%)	88.9	91.8	86.9	-0.8	0.5	-1.6
Housing cost overburden, 65+ (%)	26.1	19.9	30.3	9.4	5.1	12.2
Self-reported unmet need for medical care 65+ (%)	4.2	3.5	4.7	-16.7	-13.7	-18.7
Healthy life years at age 65 (years) **		8.7	9.5		-0.1	0.1

5. Pension duration

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Pension payment duration (2012) (years)		20.6	24.9			
Retirement duration (AWG) (years)		15.7	20.3		20.1	23.9

Data source: (1) (2) (3) (4) Eurostat, Sept-Oct 2017 (5) European Commission

*Notes: * - there were breaks in time series (2008 data).*

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net (%)				Gross (%)			
		2016		*2056*		*2016*		*2056*	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Variant: old base case: 40 years up to 65	61.7	72.8	73.8		48.3	57.0	58.9	
	New base case: 40 years up to the SPA	57.3		73.8		44.9		58.9	
	Increased SPA: from age 25 to SPA	55.6	51.3	73.8		43.6	40.2	58.9	
	AWG career length case	58.0	59.0	75.7	69.4	45.5	46.3	60.4	55.4
	Longer career: 42 years to SPA			77.6				61.9	
	Shorter career: 38 years to SPA			70.1				56.0	
	Deferred exit: 42 years to SPA +2			86.4				69	
	Earlier exit: 38 years to SPA -2								
	Career break – unemployment: 3 years			72.5				57.9	
	Career break due to childcare: 3 years			72.6				57.9	
	Career break caring for family dependant: 3 years			72.6				58.0	
	Short career (20-year career)			46.4				37.0	
	Work 35 years, disabled 5 years prior to SPA			*71.9*				*57.4*	
	Early entry in the LM: from age 20 to SPA			*83.3*				*66.5*	
	Index: 10 years after retirement @ SPA			66.0				52.7	
	Extended part-time period for childcare			66.2				52.9	
	Pension rights of surviving spouses								
Low (66%)	Variant: old base case: 40 years up to 65	62.3		73.8		48.9		58.9	
	New base case: 40 years up to the SPA	57.9		73.8		45.4		58.9	
	AWG career length case	58.6	59.7	75.7	69.4	46.0	46.8	60.5	55.4
	Career break – unemployment: 3 years			72.5				57.9	
	Career break due to childcare: 3 years			72.6				57.9	
	Short career (20-year career)			46.4				37	
High	New base case: 40 years up to the SPA	49.6		52.8		38.8		42.5	
	Average replacement rate across retirees								

7. Sustainability and context

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65 (years)	16.0	14.0	17.6	21.4	19.8	23.0
Old-age dependency ratio (20-64) (%)	33.4	26.7	40.2	69.7	60.4	79.4
Economic old-age dependency ratio (15-64) (%)	47.6	35.3	61.5	95.6	76.9	118.2
Employment rate, age group 55-64 (%)	54.5	58.3	51.0	58.1		
Pension expenditure as % of GDP (ESSPROS)	8.9*					
AWG projections		2016			2055	
Coverage ratio (% of pop aged 65+)						

Data source: (6) Member State and OECD; (7) European Commission, DG ECFIN

*Notes: * - 2015*

Czech Republic (CZ)

Highlights

- The Czech pension system has a significant redistributive function and is effective at protecting the elderly population against poverty and social exclusion, with one of the lowest AROPE rates in the EU.
- The 2017 pension reform capped the ongoing increase of the pensionable age at 65 years to be reached in 2030. Thereafter, the pensionable age should be reviewed in the light of life-expectancy gains.
- Recent reforms are likely to positively influence pension adequacy, but could have a negative impact on long-term sustainability.
- The government should reflect on how to support the income-related component of the old-age security system. A possible way forward would be to better involve employers in diversifying the income of future retirees via supplementary schemes.

1. General description of the national pension system

The Czech pension system is currently based on two distinct pillars, although the discourse of the last 20 years speaks of dividing it into three pillars. The first pillar, a statutory pension scheme (defined-benefit, pay-as-you-go (PAYG)), is operated by the state and plays a dominant role (representing more than 90 percent of old-age pensioners' income). The second pillar, a statutory funded pension scheme (defined-contribution (DC), fully funded), was started from the beginning of 2013 (as a voluntary partial opt-out from the first pillar) and closed at the end of 2015. The third pillar consists of personal pension insurance (DC, fully funded scheme) with state contribution and other forms of individual security for old age consisting of products offered by commercial insurance companies (even though it covers 52.6% of the population aged 0-65, it represents less than 0.1% of current old-age pensioners' income).

The statutory defined-benefit, PAYG pension scheme (the so-called first pillar) is based on compulsory pension insurance. This pillar is universal and compulsory for employees and self-employed persons, and also allows restricted voluntary participation for some categories of economically inactive persons. The contributory principle is reflected only to a limited extent due to application of the principle of income solidarity. The pensionable age is 63 years and 4 months for men and 62 years and 8 months for women without children in 2018 (lower by up to 4 years for women, depending on the number of children raised). The pension from this pillar consists of two elements: a universal basic amount (flat-rate), which is equal to 9 percent of the national average wage, and an individual earnings-related component. The latter is based on the length of the insurance period – there is an accrual rate of 1.5 percent of the reduced personal calculation basis for each year of insurance. The personal calculation basis is reduced in accordance with defined thresholds. Up to 44 percent of the average wage, 100 percent of the reference income is considered; and between 100 and 400 percent of the average wage, only 26 percent is considered. Generally, pensions in payment are indexed on an annual basis (consumer or pensioners price index growth plus 50 percent real wage growth; see the section on reform trends for exception and recent developments). The universal basic component, together with the indexation method, results in the situation where higher pensions are indexed at a slightly slower rate than lower pensions. Except for very high pensions, pensions are not subject to taxation. The contribution rate is 28 percent and is split between employees (6.5%) and employers (21.5%). Since 2009, the pension system has been in deficit, with a positive outlook for restored balance in 2018. There is no special treatment of arduous jobs within the first pillar of the pension system, with an exception for approximately 4000 miners who can reduce their retirement age by 10 years.

This pillar allows for a flexible retirement option with actuarial adjustment (early or deferred retirement). The early retirement penalty depends on how prematurely the old-age pension is drawn. The proportion of early old-age pensions reached 33.5 percent of newly granted pensions in 2013, but only 28.3 percent in 2016. Deferred old-age pensions represented only 1 percent of newly granted pensions in 2016 since there is no restriction in terms of receiving an old-age pension and continuing to work (with the exception of early-retirement pensions), despite the fact that the bonus for performing a job after the regular pensionable age is higher for persons who do not simultaneously draw a pension. The working pensioner can periodically apply for an increase in the earnings-related component of pension.

The personal pension scheme (the so-called third pillar) is voluntary, a DC, fully funded scheme with direct state contribution. In addition to the state contribution, the government also provides tax incentives for private saving. The system is administered by pension companies. The participation rate is over 70 percent of the economically active population. The rates of return on the funds averaged less than 2 percent in the last few years and oscillated around the rate of inflation. Contributions to the system can be made by participants themselves and by their employers. Participant contributions up to a monthly contribution of CZK 1,000 (EUR 38) are supplemented by a state contribution. Monthly participant contribution between CZK 1000 and CZK 3000 (EUR 38-115) is exempt from income tax. Roughly 21 percent of participants receive a contribution from their employer. Employer contributions up to a certain ceiling are exempt from employee income tax and social security contributions. According to Vidovićova et al. (2015), it seems that the average participant contribution level is low (less than 10 percent of the contribution to the mandatory first pillar) and cannot be expected to significantly compensate for the drop in earnings after retirement. It is possible to claim third pillar benefits up to 5 years before reaching pensionable age (which under certain conditions cancels the reduction of the first pillar pension due to early retirement). The benefits can be claimed while staying economically active. It is envisaged that this measure will decrease the risk of poverty of mainly persons performing arduous jobs in the case they lose their job just a few years before pensionable age. This scheme has not been used much; only 2481 individuals received this benefit by Q3 2017.

2. Reform trends

The pensionable age is being increased since 1996, while the pace of increase has been modified several times. The legislation adopted in 2011 provided for a gradual increase of pensionable age at set pace without upper limit. The coalition government (2013-2017) proposed a measure raising the retirement age in a way that would better reflect the changing life expectancy that was approved by the parliament in June 2017. It comes into effect from 2018. According to the approved law, the present increase of pensionable age will continue until it reaches 65[4] in 2030. Starting in 2019 the assessment of life expectancy developments will take place every 5 years, but should only affect people younger than 55 years of age and thus smoothly continue in retirement age changes after 2030. In the event of a change, an adjustment of the retirement age should be proposed to ensure that the relative time spent in pension will maintain around 25 percent of the life span of the average pensioner. The approved law does not include an automatic mechanism for changing the pensionable age; therefore in the future pension system will be exposed to ad hoc political decisions over

[4] For men and women with no or one child

pensionable age increase every 5 years, adding potential instability. The legal fixing of the pensionable age at 65 years translates into decreased fiscal sustainability of the pension system.

The standard mechanism linked pension indexation fully to the consumer price index (CPI) increase and partially (1/3) to the real wage growth. As an austerity measure, a temporary indexation arrangement was legislated in 2012. The standard mechanism was replaced with a reduced mechanism (1/3 to both the CPI and the real wage growth) for the years 2013-2015. Since it was heavily criticised for not preserving the purchasing power of pensions, the last government (2014-2017) decided to abandon the reduced mechanism 1 year earlier. At the same time, the government proposed that each pensioner would receive an extra CZK 600 (EUR 23) at the end of 2015 however the amount paid was increased to CZK 1200 (EUR 46) during Parliamentary approval procedure and the payment was postponed to February 2016 to compensate pensioners for a low monthly statutory indexation of pensions by CZK 40/EUR 1.5 in 2016. And finally, a discussion started on how to change the indexation rules to allow the government to extend pension indexation even beyond what is required by law.

The discussion resulted in three adjustments to the indexation rules for paid pensions. The first amendment was approved already in 2016. It stipulates that if the pension indexation formula allows pensions to rise by less than 2.7 percent, the government may decide to top pensions up to 2.7 percent. This amendment was already used in pension indexation in 2017. This year (2017), the parliament agreed that the government will use an indexation formula based either on the increase in consumer prices for households of pensioners or the increase in consumer prices for all households (whichever is higher). Finally, the last change approved in 2017 replaces the one-third growth in real wage in the indexation formula with a one-half growth in real wage. It was designed with regard to the expected drop in the replacement rate of almost 5 percentage points (p.p.) by 2030 (for more information on the draft see Pension Committee, 2016). The average pension increased by CZK 475 monthly (approximately EUR 18, which corresponds to a 4 percent change in the amount of the pension) in January 2018 (compared with CZK 410 if the original indexing rules were applied). The change will influence all pensioners, with a slightly greater impact on the pensioners with above-average pensions whose pensions were indexed at a slower pace than below-average pensions under the past rules. At the same time, the adopted measure will increase the financial instability of the pension system in the medium term.

The second-pillar, statutory funded scheme (DC, fully funded; a voluntary partial opt-out from the first pillar) was started from the beginning of 2013 and abolished at the end of 2015. The contributions were returned back to the participants by the end of 2016. The volume of the returned contributions was negligible – CZK 3.4 billion (EUR 126 million).

Between 2012 and 2015, several changes to the third pillar were approved by parliament. They aim at improving the security of participants' capital, at encouraging people to increase their contributions to the system, at separating the accumulated capital of participants from the assets of pension institutions, and at making the pillar accessible even to individuals below 18 years of age. For contracts signed after 1 January 2013, pension companies are allowed to offer new investment strategies with higher volatility in terms of rates of return and without zero return guarantees. According to the Association of Pension Funds (2017), only 15 percent of participants save in the new type of funds, the rest remain in the old ones with the guarantee of at least zero returns. The proportion between old/new types of funds changes only slowly.

There is currently no specific retirement treatment of a group of workers in arduous or hazardous jobs. The only exception (inherited from communist times) is preferential pension rules for miners. After a discussion in the parliament following the incipient bankruptcy of the biggest coal-mining company in the north Moravian region, the measure was relegislated in 2016 to help people in areas where a gradual reduction in coal mining was expected. The measure applies to fewer than 4000 workers who are allowed to reduce their retirement age by 10 years. A special (rather generous) method of pension calculation also applies.

Although the debate before the parliamentary elections (October 2017) did not address the issue of the pension system, the winner of the elections announced further changes to the system in 2018 and subsequent years.

3. Assessment of adequacy

3.1. Current adequacy

3.1.1. General assessment of current adequacy

According to Eurostat, just 10.7 percent of the population over the age of 65 years were at risk of poverty or social exclusion (AROPE) in 2016, which represents an improvement of 2.4 p.p. compared with 2008. Moreover, the proportion is stable and the improvement cut across different age groups; only 12.1 percent of the population over the age of 75 years were AROPE in 2016, compared with 13.4 percent in 2008. The Czech Republic belongs to the group of countries with the lowest values of this indicator over the reference time (for reasons, see the following chapter on redistributive elements). The proportion of women (aged 65+ or 75+) who are AROPE is more than twice as large as that of men, although this difference narrowed between the years 2008 and 2016 (more for men 75+ than for women 75+). Furthermore, AROPE values decreased for both genders.

The reason behind this development is especially the development of severe material deprivation, which decreased by more than a half between 2008 and 2016. Greater improvement was seen among women (both 65+ and 75+) than men. While overall the indicator of being at risk of poverty (AROP) slightly deteriorated between 2008 and 2016, it saw a remarkable turnaround within this period. In the period 2013-2016, the Czech Republic experienced economic recovery, but at the same time applied restrictions on pension indexation (see the section on pension reforms). During this period, pension indexation was behind the growth of wages and even behind the growth of newly granted pensions. This explains why the AROP indicator worsened more for the 75+ age group, in particular for women, and less for the 65+ group. In connection with the rapid wage increase in 2016 and 2017, one can expect a slight deterioration of the AROP indicator. On the other hand, one can connect positive outlooks with the new pension indexation principle legislated for in 2017.

The above-described effect of pension indexation on AROP values influenced, in the same way, the entire income spectrum of old-age pensioners. The same development thus concerns not only the narrow group of pensioners at risk of monetary poverty but also retirees with median pension values (the indicators relative median income ratio 65+ and aggregate replacement ratio). Therefore, income poverty was stable in the Czech Republic within the period 2008-2016, with the lowest values comparable to the rest of the EU countries.

The Czech Republic is among four countries with the lowest values of the gender gap in pensions indicator (GGP) (age group 65-79). While the EU-27 average was 37.22 percent in 2016, the level of the GGP was only 13.35 percent in the Czech Republic. Even though the gender pay gap in the Czech Republic is one of the biggest in the whole EU (22.5% in 2015), the income-equalising nature of the pension formula mitigates its influence. At the same time, non-contributory periods related to childbearing and childrearing (applicable to children under 4 years old and mostly concerning women) are fully recognised in the pension formula.

Another reason behind the rather low GGP is the low proportion of part-time employment among women. In spite of the above-mentioned, in 2016, newly granted women's pensions were 15.9 percent lower than men's pensions. Similar figures had also been recorded in previous years. The number is influenced by the fact that women were more likely to apply for early retirement than men (and early-retirement pensions are lower). The gap in these newly granted pensions translated into a slight deterioration in GGP between 2008 and 2016, from 11.22 percent to 13.35 percent.

Pension payment duration (23.9 years) is lower by 1.7 years than the EU average. At the same time, however, the Czech Republic belongs to the group where the difference between this indicator for men and women is the highest because of longer life expectancy for women (at 65, 3.5 years longer than for men) and earlier average pension claim (3.1 years before men), caused by the pensionable age difference and the fact that women are more likely to claim early retirement. Taking into account the gender gap in pensions, women’s pension wealth is about 15 percent higher than men's (among the biggest differences in EU-28).

A high and rising proportion of older people are homeowners. At the same time, the housing cost overburden rate fell. Although this rate decreased equally for both sexes, women have higher housing costs relative to income (given their lower pensions and higher life expectancy, and hence their greater likelihood of being widowed).

3.1.2. Redistributive elements of public pension schemes

The first pillar is the dominant part of the Czech pension system. It has an important income-redistributive nature. The old-age pension consists of a flat pension element and an earnings-related part calculated according to a progressive formula. The value of the universal basic amount (flat-rate) equals 9 percent of the average wage. The earnings-related pension gives 1.5 percent of reduced earnings for each service year (see the general description section). According to the OECD, the Czech Republic belongs to countries with the lowest pension diversification in the EU. The main reason is the progressive benefit formula.

The existence of the survivor’s pension positively influences the level of the gender gap in pensions. According to the CSSA, 549,000 widow’s pensions were paid out to women each month in 2016, but only 98,000 widower’s pensions were paid to men. Almost 95 percent of these survivors’ pensions are paid to persons already eligible for an old-age pension. The average monthly widow's pension (provided concurrently with the old-age pension) was CZK 1906 (EUR 73.3) in 2016, representing 15.5 percent of the pension incomes of the women receiving it. Contrariwise, the average widower's pension was only CZK 1388 (EUR 53.4), representing 9.9 percent of the man’s pension. Survivors’ pensions, which supplement old-age pensions, therefore mostly increase the incomes of women and constitute a major redistributive element of the system.

The calculation of the earnings-related component of the retirement benefit is subject to a ceiling, set at 400 percent of the average wage in the economy. Since less than 1 percent of taxpayers have income over the ceiling, its real effect on the pension system revenue or pension redistribution is negligible.

Pension indexation rules have a substantial effect on redistribution in the pension system. These changed several times between 2008 and 2017 (see the section on reform trends). Lower indexation in the years 2013 and 2014 affected all groups of retirees and further reduced the differentiation of pensions paid. The one-off pension paid in 2016 increased incomes by the same amount for all retirees.

3.2. Retirement conditions for the self-employed and for people in non-standard employment

In the Czech Republic, non-standard forms of employment include mainly self-employment (17.3% of total employment) and, to a lesser extent, fixed-term contracts (8.5%), part-time work (6.7%) and occasional work. Self-employment may, to an extent, function as a substitute for other non-standard forms of work since it is advantageous in terms of social insurance obligations and tax duties.

The Czech social security system is, in principle, uniform for employees, self-employed people and other non-standard labour categories. Social insurance coverage of occasional work contracts is subject to income thresholds. These contracts are, however, only marginal: they are typically concluded in parallel with another employment contract.

As for self-employed persons, the amount of the contribution is equal to 28 percent of the assessment base and the percentage is the same as for employed persons. The assessment base is set by the self-employed person and corresponds to at least 50 percent of the average monthly income after deducting expenses, but no less than 25 percent of the average wage (or 10 percent of the average wage for the self-employed for whom self-employment constitutes a secondary activity). The statutory pension scheme is mandatory for those self-employed for whom self-employment represents a major activity and source of income, without the possibility to opt out. The self-employed persons for whom self-employment constitutes a secondary activity are insured only when their annual income from the self-employed activity exceeds the average wage by at least 2.4 times. On the other hand, these persons are already insured on the basis of fulfilling other conditions. It seems that the biggest problem for pension protection of self-employed persons is their insufficient contributions to the pension system, which is due to their decision to set a low assessment base. Consequently, since the earnings-related pension component forms the biggest part of the old-age pension, some self-employed people can expect very low pensions. Yet, the Czech pension system guarantees a (modest) pension even to those self-employed people who have been paying the lowest statutory contributions throughout their whole career.

At the same time, there has been a long-standing debate in the Czech Republic on whether the self-employed contribute an adequate share to the social system. The Czech Ministry of Labour and Social Affairs (MLSA) admits that it does not have full access to registry data on contributions paid by self-employed people. Therefore, it is unable to calculate what pension each self-employed worker can expect in the future. In an attempt to draw attention to this issue, the Ministry sends all self-employed persons a letter with information on the projected pension rights of selected model individuals. Comparing a model employee with a monthly wage of EUR 1000 (approximately 90% of the average national wage in 2017) and a self-employed person whose income equals the employee's labour costs, the net income of the self-employed person is 154 percent, the pension contribution is 27 percent, and the expected pension is 56 percent of the corresponding employee's figures.

3.3. Future adequacy and challenges

As regards adequacy projections, theoretical replacement rates (TRRs) are expected to slightly deteriorate between 2016 and 2056. The new base case (40 years to the standard pensionable age or SPA) is expected to see a decrease of 5.4 percent by 2056. Raising the SPA beyond 65 years should further improve future TRRs.

There is a question whether gradual development of the SPA will be followed by an adequate prolongation of individuals' careers. The employment rate of workers aged 55-64 years is expected to increase by 5.2 percentage points (p.p.) to 63.7 percent in 2016. This aspect is tackled in the 'Ageing Working Group (AWG) career length' scenario. According to this scenario, the value of the net TRR will deteriorate to 55.0/48.7 percent (M/W) in 2056. It seems that women will be more affected by interrupted working careers than men. At the same time, a career break due to childcare or care for other dependants does not influence TRRs in 2056. The same does not apply to a shorter-working-career scenario. In this case, the individual is expected to proportionally reduce the TRR by approximately 1 p.p. for each year of the career break (a similar proportion applies to a longer-career scenario). Even bigger cuts are connected to the early-exit scenario, which may be due to labour market reasons (low employability of persons 2 years before SPA with 38 years of insurance). In such a case, the penalty is about 3 p.p. for each year in retirement before SPA.

As a result of the progressivity of the benefit formula TRRs are better for persons with lower lifetime incomes (all 66% average-wage scenarios) and rather low in the case of higher lifetime incomes (a gradual increase from 100% to 200% of average wages over the professional life course). Due to the indexation formula, the TRR 10 years after retirement is lower by 2.9 p.p. in 2056. This affects women (with their longer life expectancy) more than men.

4. Main opportunities for addressing pension-related challenges

In recent years, several reforms of the first pillar of the pension system have been approved in the Czech Republic. These improve the adequacy of pensions (a change in the method of pension indexation) and positively influence the pension payment duration (postponing the retirement age without increasing unemployment among the elderly). However, these measures have a negative impact on the long-term fiscal sustainability of the system. Therefore, the most significant challenge will be to maintain the financial stability of the system. As regards the retirement age reform, it is important that the government can regularly respond (at 5-year intervals) to the changing demographic situation and that parliament can approve unpopular changes. As regards pension indexation reform, which is to improve the income situation of older retirees, it will be necessary to find financial resources to cover the cost of this measure.

The question also remains of setting the proportion between the basic and the percentage-based components of new pensions. The discussion should focus on whether or not to simplify the retirement benefit formula in the future so that the basic flat amount would represent a much greater proportion of people’s pensions. The (reduced) percentage-based component could thus be fully equivalent in relation to the beneficiaries’ previous incomes. The above-discussed aspects are closely linked to the question of possible adjustments to pension indexation. Increasing the weight of the basic flat rate would, given the current indexation formulas, greatly favour low-income earners, who would thus benefit from better protection against poverty and social exclusion compared with today. Since the recent reforms prolonged pensionable age and extended the minimum insurance period to 35 years, it could also benefit those individuals who will have a problem complying with these conditions. Finally, this change could stabilise the future pensions of self-employed people who can expect very modest pensions since they pay minimum premiums today.

Even though future pensioners' incomes rely mainly on pension from the first pillar, it is crucial to further develop the supplementary schemes arrangement. Therefore, the key question is greater financial involvement of employers in the third pillar (supplementary pension savings scheme and personal pensions). Currently, there are strong economic incentives for larger employer participation, but there is lack of systematic information campaigning (tripartite, trade unions) to motivate employers. Even though the labour market currently accommodates the pensionable age extension very well, the future government should prepare for a less favourable situation. The discussion will focus on how employees performing arduous and hazardous jobs would effectively utilise early drawing of their personal pensions. Lower dependence on income from the first pillar is also important to those individuals who, when reaching the retirement age, do not meet the minimum required insurance period.

Replacement rates are not expected to deteriorate significantly, on the assumption that today's formula of benefit calculation is kept. However, there are two risks. Firstly, due to the ageing of the population, expenditure is expected to exceed the revenue of the pension system. The ability to maintain replacement rates will be influenced by society's willingness to cover pension system deficits from other sources (e.g. indirect taxes or a state budget deficit). Secondly, extending the retirement age and wage differentiation will further strengthen the need for income redistribution. In this situation it is clear that the income level of future pensioners will depend much more than today on an individual's retirement savings. Questions of how to increase savings in the third pillar (currently the average monthly contribution is CZK 1160 (EUR 45)), or even of the possibility of (re)introducing mandatory savings for some categories of employees will certainly be part of the discussion on the continuation of pension reform.

5. Background statistics – Czech Republic

1. Relative incomes of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.79	0.80	0.78	0	0	0
Income quintile share ratio (S80/S20), 65+	2.4	2.3	2.4	0.1	0.2	0
Aggregate replacement ratio (ARR)	0.50	0.51	0.57	-0.01	0.03	0.01

2. Poverty and material deprivation

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+ (%)	10.1	5.1	13.7	-2.4	-2.4	-2.4
At-risk-of-poverty (AROP), 65+ (%)	8.1	3.6	11.4	0.7	0.3	1.2
Severe material deprivation (SMD), 65+ (%)	3.0	2.4	3.4	-3.4	-2.3	-4.1
At-risk-of-poverty or social exclusion (AROPE), 75+ (%)	12.1	3.7	17.3	-1.3	-3.0	-0.1
At-risk-of-poverty (AROP), 75+ (%)	10.1	2.1	15.0	2.2	-0.4	3.8
Severe material deprivation (SMD), 75+ (%)	2.7	1.7	3.3	-3.5	-2.9	-3.9
Relative poverty gap, 65+ (%)	10.2	12.8	9.8	2.3	6.0	1.9
At-risk-of-poverty (AROP), 65+: 50% threshold (%)	1.6	1.4	1.8	0	0.4	-0.3
At-risk-of-poverty (AROP), 65+: 70% threshold (%)	22.4	13.0	29.4	0.6	0	1.2
				Change 2014-2016		
Material and social deprivation, age 65+ (%)	8.1	5.9	9.8	-3.2	-1.7	-4.4

3. Gender differences

Indicator	2016	Change 2008-2016
	Total	Total
Gender gap in pension income (65-79) (%)	13.35	2.13
Gender gap in non-coverage (W-M in p.p.) (65-79)	-0.2	1.4

4. Housing and health situation of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Population 65+ living in overcrowded households (%)	6.6	3.7	8.8	-8.0	-7.4	-8.3
Tenure status among people 65+: share of owners (%)	79.8	83.6	77.1	4.6	6.0	3.7
Housing cost overburden, 65+ (%)	12.2	8.2	15.1	-4.2	-4.5	-4.0
Self-reported unmet need for medical care 65+ (%)	1.1	1.3	0.9	0.1	0.4	-0.2
Healthy life years at age 65 (years) *		8.0	8.6		0.5	0.4

5. Pension duration

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Pension payment duration (2012) (years)		18.4	25.7			
Retirement duration (AWG) (years)		19.0	20.3		21.9	26.2

Data source: (1) (2) (3) (4) Eurostat, Sept-Oct 2017 (5) European Commission

*Notes: * - 2015 data*

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net (%)				Gross (%)			
		2016		*2056*		*2016*		*2056*	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Variant: old base case: 40 years up to 65	84.5	94.7	68.5		67.1	65.2	54.1	
	New base case: 40 years up to the SPA	60.0		54.6		45.2		41.1	
	Increased SPA: from age 25 to SPA	57.6		54.6		43.4		41.1	
	AWG career length case	63.6	62.4	55.0	48.7	47.9	47.0	41.4	36.7
	Longer career: 42 years to SPA			56.8				41.1	
	Shorter career: 38 years to SPA			52.5				39.5	
	Deferred exit: 42 years to SPA +2			62.7				47.1	
	Earlier exit: 38 years to SPA -2			48.7				36.7	
	Career break – unemployment: 3 years			54.3				40.9	
	Career break due to childcare: 3 years			54.6				41.1	
	Career break caring for family dependant: 3 years			54.6				41.1	
	Short career (20-year career)			31.2				23.5	
	Work 35 years, disabled 5 years prior to SPA			54.6				41.1	
	Early entry in the LM: from age 20 to SPA			60.0				45.1	
	Index: 10 years after retirement @ SPA			51.7				38.9	
	Extended part-time period for childcare			52.8				39.7	
	Pension rights of surviving spouses								
Low (66%)	Variant: old base case: 40 years up to 65	84.5		68.5		67.1		54.1	
	New base case: 40 years up to the SPA	75.7		68.5		60.1		54.1	
	AWG career length case	80.1	78.6	68.9	61.3	63.6	62.4	54.5	48.5
	Career break – unemployment: 3 years			68.2				53.9	
	Career break due to childcare: 3 years			68.5				54.1	
	Short career (20-year career)			39.9				31.5	
High	New base case: 40 years up to the SPA	38.7		32.1		27.7		24.0	
	Average replacement rate across retirees								

7. Sustainability and context

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65 (years)	17.8	15.9	19.4	22.6	20.9	24.3
Old-age dependency ratio (20-64) (%)	29.5	24.2	35.0	61.0	55.2	67.0
Economic old-age dependency ratio (15-64) (%)	36.8	26.7	49.6	74.9	62.1	90.8
Employment rate, age group 55-64 (%)	58.5	68.2	49.3	63.7		
Pension expenditure as % of GDP (ESSPROS)	8.8					
AWG projections	2016			2055		
Coverage ratio (% of pop aged 65+)						

Data source: (6) Member State and OECD; (7) European Commission, DG ECFIN

Denmark (DK)

Highlights

- The heralded Danish multi-pillar system does have its merits but the ongoing transition towards a larger role for occupational pensions is not without challenges.
- Public pensions are effective at preventing poverty and involve a significant redistribution in favour of those without a supplementary pension. However, the interaction between statutory and supplementary pensions creates savings disincentives; the 2017 reform aiming to address them may, in and of itself, be inadequate and somewhat add to the complexity of the system.
- Occupational pensions provide good income replacement and cover nearly all full-time employees. Self-employed and non-organised workers are not covered, and only a few compensate by saving enough in personal pension schemes.
- Future pension reforms could integrate the old-age saving scheme into occupational pensions, address the coverage problem in supplementary pensions and improve retirement options for persons in hazardous/arduous work.

1. General description of the national pension system

For old-age provision, Denmark has a pension system with three pillars, i.e. statutory, occupational and personal. Retirement practices are also markedly affected by the voluntary early-retirement pension scheme, VERP (*efterløn*) and disability pensions (*førtidspension*).

The statutory pillar consists of two old-age pension schemes, i.e. the national old-age pension, also known as the public pension (*folkepension*), and the much smaller statutory funded pension (ATP). The public pension, which presently still accounts for almost two thirds of all pension income, is a universal, non-contributory, residence-based scheme financed from general taxation on a pay-as-you-go basis. People are entitled to 1/40th of the public pension for each year they reside in Denmark, between the age of 15 and pensionable age. Benefits are taxable and consist of a flat-rate amount (*grundbeløb*) and income-tested supplements (*pensionstillæg*). The flat-rate amount is tested against earned income above a significant level. The supplement is tested against earned, capital and pension income. There is a supplementary benefit for pensioners (*supplerende pensionsydelse, ældrecheck*) with little to no income besides the full old-age pension. The present standard pensionable age of 65 will be raised to 67 by 2022 and thereafter – as pioneered by Denmark – linked to developments in life expectancy. As a result, the standard pensionable age will be raised from 67 to 68 in 2030. People working at least 750 hours annually after reaching pensionable age can get about a 1 percentage point (p.p.) higher pension for each 2 months of pension deferment.

The ATP is a fully funded defined-contribution scheme financed from moderate mandatory contributions from all employed persons and all working-age claimants of social security and social assistance benefits. The ATP covered 84 percent of the working-age population in 2016 (OECD). The ATP, which has largely matured and offers a moderate supplementary annuity (typically about 10-25 percent of the flat-rate amount in the public pension), is organised in a separate fund under tripartite management.

In the second pillar, there are occupational pension schemes based on voluntary collective agreements providing compulsory coverage for the employees concerned. These, mostly sector-wide, schemes cover 94 percent of full-time employed people or 63.4 percent of the working-age population (OECD). Low coverage rates are in sectors with a large share of unskilled and non-organised labour such as in agriculture, sales and restaurants. The bulk of occupational pensions are fully funded, defined-contribution schemes with obligatory in-house annuitisations. The importance of these pension schemes in overall pension income is becoming steadily larger as the major sectoral schemes established around 1990 mature and expand as an effect of growing contribution rates. Contributions vary between 12 and 18 percent across sectors. Over a year 1 in 8 insured people pay considerably less in contributions because part of their salary does not count towards occupational pensions or because they have been in work not organised by trade unions, on study activities or on social security part of the year. On average employees covered by occupational pensions paid 12 percent of their income in pension contributions in 2014.

In the third pillar, there is a wide range of voluntary personal life insurance and pension saving plans with an uneven coverage and differing scope, of which most savings schemes allow lump-sum payments with no annuitisation obligation. These schemes are used for insurance, i.e. to secure a desired level of income security, and for compensation, i.e. to replace the lack of savings in second-pillar schemes. The compensatory function is mostly relevant for the self-employed, persons in work not covered by collective agreements and thus occupational pensions (including many persons in non-standard jobs) and social security claimants. However, with an average contribution of three percent of income into third-pillar schemes persons without occupational pensions do not compensate enough. The average 10 percent contribution made by the self-employed masks a small group with high income that pays high contributions and a large group with lower income that pays small, if any, contributions.

The VERP (*efterløn*), which has, historically, facilitated large-scale early retirement, is a voluntary, contributory scheme where the financing involves a major subsidy from general taxation. To become entitled, one must have been a member of the voluntary unemployment insurance scheme and paid the special contribution to the scheme for 30 years and started the contributions no later than on the 30th birthday (persons born before 1 January 1978 are subject to less strict requirements). One shall also be eligible for unemployment benefit, when VERP is claimed. While formally an earnings-related benefit, its floor and ceiling tend to give it a de facto flat-rate character. The lowest retirement age in VERP is being raised gradually by 2 years to 64 in 2018-2023, which will lower the maximum duration of the benefit from 5 to 3 years, and thereafter linked to developments in life expectancy. As a result, the lowest retirement age in VERP will be raised from 64 to 67 in 2027.

Pension reforms and the maturation of occupational schemes have already contributed to an increase of the average effective retirement age from 62.8 years in 2008 to 65.0 years in 2016.[5] As a result of the first longevity indexation carried out in 2015, pensionable age in the VERP and the public pension will increase by 1 year in 2027 and 2030, respectively. The aim is to limit the average duration of receipt of public pension to 14.5 years while giving people a 15-year warning before the next rise in the pensionable age. Similarly, the aim for the VERP is to limit the maximum duration to 3 years while giving people a 12-year notice.

The disability pension (*førtidspension*) is for people with a permanent loss of a major part of their working capacity. The disability pension is somewhat higher for single claimants than for those who are married or cohabiting. The senior disability pension (*seniorførtidspension*) is the closest to a special scheme for workers in hazardous and arduous work. It is a fast-track variant of the disability pension for persons who lose their ability to work less than 5 years before

[5] Better health and higher qualifications are other factors contributing to later retirement.

reaching the pensionable age. Under this scheme, persons do not have to undergo the extensive work tests otherwise obligatory to be able to become eligible for the disability pension.

The supplementary labour market pension for disability pensioners (*supplerende arbejdsmarkedspension for førtidspensionister*, SUPP) is a voluntary scheme which gives disability pensioners who are outside the labour market on a more permanent basis the possibility to build complementary entitlements by contributing to a supplementary labour market pension scheme.

2. Reform trends

Since 2014 the focus in pension policy has been on the challenges caused by the maturation of a complex multi-pillar pension system. Albeit praised for its integrated multi-pillar character, the Danish pension system has two widely acknowledged problems – the 'coverage problem' and the 'savings disincentive' problem – in pension provision resulting from the interaction between the public and private pension pillars. The coverage problem refers to the fact that the 20-25 percent of the working-age population who are not covered by the system of occupational pensions tend to have much smaller supplementary retirement savings, if any. The savings disincentive problem means that low-to-middle income workers, covered by occupational pensions, reap little to no benefit from the savings they accumulate during their last decade on the labour market because the extra private pension entitlements accruing result in a reduction of the pension income-tested part of the universal national old-age pension. This second problem may have adverse effects on work and retirement decisions.

Thus, the pension system is rather complex. Targeting through income-testing and the different tax treatment of different forms of savings results in high and differentiated marginal effective tax rates of different pension savings. This contributes to make the system less transparent. These features reduce the incentives to work and save, which in turn would impact negatively on public finances.

After several failed attempts, in 2017 the government of Liberals, Conservatives and the Liberal Alliance came up with a new proposal for pension reform looking mainly at the savings disincentive problem. In June 2017, the government and the Danish People's Party reached agreement on various changes related to pensions and retirement, including measures to address the savings-disincentive problem. To reduce savings disincentives for workers in later life and to postpone retirement and prolong working lives, the agreement sets the annual maximum contribution that can be paid into old-age savings (*aldersopsparing*) without leading to a reduction in the pension income-tested part of the national pension at EUR 670 for individuals with more than 5 years until the pensionable age (of particular relevance for people on a low income) and at EUR 6700 for individuals with less than 5 years to retirement and individuals already claiming a national old-age pension, as long as they have not already begun to draw down their pension savings. Today the annual maximum contribution is EUR 4000 irrespective of time to retirement. Most changes come into force either on 1 January 2018 or on 1 July 2018. Reception of this pension reform agreement has been mixed. Trade unions, employers' organisations and the association of insurance companies and pension funds have for a large part said that the reform is overly complicated and inadequate.

As part of the June 2017 reform the residence criteria for the public pension, the supplementary benefit for pensioners, and the disability pension were also tightened. To be entitled to a full public pension the proportion of the period a person must reside in Denmark between 15 years of age and pensionable age was increased from four fifths to nine tenths. As pensionable ages increase in the future (due to indexation with life expectancy) the demand for residence to be entitled to full pension benefits increases. People who have stayed in Denmark less time become eligible for a so-called fraction pension (*brøkpension*) as is the case today. Today, for example, a full pension requires 40 years of residence in Denmark between age 15 and 65, so 20 years of residence amounts to half a full pension. In 2022, with a then higher pension age of 67 years and stricter residence criteria, a full pension will require 46.8 years of residence; and a residence period of 20 years will amount to 42.7 percent of a full pension.

3. Assessment of adequacy

3.1. Current adequacy

3.1.1. General assessment of current adequacy

The Danish pension system scores well on poverty protection but less so on income maintenance. The aggregate replacement ratio was 0.47 in 2016. The emphasis of the universal public pension is on poverty protection whereas income maintenance is to be fulfilled by the occupational pension schemes, many of which were established around 1990, but which do not cover the self-employed and persons in jobs not covered by collective agreements. The latter groups can compensate through individual private savings which also act as a vehicle of insurance for other groups.

Low-income groups receive substantially more in public pensions and tend to have better replacement rates than high-income groups. This is a result of the income-testing of old-age pensions: the flat-rate part of the public pension (the basic amount) is only reduced for income from work income above a certain amount, while the income-tested part (the pension supplement and the supplementary benefit) is reduced for all kinds of taxable income above certain amounts and can only be claimed by people with modest or no income besides the public pension.

When measured by the poverty-protection measures of adequacy the performance of the Danish pension system appears more impressive. Thus, it manages to achieve poverty levels that are low by EU standards and these have even tended to reduce since the onset of the crisis in 2008. The at-risk-of-poverty or social exclusion (AROPE) rate for persons above 65 years of age was 9.2 percent in 2016, down 9.4 p.p. from 2008. The at-risk-of-poverty (AROP) rate for the elderly aged 65+ was 8.5 percent in 2016, down 9.6 p.p. from 2008. Yet, these fluctuations are more likely to have been caused by changes in median incomes than in pensions. Severe material deprivation was 0.7 percent in 2016, down 0.2 p.p. from 2008. 10.2 percent of women were at risk of poverty or social exclusion compared with 8.1 percent of men. When looking at the situation of persons older than 75 years, the poverty risk in old age becomes more pronounced but still remains below EU-28 levels. In 2016, 15.4 percent of over-75-year-olds were at risk of poverty or social exclusion, 14.7 percent were at risk of poverty, and 0.8 percent reported that they suffered from severe material deprivation. The AROPE rate in Denmark is 17.8 percent for women and 12.1 percent for men.

The above figures are not used in domestic debates. The social partners, the Ministries, and poverty experts all use the 50 percent median income rather than the 60 percent level used by the EU. There are two reasons for this. First, the 50 percent level has been chosen on the basis of the relatively equal income distribution and is supported by analyses of poverty based on the budget method. Secondly, it must be taken into consideration that older people in Denmark have access to free universal healthcare as well as the most encompassing free home help in the world. These non-monetary benefits that elderly people are eligible for are not taken into account in the EU indicator. The effective purchasing power of pensioners is also raised by age-related tax rebates (e.g. on owner-occupied housing) and discounts on medication, transport, admissions and radio/TV. The fact that unlike the Danish income figures Eurostat data do not include imputed rent also affects the AROP rate among older persons. The public pension contributes to only 1 percent of pensioners being at risk of poverty at the 50 percent level of the median income compared with 6 percent of the general population.

Although the gender gap in pensions decreased by 11 percentage points from 2008 to 2016 it is still at 7.75 percent. This helps explain why older women are more often overburdened by housing costs than men.

Using national sources to assess the pension system's income-replacement function, the disposable income of 68-year-olds was 77.3 percent of the average of the disposable income of the cohort in 2014. On average persons with low incomes prior to retirement have higher replacement rates than persons with high incomes prior to retirement. Persons in the lowest income decile have replacement rates of 106 percent, if including housing allowances, whereas the replacement rate is 70-75 percent for the five highest income deciles. In part, this reflects the ability of the system to take good care of persons with the lowest incomes. Persons who were formerly on social security have the highest replacement rates at 91 percent on average. Self-employed persons are in second place with a replacement rate of 83 percent. Employees have on average 71 percent in replacement rate.

The pension payment duration was 19.2 years for men and 22.7 years for women in 2012. As mentioned the welfare reform of 2006 introduced indexation of pension ages with life-expectancy increases aiming at a pension duration of 14.5 years on average.

3.1.2. Redistributive elements of public pension schemes

In particular public pensions play an important role both in securing a minimum income for low-income pensioners and in redistributing income. The national old-age pension contributes to everybody irrespective of gender, health and labour market career having a minimum income in old age. The only exception is those people who have lived a considerable part of their life abroad, see discussion of 'fraction pensions' and 'fraction pensioners' in, respectively, Sections 2 and 3.1.3.

Because a large part of the public pension is income-tested with other pension income there is a high degree of income redistribution from persons with supplementary pensions to persons without supplementary pensions. This redistribution capacity is reflected by a relatively even income distribution within the retired group. In 2014, they had a Gini-coefficient of 22.8 percent which is 3.8 p.p. lower than the population in total. Public pensions both secure a minimum level of subsistence and, through its means-tested elements, also result in income redistribution.

In 2015, public pensions made up 80 percent of the gross income of the 10 percent poorest pensioners and 10 percent of the gross income of the 10 percent richest pensioners. On average, public pensions made up 40 percent of pensioners' gross income.

The public pension (*folkepension*) for a pensioner without supplementary income was EUR 22,755 annually for a single person and EUR 17,391 annually for a person in a couple in 2017. Some of the pensioners in the first two income deciles receive a lower public pension than pensioners in the third income decile. Their pension has been reduced because of either their partner's income or they have not been in Denmark for 40 years since they were 15 years of age.

The relatively high public pensions help explain the low rates of the elderly at risk of poverty compared with other segments of the population. Public pensions also secure income compensation for low-income groups. As described in the previous section, public pensions mean people in the lowest income decile have a higher replacement rate at retirement than people in middle- and high-income deciles.

The Danish answer to the challenges of ageing populations and the economic crisis has not been to stop indexation of public pensions and other social benefits. Instead it has been to introduce indexation of pension duration with increases in life expectancy. The target is a pension duration of 14.5 years. As life expectancy has improved faster than expected, it will take many years before this target is achieved.

All that said the balance in the Danish multi-pillar system is gradually tilting towards more supplementary (occupational and personal) pensions and less public pensions.

In recent years the disposable income of the elderly has increased faster than for the general population. This is mainly due to a growing number of the elderly deciding to retire later or combining a public pension with some work income and to maturation of occupational pension schemes.

3.2. Retirement conditions for the self-employed and for people in non-standard employment

The self-employed and workers in non-standard jobs receive the public pension on the same conditions as everybody else. The size of the statutory funded ATP pension depends on the contributions paid, which vary with the number of hours of work. The scheme is mandatory for employees above 16 years of age working more than nine hours a week. Persons in non-standard jobs pay the same contributions as persons in standard jobs depending mainly on the number of working hours. Self-employed persons can make voluntary contributions into the scheme but very few do.

There is no occupational pension scheme that covers the self-employed. Accrued occupational pension entitlements become dormant if a person transits from salaried employment into self-employment. The coverage of persons in non-standard jobs mainly depends on whether their job is covered by collective agreements or not. The self-employed and persons in non-standard jobs can, acting as private individuals, opt to contribute to personal pension schemes to compensate for their lack of occupational pension coverage and to achieve a higher degree of insurance.

However, too few choose to do so. Around 643,000 persons are thus in the so-called residual group (*restgruppen*) that save insufficiently for their old age defined in relative terms as paying less than six percent of income into savings.[6] Albeit this amounts to 28 percent of 29-59-year-olds, it is not certain that they will experience inadequate pensions in old age as there is high mobility in and out of the group and as they may have chosen not to save much because their partner has large savings. Ten percent of the residual group are self-employed, 31 percent are employees, 43 percent are social security claimants and 16 percent others.

On average the self-employed pay 10 percent of their income into mainly individual pension schemes. However, it is mainly high-income self-employed people who pay contributions. Around 60 percent of the self-employed hardly pay any contributions.

Available statistics do not allow an estimate of how many of the residual group are in non-standard jobs. However, the likelihood of an overrepresentation by persons in non-standard

[6] *Finansministeriet, Det danske pensionssystem nu og i fremtiden* (*The Danish Pension System Today and in the Future*), June 2017, Copenhagen, Ministry of Finance.

jobs is big as individuals tend not to save sufficiently for old age unless their membership is compulsory or the default option.

3.3. Future adequacy and challenges

The net theoretical replacement rate (TRR) for persons with average earnings is estimated to decrease slightly, by 2.1 p.p., from 2016 to 2056.

In October 2017, Mercer named the Danish multi-pillar pension system the best pension system in the world for the sixth year in a row, however it no longer gets the highest grade, A, but the second highest, B+. Mercer points to three problems, i.e. insufficient savings, too low employment rates of the elderly and insufficient old-age savings. These problems are also largely acknowledged by the Danish political parties, social partners and other key actors.

The Danish pension system is still undergoing a transformation. As more employees have paid into an occupational pension through their whole career a larger share of their income will come from supplementary pensions. Fewer employees will as pensioners receive the full national old-age pension and the public supplements. The share of employees who will receive the full income-tested supplement of the national old-age pension is expected to decrease from around 57 percent in 2012 to 17 percent in 2080.[7] However, this is not the case for the self-employed and for people mainly on social security with low pension savings. The share of the self-employed and people on social security who will receive the full income-tested supplement of the national old-age pension is expected to stay at, respectively, 50 and 90 percent. In particular, unskilled and skilled labour will experience a shift towards more private pensions and thus reduced supplements of the national old-age pension as well as high marginal effective tax rates. Despite these changes towards more private pensions, public pensions will remain the most important source of income for persons with the lowest income share in the population both in 2050 and 2080.

The size of average pension savings is expected to increase markedly towards 2050 and beyond due to the maturation of occupational pensions, higher education levels and the higher pension age. The general level of education will likely increase labour market participation rates of the future elderly. Because persons with long education start working late they are unlikely to contribute to a marked increase of the labour force and thus a more sustainable pension system.

Indexation with life expectancy is likely to increase retirement ages. The next announcement is due in 2020 when expected longevity gains will most likely lead to an increase of pensionable ages for VERP and public pension by 1 year in 2032 and 2035 respectively.

One group that is particularly exposed to inadequate pensions are those persons who have not lived in Denmark for nine tenths of the time between the age of 15 and the pensionable age and are thus eligible for a corresponding fraction of a full pension, see Section 2. Several studies have documented that these so-called fraction-pensioners (*brøkpensionister*) are more exposed to poverty than other pensioners. With pension ages increasing as a result of life-expectancy indexation, more persons will become fraction-pensioners and at lower levels of pensions.

4. Main opportunities for addressing pension-related challenges

Most political parties and pension actors agree that the Danish pension system is by and large sustainable and providing adequate pensions. They also agree on two of its main problems, i.e. the coverage problem and the savings-disincentive problem. However, they disagree on how to fix it. The agreement of 2017 is largely seen as inadequate and adding to the complexity of a

[7] Finansministeriet, Det danske pensionssystem nu og i fremtiden (The Danish Pension System Today and in the Future), June 2017, Copenhagen, Ministry of Finance

system already in need of simplification. Hence, policies should preferably address the coverage or the savings-disincentive problem as well as lead to a simpler system. The tax reform agreed in February 2018 addresses the savings disincentive, but not the coverage problem. In addition, the recommendation is to improve the retirement possibilities of persons in hazardous/arduous work.

Targeting public pensions (and housing allowances and social benefits) at persons with low income is in conflict with savings incentives. If public pensions are tapered more harshly but across a smaller range of income, then the marginal effective tax rates increase. If public pensions are tapered less harshly but across a larger range of income, then more people will be affected.

The new reform aimed at raising the effective retirement age and removing disincentives to private retirement savings may have adverse redistributive effects. Indeed, low-income groups would benefit more from a long period with medium-sized contributions to old-age savings (*aldersopsparing*) than from 5 years with high contributions and many years with low contributions. Within the low- and middle-income groups, many persons will not have the funds to benefit fully, just as some will not be working 5 years prior to the pensionable age. Hence, there is still a challenge in providing low-income groups with incentives to save.

On 25 September 2017 the Danish Insurance Association (*Forsikring & Pension*), the Danish Federation of Employers (*Dansk Arbejdsgiverforening*, DA) and the Danish Confederation of Trade Unions (*Landsorganisationen i Danmark*, LO) suggested three changes to further reduce the savings-disincentive problem. First, they suggested allowing the pension deduction to be valid from EUR 0 up to an upper limit instead of from the suggested floor of EUR 2150; second, applying the deduction period at those years where the incentive problem is particularly large, e.g. from the 20th to 6th year prior to pensionable age. Thirdly, they suggested increasing the tax value of pension contributions by 15 p.p.

The social partners and the Association of Insurance also made a suggestion to make the new old-age saving (*aldersopsparing*) part of the compulsory occupational pension schemes instead of a voluntary scheme to prevent a large drop in pension savings. Indeed, it is well documented that the lack of compulsion or default options severely lowers old-age savings. For example, more than 9 out of 10 dropped their pension product when the old-age saving scheme replaced the capital pension scheme in 2013 despite the financial incentives remaining largely the same.

Because the June 2017 pension reform did not address the ‘coverage problem’, the parties decided to discuss it as part of a planned phase II of the so-called job reform in the autumn of 2017. However, such negotiations on addressing the coverage problem in the pension system are likely to become even more difficult, due to widespread opposition to mandatory savings.

Simplification of the pension system should also be a goal in itself. A recent survey finds that 58 percent of persons aged 50-59 years find the pension system incomprehensible.[8]

Finally, with only 314 new awards in 2016, the senior disability pension has not become the scheme for people in hazardous/arduous work that was the intention behind its adoption. Divergent municipal practices in awarding this pension may signal a need for a change of administrative practice in certain municipalities rather than general changes of legislation or economic incentives. The government is recommended to improve the retirement possibilities for persons in hazardous/arduous work.

[8] ATP, 2017.

5. Background statistics – Denmark

1. Relative incomes of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.75	0.76	0.75	0.05	0.04	0.05
Income quintile share ratio (S80/S20), 65+	3.2	3.6	2.9	0.3	0.3	0.3
Aggregate replacement ratio (ARR)	0.47	0.43	0.49	0.06	0.05	0.05

2. Poverty and material deprivation

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+ (%)	9.2	8.1	10.2	-9.4	-9.1	-9.4
At-risk-of-poverty (AROP), 65+ (%)	8.5	7.1	9.6	-9.6	-9.9	-9.3
Severe material deprivation (SMD), 65+ (%)	0.7	0.9	0.6	-0.2	0.1	-0.4
At-risk-of-poverty or social exclusion (AROPE), 75+ (%)	15.4	12.1	17.8	-7.8	-14.4	-3.3
At-risk-of-poverty (AROP), 75+ (%)	14.7	11.4	17.0	-8	-14.5	-3.7
Severe material deprivation (SMD), 75+ (%)	0.8	0.7	0.8	0.3	0.1	0.3
Relative poverty gap, 65+ (%)	5.7	4.7	6.5	-2.2	-2.8	-1.6
At-risk-of-poverty (AROP), 65+: 50% threshold (%)	1.4	1.2	1.5	-1.6	-1.1	-2.1
At-risk-of-poverty (AROP), 65+: 70% threshold (%)	28.3	26.0	30.2	-11.4	-11.7	-11.0
				Change 2014-2016		
Material and social deprivation, age 65+ (%)	2.1	2.1	2.2	-0.6	-1.0	-0.2

3. Gender differences

Indicator	2016	Change 2008-2016
	Total	Total
Gender gap in pension income (65-79) (%)	7.75	-10.97
Gender gap in non-coverage (W-M in p.p.) (65-79)	-0.5	1.1

4. Housing and health situation of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Population 65+ living in overcrowded households (%)	1.0	1.5	0.6	0.5	0.9	0.2
Tenure status among people 65+: share of owners (%)	64.7	72.0	58.5	4.3	3.1	4.5
Housing cost overburden, 65+ (%)	18.8	13.4	23.6	-2.1	-3.3	-0.6
Self-reported unmet need for medical care 65+ (%)	1.0	0.7	1.2	0.6	0.4	0.8
Healthy life years at age 65 (years) *		11	11.9		-1.0	-0.5

5. Pension duration

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Pension payment duration (2012) (years)		19.2	22.7			
Retirement duration (AWG) (years)		18.0	21.8		19.3	22.7

Data source: (1) (2) (3) (4) Eurostat, Sept-Oct 2017 (5) European Commission

*Notes: * - 2015 data*

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net (%)				Gross (%)			
		2016		*2056*		*2016*		*2056*	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Variant: old base case: 40 years up to 65	70.7		68.6		51.7		57.4	
	New base case: 40 years up to the SPA	70.7		72.9		51.7		62.6	
	Increased SPA: from age 25 to SPA	70.7		75.8		51.7		65.2	
	AWG career length case	70.7		74.1	41.6	51.7		79.9	41.0
	Longer career: 42 years to SPA			74.8				65.9	
	Shorter career: 38 years to SPA			71.1				59.4	
	Deferred exit: 42 years to SPA +2			75.8				66.2	
	Earlier exit: 38 years to SPA -2			67.6				56.1	
	Career break – unemployment: 3 years			70.7				60.5	
	Career break due to childcare: 3 years			70.5				60.3	
	Career break caring for family dependant: 3 years			70.9				60.7	
	Short career (20-year career)			63.3				50.5	
	Work 35 years, disabled 5 years prior to SPA			70.2				60.1	
	Early entry in the LM: from age 20 to SPA			80.7				69.8	
	Index: 10 years after retirement @ SPA			67.2				58.8	
	Extended part-time period for childcare			67.7				56.7	
	Pension rights of surviving spouses				65.3				50.7
Low (66%)	Variant: old base case: 40 years up to 65	98.6		97.2		75.0		81.3	
	New base case: 40 years up to the SPA	98.6		97.2		75.0		81.3	
	AWG career length case	98.6		95.9	43.6	75.0		106.0	41.0
	Career break – unemployment: 3 years			95.7				79.1	
	Career break due to childcare: 3 years			91.4				100.6	
	Short career (20-year career)			95.7				79.1	
High	New base case: 40 years up to the SPA			47.1				43.3	
	Average replacement rate across retirees	:				:			

7. Sustainability and context

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65 (years)	19.4	18.0	20.7	23.6	22.0	25.1
Old-age dependency ratio (20-64) (%)	32.3	29.3	35.4	46.0	41.8	50.2
Economic old-age dependency ratio (15-64) (%)	36.0	30.0	42.6	47.3	40.6	54.7
Employment rate, age group 55-64 (%)	67.8	71.9	63.6	74.6		
Pension expenditure as % of GDP (ESSPROS)	14.0*					
AWG projections	2016			2055		
Coverage ratio (% of pop aged 65+)						

Data source: (6) Member State and OECD; (7) European Commission, DG ECFIN

*Notes: * - 2015*

Germany (DE)

Highlights

- In Germany, pensions from the statutory pension insurance (SPI) scheme are the most important component of old-age provision. As the relative amount of pensions depends above all on the contributions paid, the redistributive effects of the SPI are limited. Due to a good participation in the labour market and a higher level of statutory pension benefits in the past, the at-risk-of-poverty or social exclusion (AROPE) figure for the population aged 65 and over stood at only 18.3 percent in 2016.
- In line with the social character of the SPI, however, not only periods covered by contributions are taken into account. Periods in which insured persons were prevented from paying compulsory contributions, e.g. periods of illness and unemployment, may also be counted towards the pension.
- As a result of pension reforms since 2001, the annual increase of state pensions benefits remains slightly behind wage growth and therefore occupational or personal pensions are becoming more important. Continuous reform efforts aim at further increasing coverage of occupational and personal old-age provisions.
- In the last legislative period (2013-2017), the focus was on performance improvements in the statutory system for selected, particularly vulnerable, groups and a higher coverage for occupational pension schemes. Most notably, the Pension Benefits Improvement Act from 2014 brought considerable improvements for 10 million pensioners. The effects of more recent reforms remain to be evaluated.

1. General description of the national pension system

Pensions in Germany stem from different sources and are often organised according to occupational status. The German pension system consists of three pillars of pension schemes, as follows.

- The first pillar of old-age provision in Germany consists of a number of statutory pension schemes. The most important is the statutory pension insurance (SPI), which provides compulsory cover for (almost) all employees. In addition, there is a separate, compulsory scheme for civil servants who are covered by the so-called civil service pension scheme (*Beamtenversorgung*). The first pillar also includes old-age provision schemes for certain categories of self-employed persons and freelancers (see chapter 3.2).

- Occupational pension schemes as a second tier.

- Voluntary personal arrangements for old-age provision as the third tier (supplementary pension schemes).

- In Germany the pension system does not include a general minimum pension. However, a socio-cultural subsistence level is guaranteed by the means-tested ‘needs-based pension supplement in old age and in the event of reduced earning capacity’ (*Grundsicherung im Alter und bei Erwerbsminderung*), which is part of the German minimum-income benefit system.

The most important element of the first pillar is the social (statutory) pension insurance (SPI). With a few exceptions (persons in marginal employment are generally covered by the SPI but have the option to opt out of compulsory insurance), the SPI covers all employees, as well as some groups of self–employed people (see Section 3.2). This insurance also provides cover for other groups, including claimants of income-replacement benefits (sickness benefit, injury benefit, unemployment benefit), mothers and fathers during the initial child-raising period (the first 3 years for children born since 1992, and 2 years for children born earlier) and carers (for periods in which unpaid home care is provided to a relative).

The SPI provides old-age pensions, reduced-earnings-capacity pensions and surviving dependants' pensions (widows/widowers and orphans). The SPI is pay-as-you-go (PAYG), and financed with a small reserve fund. It is a legal requirement that the so-called sustainability reserve (*Nachhaltigkeitsrücklage*) may not fall below or exceed the level of 0.2 to 1.5 months' expenditure of the SPI (SGB VI § 158). If, under the given conditions, the reserve were to be outside the target band at the end of the year, the contribution rate for the following year would have to be redefined. The financing of the SPI stems mainly from earnings-related social insurance contributions and also from general tax revenue. In 2016, insured employees and their employers contributed 9.35 percent of each employee's gross wage to the SPI. Tax-funded government subsidies contribute up to about 23 percent of the total receipts.

The individual SPI pension level depends on how long and to what extent contributions were paid. For each contribution year, the insured income is converted into 'earnings points'. A person receives one earnings point if their individual gross salary is equal to the average earnings of all insured persons. When calculating pensions, the sum of the pension points earned over one's working life is multiplied by the 'pension-type factor' (e.g. 1.0 for old-age pensions or 0.55 for a widower's pension) and the 'pension point value'. The 'current pension value' applies to newly retired as well as already-retired pensioners, and is adjusted on 1 July of each year, on the basis of a calculation model that mainly refers to gross salary growth. Gross pensions are subject to income tax: there are, however, generous tax exemptions; pensioners also pay contributions to health and long-term care insurance.

Occupational pension schemes are the second pillar of the German pension system. They are mainly used for old-age pensions, and are in general voluntary for both the employers and employees in the private sector. In the public service sector, employers and employees are on the basis of collective agreements obliged to pay contributions to the so-called supplementary pension scheme (*Zusatzversorgung des öffentlichen Dienstes*). The design of schemes in the private sector varies widely. Some collective agreements provide a binding framework for occupational pension schemes, but there are considerable differences between the various collective agreements and sectors. Traditionally, occupational pensions were mainly defined-benefit, employer-financed and 'capital'-funded. However, a shift is taking place towards other types of occupational pension arrangements that are linked to the capital market, as well as towards arrangements financed mainly (directly) by employees (and no longer by employers), as well as towards defined-contribution instead of defined-benefit. This is taking place in particular because of a new right for the employees, introduced in 2001, to use a certain amount of their earnings to accumulate an occupational pension claim ('earnings conversion') without paying income tax and social insurance contributions on that part of their earnings.

The third pillar involves a wide variety of additional voluntary capital-funded types of old-age provision, some with risk pooling (life insurance), and others without such insurance elements. Some types are tax-privileged and at the centre of the public debate, such as personal pension schemes which are eligible (because they are certified) for subsidies or tax breaks (known as *Riester-Rente*). The direct subsidies are thereby especially attractive for low-income earners and employees with children.

Regarding the first pillar, the SPI is by far the dominant element. Figures from 2015 indicate that more than 90 percent of the population aged 65 and older received an SPI pension (including survivor's pension). 87 percent (west Germany) and 99 percent (east Germany) of pensioners received benefits from this system. The differences between the two parts of the country can be attributed in particular to the fact that there were fewer public service employees in east Germany, and that those who worked in public services were mainly employed as salaried employees and not as civil servants. Civil servants are not insured in the SPI, but in an independent system (see above). Pensions from the second pillar (private or public sector) are received by 34 percent (west Germany) and 13 percent (east Germany) respectively. The low prevalence of occupational pensions in east Germany is a consequence of the low level of savings capacity and the short period of accumulation since German reunification. Accordingly, the individual old-age provision systems have a different weight in the overall performance volume of old-age provision. Also in 2015, the total income of the elderly was made up of SPI pensions (74%), civil servants' pensions (14%), occupational pensions of the private sector (6%) as well as pensions of the supplementary public service system (3%).

The standard retirement age (without deductions) in Germany is gradually being raised from 65 to 67 years between 2012 and 2031. The standard pensionable age is 65 years and 6 months in 2017, and will be 65 years and 7 months in 2018, and so on. From 2024 onwards, the standard retirement age will be increased by 2 months per year. People can claim their pensions ahead of schedule under certain conditions (the lowest age limit is 60 years), but in that case pension deductions apply. They amount to 0.3 percent per month, when a person retires before the actual standard pensionable age limit, and are deducted from the person's monthly pension payment for the rest of their life.

A new old-age pension was established in 2012, allowing persons with an exceptionally long insurance period of 45 years to claim a pension upon reaching age 65 without deductions (exceptionally long-service pension: *Rente für besonders langjährig Versicherte*). There is currently an exception for this type of pension, which makes it possible to retire at the age of 63 without deductions, but this only applies to selected cohorts. The so-called long-service pension (*Rente für langjährig Versicherte*) can be claimed if a 35-year qualifying period is completed, but will be shortened by 0.3 percent for every month the pension is claimed before the retirement age limit.

Disability pensions can be claimed at any age. A condition for this is that the person can no longer work (i.e. less than six hours a day – partial reduced earning capacity; less than three hours a day – full reduced earning capacity). There are no special retirement conditions for people who do arduous work.

If people exceed the standard age limit and therefore receive a regular old-age pension, they can earn unlimited additional income from work or any other source, without suffering any repercussions on the amount of their statutory pension. However, when an old-age pension is claimed before reaching the statutory retirement age (i.e. early retirement), the person can only earn an amount of EUR 6300 a year on top of the SPI pension. Otherwise, the SPI pension is automatically reduced and only paid out as a partial pension. This is based on a pension law calculation: anyone who is able to work should not retire early. Employees who continue working after reaching the statutory retirement age will yield a pension accrual of 0.5 percent for each month of postponement.

2. Reform trends

- The German pension policy of the last two decades can be characterised by a paradigm shift. In particular, the orientation of the SPI has changed. While the SPI had previously been oriented towards a performance target (preservation of living standards), the focus since the major pension reform in 2001 has been on adjusting the pension system to the effects of demographic change. In order to limit non-wage labour costs, a threshold has been set for the contribution rate. It should be below 20 percent by 2020 and must not exceed a maximum value of 22 percent by 2030. At the same time, the replacement rate cannot fall below a statutory threshold of 46 percent by 2020 and 43 percent by 2030.

For this reason, the SPI benefit level has been reduced by changing the pension indexation formula. Since then, pension adjustments are still following wage developments, but also consider demographic and economic changes. The pension point value is still being adjusted in relation to gross wage growth, but is reduced by the contribution factor, the 'Riester' factor and a sustainability factor.

- As a result, the replacement rate of the SPI under the national definition (pensions compared with earnings, both reduced by social contributions but not by taxes) has been reduced from 52.9 percent in 2001 to 48.0 percent in 2016, and is predicted to further decline to 44.5 percent in 2030. At the same time, new ways of operating occupational pensions were implemented (see above) and incentives for supplementary personal pension plans were introduced to close the rising gap resulting from the first pillar. The federal government takes this voluntary provision into account in the forecasts for future coverage of old-age pensions and comes to the conclusion that the overall pension level of the three pillars can be maintained at a constant level (see *Bundesministerium für Arbeit und Soziales* 2017b, see also chapter 3.3). In 2015, 57 percent of employees acquired entitlements to an occupational pension scheme, with significant differences between the various sectors of the economy, company sizes and genders (women are significantly underrepresented). Furthermore, there were approximately 16.5 million personal pension contracts (third pillar) in the same year, but this also includes duplications. The number of persons with personal provision was last surveyed in 2013 (10.9 million). The OECD calculates a coverage of personal pension entitlements of 33.8 percent in 2016.

These data have led to a debate on the development of the pension system and further reform needs. Discussions focus on the pension level of the SPI, as well as on the fundamental performance and effectiveness of occupational and personal old-age provisions. The two additional pillars have so far been unable to fully compensate for the declining level of benefits provided by SPI. The Occupational Pensions Strengthening Act of 2017 laid the foundations for achieving higher coverage of supplementary pensions. The effect of the new statutory provisions to strengthen occupational pensions, in particular the introduction of the social partner model, must be awaited and evaluated.

Overall, German pension policy over the last 20 years can be characterised by reforms that gradually redistribute financial responsibility for old-age pensions. The aim was to limit public expenditure and employers' compulsory contributions. Instead, employees themselves should take more responsibility for their old-age provision (see *Bundesregierung* 2000). To this end, a process of privatisation and marketisation of old-age provision was initiated. One of the declared aims of the 2001 reform was to strengthen the so-called old-age provision market. In addition, tax allowances were introduced to promote personal old-age provision. At the same time, a new benefit scheme was created in 2003 (*Grundsicherung im Alter und bei Erwerbsminderung*). It is a means-tested minimum-income benefit scheme especially for older people, which guarantees a socio-cultural subsistence level. In this way, poverty in old age is avoided.

The reform in 2001 of the old-age pension system has provoked an ongoing and controversial reform debate. Above all, the theme of a significant increase in future old-age poverty and the question of the political consequences and counter-measures were in the focus of public and academic debates. Recent pension policy (2014-2017) has continued along the path once taken and has introduced a number of changes which are leading to improvements in the amount of benefits. They address selected groups of people and are partly limited in time. In particular, four new regulations should be mentioned.

(1) The Pension Benefits Improvement Act, which came into force on 1 July 2014 mainly contained an extension of recognition of the initial child-raising period for children born before 1992 from one to 2 years, the introduction of an early retirement age of 63 without deduction for a limited period of time, and improvements for recipients of a reduced-earning-capacity pension. In particular, the virtual employment record for disability pensioners was extended from 60 to 62 years. The development of the payment amounts in recent years, especially since 2014, shows the improvements in the disability pensions. The average payment amount for the pension due to full reduction in earnings capacity was around EUR 664 in 2014, around EUR 711 in 2015 and around EUR 736 in 2016. The additional expenditure is being financed from the normal pension insurance budget. There is no additional federal subsidy or reimbursement by the federal government for the cost of the so-called *Mütterrente*.

(2) The improvements for people with disabilities were pursued by the Act on Improvements to Benefits for Recipients of a Reduced Earning Capacity Pension, which has come into effect in July 2017. From 1 January 2018 on, new pensioners will be treated as if they had continued to work until the age of 65 (a gradual extension of the so-called added period by 3 years between 2018 and 2024, from age 62 to 65, with a valuation based on the rate of the individual's average earnings). Due to the combined improvements in reduced-earnings-capacity pensions in 2014 and 2017, the amount of these pensions will be raised by around 12 percent in 2024 compared with June 2014. In the year of introduction, the SPI will show a low level of additional expenditure, which will then increase. In the longer term, expenditure will increase by around EUR 1.5 billion in 2030 or EUR 3.2 billion in 2045.

(3) The Flexible Pension Act (in force since January/July 2017) includes a statutory entitlement to participation benefits (prevention and rehabilitation) and promotes a more flexible transition from employment to retirement. The limit on the additional income that can be earned without being set off against the pension when claiming a partial pension has therefore been raised. This should make the transition to retirement more flexible and extend people's working lives (Schmitz 2016). The act also introduces incentives for those in receipt of a full old-age pension for continuing to work.

(4) In the last 27 years, pensions in eastern and western Germany have been calculated differently. The Completion of Pensions Transfer Act provides for a gradual alignment of the amount of pensions in east Germany with pensions in west Germany by 2024. The reform is funded from the regular income of the SPI and by a gradual increase of the federal subsidy to EUR 2 billion by 2025.

The new regulations mentioned above led to improvements for selected groups of people, but did not constitute a break with the reform policy of 2001. Pension policy still aims at building a sustainable and reliable provision for old age based on the three-pillar model, with the SPI remaining the most important pillar.

3. Assessment of adequacy

3.1. Current adequacy

3.1.1. General assessment of current adequacy

In 2016, the ratio of the median income of older people relative to the income level of the population aged 0-64 was 0.84. This ratio was down by 3 percentage points (p.p.) on the previous year. The ratio of the median individual gross pension of persons aged 65-74 years to the median individual gross earnings of persons aged 50-59 years was 0.46. There are differences between east and west Germany that are above all a consequence of the different employment biographies, wages, and transitions to retirement. The labour force participation level of women in east Germany is higher than in the west.

These figures reflect the dependency of pension entitlements on the duration of contribution payments and individual earnings in this period. The differences between the sexes lead to a gender gap in pension income, which in 2016 stood at 42.1 percent for the central age group (65-79 years old), higher than the EU average and unchanged compared with 2008. The gender gap in pensions is mainly due to two reasons. The first is the wage gap. On average, women earn considerably less than men – partly because they are more often employed in low-paid occupations, less frequently in management positions and more often work part time or in marginal employment. These disadvantages are partially compensated for by the recognition of initial child-raising periods. However, it must be taken into consideration that widows receive a more or less additional widow's pension, the amount of which is dependent on the former income of the husband (see chapter 3.1.2).

In Germany, home-ownership as a form of old-age provision is important, but in international terms the proportion of homeowners over 65 years of age is rather low. In 2016, the share of owners in that age group stood at 56.6 percent (60.7 men, 52.9 women). The housing cost overburden rate was 22.7 percent, with remarkable differences between the sexes (men 17.6%, women 27.4%). Since 2008, this rate has risen by 3.4 percent (men 0.9, women 5.6).

The average life expectancy of 65-year-olds was 19.5 years (men 17.9, women 21.0) in 2016. The Statistics Office of the European Union (Eurostat) predicts that life expectancy at the age of 65 will rise to 23.7 years (men 22.1, women 25.2) in 2056. The pension payment duration was 20.4 years for men and 24.3 years for women in 2016. The retirement duration (Ageing Working Group (AWG) scenario) amounted to 18.6 (men) and 22.4 (women) years in 2016 and is estimated to be 21.4 (men) and 24.9 (women) years in 2056 (Eurostat data). According to the national data from the *Deutsche Rentenversicherung* (German statutory pension insurance), the average duration of SPI pensions was 19.6 years (men 17.6 years, women 21.6 years) in 2016.

In Germany, the AROPE rate for the population aged 65 and over was 18.3 percent in 2016 (men 15.6, women 20.8). It is below the average of the AROPE rate of the total population, but has increased slightly since 2008. For the older elderly (75+) this rate was lower (total 16.5, men 12.2, women 20.6). These figures suggest that the younger cohorts were more affected by unemployment and low-income work. The changes in the SPI also had a stronger impact on people at the younger end of the old-age bracket (65-75).

3.1.2. Redistributive elements of public pension schemes

Overall, the German pension system is determined by the dominance of the equivalence principle. As a consequence, it is primarily characterised by an intertemporal redistribution with only few interpersonal redistributive elements. The amounts of the SPI pensions are income-based, i.e. contribution-based, and are mainly calculated on the duration of the contribution payment over the course of a person's working life. How much each contribution period counts towards the pension depends on the ratio of the individual gross annual earnings to the average earnings of all insured persons (see above, conversion into earnings points). The SPI only insures income within defined low and upper limits: the upper monthly income threshold was EUR 6200 (west) and EUR 5400 (east) in 2016, while the lower income threshold was EUR 450.

In line with the social character of the SPI, however, not only periods covered by contributions are taken into account. Periods in which insured persons were prevented from paying compulsory contributions, e.g. periods of illness or unemployment, may also be counted towards the pension. Also, low compulsory contributions prior to 1992 will be increased in the calculation of pensions under certain conditions (so-called minimum income pension).

Due to the system's functional logic, gender inequality in the German labour market also affects pensions. These disadvantages are partially offset by the recognition of initial child-raising periods. One parent, mostly the mother, whose children were born before 1992 receives two earnings points per child, while for children born after 1992, three earnings points are credited. Widows/widowers also receive a widow's or widower`s pension, the amount of which depends on the deceased person’s previous pension.

No minimum pension is provided. If people leave the labour market early and apply for a pension, they have to accept deductions from their pension (0.3% per month, see above). However, it is possible to compensate for this pension reduction by paying extra contributions. For this purpose, insured persons who foresee early retirement can request a special pension information service from the age of 50. It includes the expected pension amount, the reduction in pension and the amount that could be paid voluntarily to compensate for the reduction in pension.

3.2. Retirement conditions for the self-employed and for people in non-standard employment

In principle, self-employed persons are not subject to the SPI. However, there are a multitude of derogations, which have evolved historically and unsystematically. For example, self-employed teachers, lecturers, childminders, nurses and carers, midwives and craft workers (who may opt out of the SPI after 18 years of contributions) are all compulsorily included. The cost of the contributions (the contribution rate stood at 18.7% in 2017) must be borne in full by the insured self-employed persons; there is no employer’s contribution, but it is possible in the first 3 years of self-employment to pay only one half of the regular contribution.

Self-employed artists and members of the publishing professions are liable for compulsory insurance under the artists’ social insurance scheme – though they pay only half of the contributions themselves. Insurance protection requires a minimum annual income of EUR 3900 generated through self-employment, although new entrants to the profession are not required to attain this minimum. The Artists’ Social Insurance Fund (*Künstlersozialkasse*) decides who must pay contributions and also sets the rate. Farmers are not required to be insured under the SPI but are covered by a separate farmers’ pension fund.

Complete data are available only for 2014. That year, the number of self-employed persons was about 4.2 million (11% of all employed persons in Germany). More than half of the self-employed had no employees (about 54%). The majority of this group (about 3 million self-employed people) were not covered by compulsory insurance. In 2014, for example, about 150,000 were members of the old-age pension scheme for farmers and an estimated 380,000 self-employed professionals were members of professional pension schemes of the liberal professions.

Since 2013, mini-jobs have been subject to compulsory insurance in the SPI, but with the choice of opting out. According to the latest quarterly data from the German mini-job headquarters (*Minijob-Zentrale*), there were 6,725,031 mini-jobs in June 2017 in the commercial sector, 1,231,892 (18.3%) of which were insured in the SPI. In private households, 308,611 mini-jobbers were counted in the same period, of whom 44,092 (14.3%) were liable to contribute to pension insurance. However, many mini-jobbers are often insured in the SPI not based on their mini-jobs but due to other factors such as having a main occupation or receiving unemployment benefits. Employers pay a flat-rate contribution for their mini-jobbers (maximum 31.29%), which also includes contributions to the SPI. The mini-jobbers themselves also pay their own contribution (3.7% of their earnings). However, the level of pensions resulting from marginal employment relationships is very low.

3.3. Future adequacy and challenges

The analyses of the future adequacy of pensions, and here particularly of the TTRs (theoretical replacement rates), are based on model calculations. Therefore, it is necessary to define the subject matter precisely. Under the assumptions of a given career length, earnings level and age of retirement, the OECD's model calculations for the TRR show an increase in the net replacement rates for average- and low-wage earners. After a 40-year career taking them up to the standard pensionable age, the net TRR for an average earner stood at 56.2 percent in 2016, with this ratio being projected to increase to 61.6 percent in 2056. For a low-income earner, the TRR was 63.7 percent in 2016, and is projected to reach 67.5 percent in 2056.

However, the developments of the three pillars of the pension schemes have to be distinguished. Official calculations show that the net pension level before taxes of the SPI (net pensions after 45 years of insurance contributions and an average wage – this corresponds to 45 earnings points – compared with average net earnings) is projected to be reduced from 48.0 percent (2016) to 44.5 percent (2030). Until now, it has been legally laid down that the net pension level must not fall below 43 percent in 2030. Moreover, the taxation of the pensions of the upcoming cohorts of pensioners will gradually increase.

Further comments also apply to the assumptions made by the OECD calculations. The overall increase in the TTRs is driven by the argument that the projected decrease in the SIP replacement rate will be overcompensated by the projected increase in personal pension payments from the Riester pension. However, the underlying assumption that employees will save 4 percent of their income constantly over their entire working life and that the real interest rates of personal and/or occupational pensions will reach an average of 3.0 percent may be called into question, especially since interest rates have been decreasing and the coverage of supplementary personal pension schemes is stagnating.

4. Main opportunities for addressing pension-related challenges

Adequate provision for old age remains a central aim of the German welfare state. While many reforms of the last decade have aimed at adapting the system to the challenges of demographic change, various actors are now demanding the stabilisation of old-age security levels at a higher level. Measures to that end, which are also currently discussed in Germany, include the stabilisation of the SPI pension level. At the same time, the prevalence of occupational (and personal) pension provision has to increase. However, consideration needs to be given to the fact that capital-funded occupational or personal pension schemes are highly dependent on distortions in the international capital markets. For this reason, a legal framework is indispensable, which reliably regulates minimum standards for private saving and adjustment in the disbursement phase of pensions.

Future reforms could also improve the protection of two groups of people: women and the self-employed. Improvements could be reached for example through gender-equitable wages, the reduction of tax and contribution privileges for mini-jobs and better remuneration for care work. The expert commission on the federal government's second equality report also recommends that derived forms of protection (such as the survivor's pension, which does not result from one's own provision, but is derived from entitlements after the death of a spouse) should be redesigned in favour of self-contained forms of protection. To this end, a permanent (minimum) insurance obligation should be established. In addition, the committee advocates the introduction of a permanent splitting of pension entitlements (public, company and private), to be implemented in the form of a continuous equalisation of pensions. In this way, spouses will still be free to live in phases of their life on a single income. However, this decision would then – unlike in the past – also be applied to pensions.

5. Background statistics – Germany

1. Relative incomes of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.84	0.86	0.84	-0.03	-0.03	-0.03
Income quintile share ratio (S80/S20), 65+	4.1	4.2	4.0	0.1	0.0	0.1
Aggregate replacement ratio (ARR)	0.46	0.46	0.48	0.02	0.00	0.01

2. Poverty and material deprivation

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+ (%)	18.3	15.6	20.8	2.8	3.0	2.6
At-risk-of-poverty (AROP), 65+ (%)	17.6	14.9	20.1	2.7	2.9	2.7
Severe material deprivation (SMD), 65+ (%)	2.8	2.4	3.2	0.7	0.9	0.4
At-risk-of-poverty or social exclusion (AROPE), 75+ (%)	16.5	12.2	20.6	1.9	1.8	1.7
At-risk-of-poverty (AROP), 75+ (%)	16.2	12.0	20.2	2.1	1.9	2.1
Severe material deprivation (SMD), 75+ (%)	1.9	1.4	2.4	0.6	1.0	0.1
Relative poverty gap, 65+ (%)	18.6	17.8	18.6	1.8	1.0	1.8
At-risk-of-poverty (AROP), 65+: 50% threshold (%)	9.4	7.8	10.8	1.9	1.7	2.0
At-risk-of-poverty (AROP), 65+: 70% threshold (%)	27.7	24.2	30.8	2.1	1.7	2.5
				Change 2014-2016		
Material and social deprivation, age 65+ (%)	7.1	5.3	8.7	-1.9	-1.6	-2.2

3. Gender differences

Indicator	2016	Change 2008-2016
	Total	Total
Gender gap in pension income (65-79) (%)	42.1	0
Gender gap in non-coverage (W-M in p.p.) (65-79)	1.3	-3.0

4. Housing and health situation of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Population 65+ living in overcrowded households (%)	2.1	2.8	1.5	0.3	0.8	-0.2
Tenure status among people 65+: share of owners (%) *	56.6	60.7	52.9	0.0	0.6	-0.4
Housing cost overburden, 65+ (%) *	22.7	17.6	27.4	3.4	0.9	5.6
Self-reported unmet need for medical care 65+ (%)	0.2	0.2	0.3	-1.1	-1.2	-0.9
Healthy life years at age 65 (years) **		11.4	12.3		5.1	5.6

5. Pension duration

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Pension payment duration (2012) (years)		20.4	24.3			
Retirement duration (AWG) (years)		18.6	22.4		21.4	24.9

Data source: (1) (2) (3) (4) Eurostat, Sept-Oct 2017 (5) European Commission

*Notes: * - 2010 data (data for 2008 – not available); ** - 2015 data.*

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net (%)				Gross (%)			
		2016		*2056*		*2016*		*2056*	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Variant: old base case: 40 years up to 65	55.4		60.8		39.7		46.2	
	New base case: 40 years up to the SPA	56.2		61.6		40.3		47.0	
	Increased SPA: from age 25 to SPA	59.0		63.3		42.3		48.6	
	AWG career length case	58.3	58.3	66.1	64.5	41.8	41.8	51.5	49.9
	Longer career: 42 years to SPA			63.3				48.6	
	Shorter career: 38 years to SPA			58.2				43.8	
	Deferred exit: 42 years to SPA +2			69.1				54.7	
	Earlier exit: 38 years to SPA -2			58.2				43.8	
	Career break – unemployment: 3 years			54.3				40.9	
	Career break due to childcare: 3 years			64.9				49.5	
	Career break caring for family dependant: 3 years			59.9				45.6	
	Short career (20-year career)			46.2	30.3			35.2	23.1
	Work 35 years, disabled 5 years prior to SPA			54.3				41.3	
	Early entry in the LM: from age 20 to SPA			71.8				54.7	
	Index: 10 years after retirement @ SPA			59.3				45.2	
	Extended part-time period for childcare			60.2				45.9	
	Pension rights of surviving spouses								
Low (66%)	Variant: old base case: 40 years up to 65	63.7		59.2		39.7		46.2	
	New base case: 40 years up to the SPA	63.7		67.5		50.2		52.2	
	AWG career length case	41.8		66.0	63.9	63.7		51.5	49.9
	Career break – unemployment: 3 years			55.5				43.3	
	Career break due to childcare: 3 years			68.1				52.6	
	Short career (20-year career)			70.7	29.8			54.7	23.1
High	New base case: 40 years up to the SPA	YES		YES		YES		YES	
	Average replacement rate across retirees								

7. Sustainability and context

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65 (years)	19.5	17.9	21.0	23.7	22.1	25.2
Old-age dependency ratio (20-64) (%)	34.7	29.8	39.9	58.7	53.2	64.4
Economic old-age dependency ratio (15-64) (%)	40.8	32.5	50.1	67.2	58.7	76.3
Employment rate, age group 55-64 (%)	68.6	73.7	63.5	70.5		
Pension expenditure as % of GDP (ESSPROS)	10.9*					

Data source: (6) Member State and OECD; (7) European Commission, DG ECFIN

*Notes: * - 2015*

Estonia (EE)

Highlights

- The Estonian pensioners' income situation relative to the working-age population before retirement is worse compared with the average of other EU-28 countries.
- The statutory funded scheme has been made more flexible, especially the pay-out phase.
- The pressure on the Estonian pension system does not come from high replacement rates of pensions, but from high dependency rates.
- The government has proposed a package of parametric reforms, including linking pension age to life expectancy, adding more options for flexible retirement and abolishing special pension schemes.

1. General description of the national pension system

The Estonian pension system consists of three main schemes: a state pension insurance (a pay-as-you-go (PAYG) system with defined benefits); a statutory funded pension scheme (defined-contribution (DC) scheme), optional for older cohorts; and supplementary funded pension schemes (DC schemes). The state pension insurance provides protection against the risks of old age, invalidity and survivorship and includes two separate tiers: employment-based old-age, work-incapacity and survivors' pensions, and flat-rate residence-based national pensions. The purpose of the national pension is to guarantee a minimum income for those who are not entitled to the employment-based pension. National pensions are financed from the general state budget, whereas old-age, work-incapacity and survivors' pensions are predominantly financed from an earmarked social tax paid by employers and the self-employed at the rate of 16 percent or 20 percent of gross earnings depending on whether the insured person has joined the statutory funded scheme or not. Additional transfers from the general state budget have been necessary to cover transition costs related to the launching of the statutory funded scheme.

The coverage of the state pension insurance system is practically universal. The statutory pension age was 63 years for women and men in 2016. Historically the women's pension age was lower than for men but reached the same level in 2016. From 2017 it will gradually increase to 65 years by 2026 for both sexes. There is a possibility for early retirement 3 years prior to the normal pension age if the person has a work record of at least 15 years (qualification period for receiving the old-age pension). For every month of early retirement the old-age pension amount is reduced by 0.4 percent. When the old-age pension is deferred the pension amount is increased by 0.9 percent for every month postponed after the normal pension age.

There are superannuated pensions and old-age pensions under favourable conditions for hazardous and arduous work and selected other occupational groups. These pensions are granted to employees and specialists who work in professions which involve loss or reduction of professional capacity for work before attaining the pensionable age hindering continued work in such professions or positions (e.g. police officers, miners, some groups of artists). The length of work (usually between 20 and 25 years) and age criteria (usually 5-10 years before statutory pension age) vary across professions eligible for superannuated pensions.[9] [10]

[9] Superannuated Pensions Act, translation published on 15 November 2013, retrieved on 9 November 2017. Available online at: https://www.riigiteataja.ee/en/eli/515112013013/consolide.

[10] Võrk, A., Piirits, M., Masso, M. (2016). *ESPN Thematic Report on Retirement regimes for workers in arduous or hazardous jobs*.

Old-age pensions are composed of three components: (1) the flat-rate base amount; (2) the pensionable length of service component (covering periods up to 1998); and (3) the insurance component that is based on individual social tax payments (covering periods from 1999 onwards). Work-incapacity pensions depend also on the level of incapacity, whereas survivors' pensions take into account the number of eligible dependants. Pensions are indexed annually. The index is a weighted average of the consumer price index and growth of social tax revenues to the pension insurance system (in a 20-80 proportion). Receiving pensions and simultaneous work income is allowed, except in the case of early-retirement pensions. In the case of superannuated pensions or special occupational pensions the person may combine pension and work income only if switching to a different (non-hazardous and non-listed) occupation. Furthermore, continued working after granting the pension will increase pensions via an increase in the personal insurance component. Respective recalculations are made annually.

The statutory funded DC scheme was introduced in 2002 by diverting a portion of contributions from the statutory PAYG scheme into private funds and introducing additional contributions by employees. The contribution rate for the statutory funded scheme is six percent of gross wages – the employee pays two percent from their gross wage and another four percent is diverted from the social tax paid by the employer (as part of the 20% pension insurance contribution). The amount of funded pension depends on total contributions over the working career and yields of pension funds. The scheme covers the risk of old age, but not invalidity. Participation is mandatory for persons born in 1983 or later. By the end of 2016, the scheme covers about 81 percent of the population aged 15 to 64, but not all are active contributors (about 60% of participants contributed in 2016).[11] The first benefits were paid out in 2009 but the amounts were marginal due to short contribution periods (at the time 6.5 years). The benefits of the statutory funded DC scheme still play a minor role in total old-age income in 2017; furthermore so far only 1.6 percent of all old-age retirees receive benefits from this scheme.

In 1998, a supplementary personal pension scheme was introduced, participation in which can take the form of pension insurance policies offered by licensed private insurance companies or units of pension funds managed by private asset managers. Tax incentives have been introduced to encourage participation in the voluntary private pension schemes. However, at the end of 2016 only about 12.3 percent of the working-age population participated in those voluntary schemes, with about 44,000 participants in voluntary pension funds and about 61,000 contracts in the form of life insurance.[12] A legal framework for employer's pensions was set up in 2012 and was added to the voluntary funded scheme as an additional option to make contributions.

The Estonian pension and welfare system includes three minimum income guarantees. First, a guarantee that an employment-related old-age pension is not lower than the national pension. Second, the national pension serves as a minimum pension guarantee for those who are not entitled to an employment-related benefit, but have at least 5 years of residence in Estonia. Finally, there is a means-tested social assistance subsistence benefit guaranteeing a minimum level of disposable income for households after the payment of housing costs.

2. Reform trends

The period 2014-2017 was a time for preparation of new reforms. There have not been major changes in the state pension scheme during this period.

[11] Ministry of Finance (2017). *Riikliku vanaduspensioni, kohustusliku kogumispensioni ja vabatahtliku kogumispensioni statistika. Seisuga 31.12.2016*, retrieved on 9 November 2017. Available online at: http://www.pensionikeskus.ee/files/dokumendid/kogumispensioni_statistika_012017.pdf.

[12] Ibid.

The government[13] has proposed four main policy changes to reform the state pension system: 1) to link further increases of the pension age to advances in cohort life expectancy at age 65 (from 2026 onwards when the pension age has been raised to 65); 2) to introduce partial pensions and options for more flexible retirement; 3) to reduce the link between state pensions and contributions (acquisition of pension rights in the future would depend on periods of employment, rather than on the contributions paid on the wage); and 4) to reform the special state pensions of defence forces, prosecutors, police and border guard officials so that no new special pension rights would be granted to those entering service in these professions from 2020 onwards (the draft act has passed a first reading in parliament).

Since the introduction of the statutory funded pension scheme and re-diverting of one fifth of pension insurance contributions (4 percentage points (p.p) from the 20% pension insurance component of social tax) to personal accounts in the funded scheme, social tax revenues do not fully cover expenditures on state pensions, and transfers from other tax revenues have been necessary to finance the state pension scheme.

Due to the economic crisis the contributions from social tax to the statutory funded scheme were temporarily suspended from 1 June 2009 until 31 December 2010 and partly suspended also in 2011 to reduce the deficit of the state PAYG pension system. In 2014-2017, there was a compensation mechanism in place to compensate for contributions that were temporarily suspended in 2009-2017, so that six percent instead of the regular four percent from a person's gross wage were re-diverted from social tax to personal accounts in the funded scheme. The compensation mechanism increased transition costs on the state budget, but it met the expectations of persons who joined the statutory funded scheme. By September 2013, persons who had joined the second pillar had an option to increase their contributions. About 106,000 people (i.e. 16% of all contributors) choose to increase their contributions from two percent to three percent of gross wages and the share of social tax transferred to the funded scheme increased from four percent to six percent of gross wages. The transfers by the state increased from four percent to six percent also for those 180,000 people (28% of contributors) who continued their contributions in 2010-2011, but did not choose to raise their contributions in 2014-2017.

Old-age pensions are also taxed by income tax, but there was a special tax-free pension allowance in addition to the basic non-taxable allowance. By the end of 2017 the total income tax allowance (special tax-free pension allowance and general tax allowance) on pensions was higher than the average old-age pension.

Amendments adopted in 2014-2017. The statutory funded pension scheme law was amended following discussions that the regulation of the pay-out phase has been too rigid. The principal mode of benefit payment from the statutory funded scheme is in the form of an annuity contract. Besides the fixed-amount annuity, from 2018 it is also possible to choose an annuity contract with investment risk. Also, if the accumulated amount is under a certain low level the person has one extra opportunity – having a fixed-term pay-out rather than an all-lifetime annuity.

Only a small number of employers contribute to the occupational pension schemes. There have been discussions that those contributions may not serve as a retirement income as the employee in principle may take out the accumulated assets at any time. From 2018 there is an additional opportunity for the employer to limit the minimum age before which the employee cannot take out those contributions. However, the employer may not set this age higher than 55 and assets may be withdrawn when the person has become incapacitated for work.

[13] Sotsiaalministeerium (2016). *Riikliku vanaduspensioni jätkusuutlikkuse analüüs (State old-age pension sustainability analysis), 2016*. Available online at: http://sm.ee/sites/default/files/content-editors/Uudised_pressiinfo/vanaduspensioni_jatkusuutlikkuse_analuus_2016.pdf.

Debates on pension reforms. Defence forces, prosecutors, police and border guard officials who start to work in 2020 will no longer be entitled to a special pension under the draft law which has not yet been adopted (the parliament has passed the first reading of the draft law). The reform of special pensions is going to have a sustainability effect from 2040 and the cost would be 0.15 percent of GDP at 2060 based on the projections, which is 0.1 p.p. lower than without the special pension reform.[14] There are two major topics for the future reforms. The first one is potentially influencing all aspects – sustainability, adequacy, gender pension gap and duration of payment of pensions. The government has proposed to substantially reform the old-age pensions system. The four main changes proposed for the pension reform are as follows:[15]

1. pension age linked to life expectancy from 2027,
2. actuarially neutral flexible retirement age from 2021,
3. acquisition of new pension rights in the first pillar linked to years of employment from 2037, with a transition period from 2020 to 2036,
4. possibility of joining the second pillar opened again for the cohorts born in 1970-1982 (the cohorts born before 1983 had the opportunity to join the second pillar until 2010 but about a quarter of them did not join it).

The second topic relates to superannuated pensions and pensions under favourable conditions – there have been discussions to reduce new enrolments with these schemes, but no agreements have been reached.

3. Assessment of adequacy

3.1. Current adequacy

3.1.1. General assessment of current adequacy

The Estonian pensioners' situation relative to the working-age population before retirement is worse compared with the average of other EU countries. The aggregate replacement ratio (ARR) of income was 0.45 in Estonia in 2016 (EU average is 0.58). The total ARR has not changed since 2008. Meanwhile the ARR for women has decreased by 0.03 p.p. (from 0.54 to 0.51) and it has increased by 0.02 p.p. for men (from 0.37 to 0.39). The relative median income ratio, which compares broader cohorts (65+ versus 0-64) and takes into consideration all incomes, in Estonia is the lowest in the EU (0.60 versus 0.92 in 2016).

Estonia has one of the highest at-risk-of-poverty or social exclusion (AROPE) rates for older people (aged 65 years or over) in the EU (41.4% versus the EU average of 18.3% in 2016). The at-risk-of-poverty (AROP) rate of older people (65+) in Estonia is also one of the highest in the EU (40.2% versus the EU average of 14.7% in 2016). However, the severe material deprivation rate of older people aged 65 or over is 5.4 percent, slightly below the EU average (5.9% in 2016).

The income of the majority of old-age pensioners is close to the relative poverty line of the income distribution. Small changes either in the distribution of labour income or in old-age pensions may change the poverty line and shift a large proportion of old-age people either above or below the poverty line, with no significant change in their actual living conditions. For example, the AROPE rate of those older than 65 was 40.9 percent in 2008 but during the crisis only 17.0 percent in 2011, and again 41.4 percent in 2016. A similar result is expressed

[14] *Special pension reform draft act, an explanatory statement*. Available online at: https://www.riigikogu.ee/download/80524ecd-6a9c-4f37-8359-530c83ea5e35.

[15] Piirits, M., Masso, M. (2017). *The government of Estonia proposes to tie the pension age to life expectancy and increase solidarity in the state old-age pension*, ESPN Flash Report. Available online at: ec.europa.eu/social/BlobServlet?docId=17469&langId=en.

with the relative poverty gap – although Estonia has a considerably high proportion of people at risk of poverty or social exclusion, the relative poverty gap was lower than the EU average (14.7% versus 16.9% in 2016). Also, the AROP rates with 60 percent or 50 percent thresholds are both higher than the EU average (40.2% and 14.7% versus 14.7% and 7.2%), but the AROP rate increases from the 50 percent to the 60 percent threshold by 2.7 times in Estonia and 2 times in the EU average. Therefore, it is crucial that other indicators, such as the material deprivation rate and the absolute poverty rate, are also used to evaluate the current situation of the Estonian elderly either over time or relative to other socioeconomic groups.

There is a remarkable difference in the AROPE rate between elderly men and women (around 27% versus 49% respectively in the age group 65 or over, the same kind of difference among those aged 75 or more). The main reason is that men statistically have a shorter life expectancy (15.5 years for men and 20.7 years for women at the age of 65 in 2016) and therefore tend to live in couple households, where the risk of poverty is lower by definition (through equivalence scales).

The gender gap in pensions in Estonia is the lowest across the EU countries (being 2% in 2016). The gender gap in pensions in Estonia is consistently at low levels, less than 4 percent from 2008 on. The gender gap in coverage rate is also negligible in Estonia. The low value of the gender gap in pensions is caused by the composition of current old-age pensions that mainly depend on the flat-rate base amount and the pensionable length of service component that covers periods up to 1998. The insurance component that depends on earnings covers only periods from 1999. For old-age pensioners aged 65-74 the pensionable length of service is the most important component of pensions. In addition, one of the parents who had raised children for 8 years, usually the mother, before 31 December 1998 (i.e. children must have been born before 1 January 1991) received a pension supplement equal to the value of 2 years of pensionable length of service. Furthermore, the actual time of childcare leave (up to a child's age of three) was included in the pensionable length of the service component. As a result, neither differences in earnings nor career breaks due to childcare influence the current gender pension gap. In the future, the gender pension gap will gradually increase, as pensions will depend more on lifetime earnings.

Self-reported unmet need for medical care for older people (65 years or over) is worse compared with European countries and the EU average (19.2% in Estonia and 3.5% in EU). This might be because of all three of the following reasons: 1) financial – studies on out-of-pocket payments (OOP) on health suggest that Estonian pensioners face a high risk of impoverishment due to expenditure on medicines;[16] 2) waiting lists – the supply of services and waiting for service delivery has been a broad discussion topic in the Estonian healthcare system; and 3) too far to travel – there have been plans to have some regional hospitals and to close or to have fewer services in smaller hospitals.

The pension payment duration of 17.2 years (2012) for men in Estonia is shorter than the average in EU countries. The retirement age increased by 1 year for women from 2013 to 2016 but without it pension payment duration would be longer due to life-expectancy increases. The Estonian pension payment duration has almost the biggest difference in Europe for men and women (17.2 years versus 25.7 years respectively). The difference will slowly decrease due to equalisation of the retirement age in 2016.

3.1.2. Redistributive elements of public pension schemes

[16] Võrk, A., Saluse, J., Reinap, M., Habicht, T. (2014). *Out-of-pocket payments and healthcare utilisation in Estonia 2000-2012*. World Health Organisation, Regional Office for Europe.

The current income distribution of Estonian elderly people is considerably narrower (the S80/S20 ratio is 3.5) than among the younger population (5.7) or the elderly in the EU (4.1). This is thanks to the redistributive flat-rate base amount, which is about 40 percent of the average old-age pension. The flat-rate base amount proportion increases every year and therefore this helps to slow the growth of inequality. Also, the length of service component is strongly redistributive, but as this takes into account only employment periods up to 1998 its role is gradually diminishing for new pensioners. Redistribution is also achieved through crediting pension rights for some non-active periods (including childcare and military service). In the future, when contributions matter more both in the state pension scheme and in the funded pension schemes, the distribution of pensions will be considerably wider because of the current broad wage distribution of the younger population (S80/S20 ratio 5.7).

Pensions are indexed annually. The index is a weighted average of the past consumer price index and past growth of social tax revenues to the pension insurance system (in a 20-80 proportion). As wage growth has been rapid and in the future the number of employed people will decrease, the pension index will not be able to keep up with the growth of wages and the proportion of the statutory pension scheme will decrease compared with wages. The theoretical replacement rates (TRRs) project that the gross pension would be 3.3 p.p. lower after 10 years of retirement.

3.2. Retirement conditions for the self-employed and for people in non-standard employment

State pension insurance provides protection against the risks of old age and survivorship and includes two separate tiers: employment-based old-age and survivors' pensions, and flat-rate residence-based national pensions (solidary scheme). The purpose of the national pension is to guarantee a minimum income for those who are not entitled to the employment-based pension.

The same general conditions apply to both employees and self-employed persons, including self-proprietors,[17] and people employed on non-standard contracts such as management board[18] members.[19] That means they have to pay at least a minimum level of social tax to ensure health insurance otherwise they are not insured. The average-wage person working for 20 years instead of 40 years would receive a 37 percent lower pension from the statutory pension scheme in 2056.

3.3. Future adequacy and challenges

The projections of the net TRRs indicate that first pension as compared with the last wage is projected to increase from 41.8 percent in 2016 to 47.8 percent in 2056 with a 40-year-career person retiring at standard pensionable age (63 at 2016 and 65 at 2056). However, low- and high-wage earners will be affected in different ways. Due to a stronger link between contributions and benefits in the reformed system, low-wage earners would see a small drop (1.3 p.p.) in net TRR. High-wage earners will see an increase (3.8 p.p.) in net TRR.

Postponing retirement by 2 years up to age 67 will increase net replacement rates in 2056 by almost 11.4 p.p. for the average earner (to 59.2%) because of the extra bonus for deferred pensions. Replacement rates for those having lower earnings will be higher, and for those

[17] Self-employed natural persons who offer goods or services for charge in their own name and whose status is regulated by the commercial code. Terms of service contract are regulated by the Law of Obligations Act.

[18] Oftentimes self-employed persons, in this case entrepreneurs who offer goods or services via a company. The status of the company and management board is regulated by the commercial code. Terms of service contracts are regulated by the Law of Obligations Act (i.e. authorisation contract).

[19] Masso, M., Kadarik, I. (2017). *ESPN Thematic Report on Access to social protection of people working as self-employed or on non-standard contracts*.

having higher earnings lower, because of the flat-rate base amount that reduces the link between contributions and future pensions.

Regarding the future adequacy of pensions, the main challenge is the ageing population. Simulations of gross replacement rates, using either numerical calculations of typical workers or cohort-based models by the Ministry of Finance or by Praxis Centre for Policy Studies, indicate that gross average pensions remain at 40 percent of the average wage at the time of retirement. Projections of replacement rates also reflect an increasing role of the DC mandatory funded pillar. By 2056 the share of the statutory funded scheme is projected to be around 40 percent of average pension of new old-age pensioners. As both the statutory pension scheme and the funded pension scheme depend on lifetime earnings, differences in wages, including the gender wage gap and inactivity periods, might translate into pension differences in the long run. Simulations show that introduction of the statutory funded pension scheme and a stronger link between earnings and state pensions will increase the future inequality of pensions.[20] Moreover, the poverty of pensioners will likely increase.

4. Main opportunities for addressing pension-related challenges

Ensuring adequate pensions in the future will be a major challenge, in particular for people with short professional careers or with low earnings, and for disabled people or those receiving only residence-based national pensions.

Although Estonia does not have a large public debt and also the share of pension expenditure in GDP is not very high (6.6% compared with 12.7% on average in the EU in 2015), it is not very likely that additional funds are transferred to the PAYG system to increase current pension levels relative to labour earnings. As a result of the recent economic crisis the annual deficit of the state PAYG pension scheme had already reached 2 percent of GDP by 2011 and the Ministry of Finance has predicted that the annual deficit of the PAYG pension scheme given the current rules could persist at least for 20 years. This problem might be rather irrelevant if proposed pension reforms are implemented.

The pressure on the Estonian pension system does not come from high replacement rates of pensions, but from high dependency rates. The old-age dependency ratio for Estonia is projected to rise by 29.1 p.p. from 31.5 percent in 2016 to 60.6 percent in 2056, when it will be above the EU average (56.6% in 2056). Therefore, higher replacement rates and/or lower poverty among pensioners could be achieved through a combination of different approaches: increasing the effective retirement age, increasing voluntary savings, or using current expenditures more efficiently in targeting poverty.

The government[21] proposed four main recommendations: 1) introducing automatic stabilisers after the retirement age has reached 65 – retirement age linked to life expectancy; 2) a more flexible retirement age; 3) reducing the link between statutory pension benefit and the size of the wage; and 4) abolishing special pension schemes.

Although the Estonian pension system includes already strong incentives to work longer, the reduction of pensions when retiring before normal pension age is not actuarially neutral and may encourage early retirement and could be redesigned. Although its short-term impact on labour market and social expenditure is minor, because a majority of those retiring early have been long-term unemployed, it may have some long-run positive behavioural effects by increasing the labour supply of those near the retirement age.

[20] Võrk, A., Piirits, M., Jõgi, E. (2015). *The impact of introduction of funded pension schemes on intra-generational inequality in Estonia: a cohort microsimulation analysis*.

[21] Sotsiaalministeerium 2016. Riikliku vanaduspensioni jätkusuutlikkuse analüüs (State old-age pension sustainability analysis), 2016, available online at: http://sm.ee/sites/default/files/content-editors/Uudised_pressiinfo/vanaduspensioni_jatkusuutlikkuse_analuus_2016.pdf

5. Background statistics – Estonia

1. Relative incomes of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.60	0.65	0.56	-0.02	-0.01	-0.03
Income quintile share ratio (S80/S20), 65+	3.5	3.9	3.4	0.2	0.6	0.3
Aggregate replacement ratio (ARR)	0.45	0.39	0.51	0.00	0.02	-0.03

2. Poverty and material deprivation

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+ (%)	41.4	27.4	48.6	0.5	1.4	0.3
At-risk-of-poverty (AROP), 65+ (%)	40.2	26.1	47.4	1.2	1.5	1.3
Severe material deprivation (SMD), 65+ (%)	5.4	4.9	5.6	-0.4	1.0	-1.1
At-risk-of-poverty or social exclusion (AROPE), 75+ (%)	49.2	27.7	57.9	-0.5	-2.3	0.7
At-risk-of-poverty (AROP), 75+ (%)	48.2	26.2	57.0	0.2	-2.7	1.8
Severe material deprivation (SMD), 75+ (%)	4.8	3.6	5.3	-2.4	-1.7	-2.7
Relative poverty gap, 65+ (%)	14.7	16.9	14.5	-0.1	3.5	-1.0
At-risk-of-poverty (AROP), 65+: 50% threshold (%)	16.5	13.1	18.3	-0.7	3.7	-2.7
At-risk-of-poverty (AROP), 65+: 70% threshold (%)	56.0	45.1	61.7	-0.3	-0.5	0.1
				Change 2014-2016		
Material and social deprivation, age 65+ (%)	10.5	9.5	11.0	-6.5	-3.5	-8.0

3. Gender differences

Indicator	2016	Change 2008-2016
	Total	Total
Gender gap in pension income (65-79) (%)	1.81	-0.37
Gender gap in non-coverage (W-M in p.p.) (65-79)	-1.9	-2.1

4. Housing and health situation of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Population 65+ living in overcrowded households (%)	4.7	3.9	5.1	-20.7	-12.6	-24.6
Tenure status among people 65+: share of owners (%)	81.5	84.5	80.0	-6.2	-4.9	-6.8
Housing cost overburden, 65+ (%)	3.8	2.6	4.4	1.2	2.0	0.9
Self-reported unmet need for medical care 65+ (%)	19.2	16.1	20.8	7.2	7.1	7.2
Healthy life years at age 65 (years) *		5.3	5.3		1.3	1.0

5. Pension duration

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Pension payment duration (2012) (years)		17.2	25.7			
Retirement duration (AWG) (years)		15.4	20.6		20.3	24.9

Data source: (1) (2) (3) (4) Eurostat, Sept-Oct 2017 (5) European Commission

*Notes: * - 2015 data.*

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net (%)				Gross (%)			
		2016		*2056*		*2016*		*2056*	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Variant: old base case: 40 years up to 65	41.8		47.8		34.2		40.0	
	New base case: 40 years up to the SPA	41.8		47.8		34.2		40.0	
	Increased SPA: from age 25 to SPA	40.6		47.8		33.2		40.0	
	AWG career length case	40.5	42.3	50.9	49.1	33.1	34.6	43.1	41.3
	Longer career: 42 years to SPA			49.1				41.3	
	Shorter career: 38 years to SPA			46.6				38.7	
	Deferred exit: 42 years to SPA +2			59.2				51.5	
	Earlier exit: 38 years to SPA -2			42.1				34.3	
	Career break – unemployment: 3 years			45.1				37.7	
	Career break due to childcare: 3 years			47.0				39.4	
	Career break caring for family dependant: 3 years			45.3				37.9	
	Short career (20-year career)			30.3				25.3	
	Work 35 years, disabled 5 years prior to SPA			43.8				36.7	
	Early entry in the LM: from age 20 to SPA			51.6				43.1	
	Index: 10 years after retirement @ SPA			43.9				36.7	
	Extended part-time period for childcare			43.9				36.7	
	Pension rights of surviving spouses								28.1
Low (66%)	Variant: old base case: 40 years up to 65	56.8		55.5		47.4		45.7	
	New base case: 40 years up to the SPA	38.2		65.8		31.3		55.2	
	AWG career length case	54.8	57.6	59.3	57.0	45.7	48.0	48.8	47.0
	Career break – unemployment: 3 years			52.8				43.4	
	Career break due to childcare: 3 years			54.7				45.1	
	Short career (20-year career)			37.8				31.1	
High	New base case: 40 years up to the SPA	24.9		28.7		20.5		26.2	
	Average replacement rate across retirees								

7. Sustainability and context

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65 (years)	18.6	15.5	20.7	22.7	20.6	24.7
Old-age dependency ratio (20-64) (%)	31.5	21.6	41.2	60.6	52.7	68.7
Economic old-age dependency ratio (15-64) (%)	35.7	22.9	49.5	72.4	58.4	88.2
Employment rate, age group 55-64 (%)	65.2	63.7	66.5	64.5		
Pension expenditure as % of GDP (ESSPROS)	6.6*					
AWG projections	2016			2055		
Coverage ratio (% of pop aged 65+)						

Data source: (6) Member State and OECD; (7) European Commission, DG ECFIN

*Notes: * - 2015*

Ireland (IE)

Highlights

- Social transfers in Ireland are effective in preventing older people falling into poverty in their retirement. State pensions are strongly redistributive due to the flat-rate payments and earnings-related contributions.
- Key reforms include standardisation and increase of pensionable age and strengthening the link between contributions and benefits.
- Despite the increases in the pensionable age, there remains a big challenge to make the state pension sustainable. A key challenge for supplementary pensions is to increase coverage and implement auto-enrolment, and to ensure that any state financial incentives are appropriate and fair, while addressing the sustainability of the occupational pension system.

1. General description of the national pension system

The bedrock of the Irish pension system is provided by a first pillar mandatory social insurance pension, the state pension (contributory) (SPC), and a means-tested social assistance pension, the state pension (non-contributory) (SPNC). These two state pensions are paid at age 66. The first pillar can be supplemented by a second pillar of voluntary occupational pension and/or by a third pillar denoted as a personal pension.

The state contributory pension is financed on a pay-as-you-go (PAYG) basis through contributions to the Social Insurance Fund (SIF) from employees, employers and the self-employed with a subvention from general taxation to meet any shortfall in the SIF. Entitlement to the SPC is based on an individual's social insurance contribution record and the maximum (personal rate) pension is payable at a flat-rate of EUR 238[22] per week. For the maximum rate of pension a contributor has to have a minimum of 520 paid weekly contributions and a yearly average of 48-52 contributions since commencing insurable employment. Lower rates are payable to people with lower averages, in bands, e.g. someone with a yearly average of 20-29 qualifies at 85 percent of the maximum rate.

SPC entitlements are based on a yearly average, which is the number of weekly contributions paid or credited, divided by the number of years between entering social insurance and reaching state pension age. Under the system a number of women are classified as 'qualified adults' under a household-based claimant system. In addition to the spouse's pension, an 'increase for a qualified adult' (IQA) payment may be made to the woman (or men in the same position) where they have no pension themselves, and at EUR 218 is 90 percent of the full state pension rate. Since 1994, periods working in the home in a caring capacity may be disregarded for pension purposes, where it benefits the pensioner.

Changes enacted as of 2012 to make pension-related savings affected pensioners with lower yearly averages, who also had additional means, almost 62 percent of whom are women. The government has proposed (January 2018) that everyone affected will be offered the opportunity to be assessed under the 'total contributions approach', with effect from March 2018, and to be paid under that method if it is to their benefit.

The means-tested SPNC is financed out of general taxation and the maximum rate is EUR 227[23] per week. Income and the value of capital (excluding the value of the claimant's home) are assessed in the means-test to estimate a claimant's weekly means. There are disregards in

[22] Will rise to EUR 243.30 in March 2018, until then it is EUR 238.30.
[23] EUR 232 per week from March 2018.

the means-test, including the first EUR 30 of means, and up to EUR 200 of earnings from employment. Income from work does not impact upon the rate of the state pension (contributory). Both pensions are administered by the Department of Employment Affairs and Social Protection.

There are also increases for those living alone (between EUR 9 and 11.50), and those aged over 80 (EUR 10 per week). A household benefits package worth some EUR 590 per annum may also be payable to assist with utility costs, and free travel on public transport is also available to those aged 66 and over. A means-tested fuel allowance is payable at EUR 22.50 for 27 weeks per annum. Assistance may be available with rental costs. State pensions do not have an earnings-related component and deferred pension, nor a facility for early drawdown of old-age benefits. Invalidity pension is paid at a rate of EUR 203, plus applicable allowances. Such invalidity pensioners generally transfer to SPC at the maximum rate at state pension age.

To date, changes in the level of social welfare pensions have been made as part of the government's annual budget. On 28 February 2018, the Government launched "A Roadmap for Pensions Reform 2018-2023", which announced that, by the end of 2018, it would develop proposals to (a) set a formal benchmark of 34 per cent of average earnings for the state pension contributory, and (b) institute a process whereby future changes in the rates of payment are explicitly linked to changes in prices and average wages.

Second-pillar occupational pensions may be provided by employers, often by negotiation with trade unions. Supplementary pension coverage, which includes occupational and personal pensions, varies from around 90 percent in the public sector to approximately 35 percent in the private sector with overall coverage amounting to 47 percent. Supplementary coverage has fallen from 54 percent just before the financial crisis in 2008. Estimates, based on the Central Statistics Office (2016) report on supplementary coverage of those workers who have a pension, are that 73 percent had an occupational pension, 18 percent had a personal pension and 9 percent had both types of pension.

The state provides an incentive for employers, employees and individuals in the labour force to provide private pensions by giving tax relief at marginal rates on pension contributions and the investment growth of the fund. Pension benefits are taxed in the same way as other income although older persons benefit from certain tax credits and exemptions and do not pay social insurance contributions on pension income. There is also tax relief on pension lump-sums up to one quarter of the size of the pension fund. The maximum amount of pension contributions on which an individual can obtain tax relief in any one year is based on a combination of annual earnings and an age-related percentage of those earnings. Legislation reduced the annual earnings cap for pension contributions tax relief purposes from a level of EUR 262,362 per annum in 2007 to its current level of EUR 115,000 in 2011. The maximum allowable lifetime pension fund at retirement for tax purposes (the 'standard fund threshold') was reduced from just over EUR 5.4 million to EUR 2.3 million from 2010 and further reduced to EUR 2 million from January 2014. The lifetime limit on the value of tax-free retirement lump-sums taken after 7 December 2005 was capped at EUR 200,000 in 2011. The distribution of tax reliefs for employees and the self-employed is concentrated on the highest earners. In 2014 nearly three quarters of tax reliefs accrued to the top quintile of the income distribution.[24]

A flexible drawdown option at retirement known as the approved retirement fund (ARF) is available to all defined-contribution (DC) pension saving arrangements (as an alternative to annuity purchase at decumulation phase). An ARF is a personal retirement fund where an individual can retain money invested after retirement and withdraw from it regularly to provide an income.

[24] Collins and Hughes (2017).

Public service occupational pensions, which are mainly mandatory, are almost universally financed on a PAYG basis. Private sector occupational pensions are voluntary for employees except where they form part of the conditions of employment imposed by the employer, and are usually funded by employer and employee contributions. Third-pillar pensions are funded by the self-employed, through retirement annuity contracts, and for individuals, through personal retirement savings accounts (PRSA). There is no legal obligation on an employer to set up or contribute to an occupational pension scheme. However, if an employer does not have a pension scheme they are obliged to provide employees with access to a PRSA.

Occupational pensions can be provided on a defined-benefit (DB), a DC or a DB/DC hybrid basis. Personal pensions are invariably provided on a DC basis. Private sector pensions are financed on a funded basis. Employer and employee contributions, and the tax relief on the contributions, are accumulated in pension funds which are mainly managed by insurance and pension companies. In 2016 there were 299,782 members of DC occupational schemes and 471,608 members of DB schemes. Of the latter, 677 schemes (representing 111,535 members) were subject to the funding standard whilst 101 PAYG schemes (representing 360,073 members) were not subject to this standard.[25]

2. Reform trends

A range of reform measures have been undertaken in the area of state and private pensions in recent years. Key reforms undertaken since 2014, or which are currently in planning, include the state/first pillar and second/third pillar supplementary pensions.

Legislation was implemented to standardise the state pension age from 65 to 66 years with effect from January 2014. It will further increase to 67 from 2021 and to 68 from 2028. CSO data have shown an increase of over 27 percent in the numbers of people aged 65+ in the labour force since this reform. Changes are planned to the method by which state pensions are calculated such that a 'total contributions approach' will replace in 2020 the current yearly averaging system, and that the amount of pension paid will be directly proportionate to the number of social insurance contributions and/or credits made over a person's working life.

In advance of this, the government announced in January 2018 that pensions calculated under the current rate bands (since September 2012) may be re-assessed under TCA, and the higher amount will be paid. Under TCA, someone with 40 years contributions (including up to 20 years home-caring or 10 years credited contributions, e.g. from periods of unemployment) will qualify for a maximum rate pension, and those with fewer contributions will qualify for a pro-rata amount. The change will be effective from March 2018, following legislation later that year, although the first payments with arrears are expected in January 2019.

There has been a succession of significant reforms to public service pensions over recent years. Especially notable statutory measures have been as follows.

(a) In January 2013 a cost-saving career-average pension scheme for all new-recruit public service workers, the 'single public service pension scheme', was launched. Prior to this, new-hire staff had been in enrolled in a diversity of more expensive final-salary schemes.

(b) In January 2011 a significant cut in the rates of payment of public service pensions above specified value thresholds was imposed. This 'public service pension reduction' (PSPR) operated under emergency fiscal (FEMPI) laws, and has since been largely rescinded.

(c) Commencing 1 January 2019, an 'additional superannuation contribution' (ASC) will be stopped at payroll from the wages of pensionable public servants whose pay exceeds certain

[25] Pensions Authority (2017).

minimum levels. Replacing the emergency-conditions 'pension-related deduction' (PRD), this significant reform was originally brokered as part of the mid-2017 'public service stability agreement' between the government and the public service trade unions and is provided for in the Public Service Pay and Pensions Act 2017. When implemented at full contribution rates from the beginning of 2020, ASC will provide some EUR 550 million annually towards the sustainable financing of public service pensions. This will be in addition to the existing mainstream occupational pension contributions of public servants, which amount to about EUR 700 million per annum.

Because the state pension retirement age has increased, a gap has emerged between the retirement age for occupational pensions (usually at age 65 years) and for the state pension. Consequently, the government has approved an increase in the compulsory retirement age to 70 for those public servants whose compulsory retirement age is currently 65. There has been no change to the minimum pension age at which public servants can retire. In the case of a DB pension scheme wind-up or restructuring, legislation was enacted in 2013 to provide for a more equal distribution of the assets amongst members whilst retaining a priority for pensioners. Strengthening of the regulatory structure was also introduced to identify and prevent underfunding in pension schemes as early as possible. The Social Welfare, Pensions and Civil Registration Bill 2017 will, when enacted, provide for, amongst other matters, the introduction of a statutory minimum notice period where an employer decides to cease contributions to a DB scheme; for the annual preparation and submission of actuarial funding certificates to the regulator, being the Pensions Authority; and to provide that where a scheme is in deficit that a funding proposal must be submitted to the Pensions Authority within 6 months of the date of the actuarial funding certificate.

Legislation was enacted in 2014 to restructure the regulator (Pensions Board) and to separate regulatory responsibilities from the policy advisory role. As a result, the Pensions Board became the Pensions Authority (pensions regulator) and a separate Pensions Council was established to provide consumer-focused policy support to the minister.

3. Assessment of adequacy

3.1. Current adequacy

3.1.1. General assessment of current adequacy

Social transfers are particularly effective in Ireland in preventing poverty in retirement. The at-risk-of-poverty (AROPE) rate for those aged 65 and over was 17.4 percent in 2016 which reflected a reduction of 5.1 percentage points (p.p.) between 2008 and 2016.

The median relative income ratio of older people in Ireland improved by 12 p.p. between 2008 and 2016 to 86 percent in 2016, being slightly below the EU-28 average (93% in 2016). For women, the position is less positive at 82 percent. It is likely that the improvement for women was driven by a combination of a decline in the incomes of the population below age 65, due to the recession, and an increase in state pension rates in the reference period.

Income inequality between the top and bottom quintiles of those aged 65 years and over, as measured by the income quintile ratio (S80/S20), widened from 3.8 in 2008 to 3.9 in 2016. A widening gap between the lowest and highest incomes of elderly women (up from 3.5 to 3.7) contributed to an increase while a gap for men remained stable (4.1).

The AROPE rate for older people in Ireland fell from 22.5 percent in 2008 to 17.4 percent in 2016. This is largely attributable to the increases in the real value of social welfare pensions and the subsequent decline in overall average earnings as the crisis took hold. Older people in Ireland, especially older women, depend on social transfers for most of their income and state pensions are their most important source of income. Consequently, the government decision that the nominal value of state pension rates should be frozen in the austerity years, rather than reduced, has helped to protect the living standards of older people.

Maintaining the nominal value of state pensions has been particularly important for elderly people with the lowest incomes. In Ireland the numbers living on a disposable income of less than 70 percent of the national median disposable income in 2016 were larger (29.8%) as compared with the EU-28 average (24.7%). The at-risk-of-poverty (AROP) rate for persons aged 75 years and over has also improved (by 5.9 p.p.) in line with the broader trend and stood at 17.7 percent in 2016. In 2016, severe material deprivation for age groups 65-years-and-over and 75-years-and-over in Ireland was 3.1 percent and 2.5 percent respectively but for the 65 years and over age group it was lower for women than men (2.9% and 3.3% respectively) and among the 75-years-and-older age group it was higher for women than for men (2.8% and 2.2% respectively). The change between 2008 and 2016 in severe material deprivation was higher by 0.9 p.p. for the 65 years plus age group and higher by 0.7 p.p. for the 75 years plus age group. For the two age groups the increase was higher for men than for women: the 65 years and over age group it was 1.5 for men versus 0.3 for women, and 0.9 for men versus 0.6 for women for the 75 years and over age group.

The limited coverage of supplementary pensions (less than 50% of those in employment) and the flat-rate nature of the state pension mean many of those retiring at state pension age without supplementary coverage may experience a significant drop in living standards relative to their pre-retirement income. In a 20-year period where the broad policy intent was to increase supplementary pensions coverage (to 70%), the level of private pensions fell – from 52 percent in 1995 to a high of 55 percent in 2005 and thereafter reducing to the current rate of 47 percent. Despite the considerable efforts to promote and incentivise voluntary participation in supplementary pensions through generous tax reliefs, the changes in coverage over the last 20 years indicate that the voluntary approach to pensions participation is not achieving the desired goal in terms of increasing coverage to an appropriate level. The current government has signalled its intent to move towards a system where employees will be automatically enrolled (with an opt-out) when they are not a member of an employer's scheme.

Ireland had low female labour market participation rates until the 1990s, and a significant proportion of current pensioners would have remained distanced from the labour market during years when the 'male breadwinner model' was very much the norm. While the Irish social protection system seeks to recognise this in order to ensure relatively equal outcomes for women and men (as reflected in the household incomes and consistent poverty rates of women and men), the individual SPC payments to women and men in the same household reflect the higher lifetime earnings of men (although not to the same extent as before age 65).

Women's coverage by the pension system remains a policy concern in Ireland as the proportion of women aged 65-79 who received pension income in 2016 was 9.3 p.p. lower compared with the corresponding proportion of men, although this is a significant reduction from the 17.3 p.p. gap recorded in 2008. The gender gap in annual earnings (30%) is lower than the EU average in 2016 (36%). The gender pension gap in Ireland for persons aged 65-79 fell between 2008 and 2016, from 37.6 percent in 2008 to 26.1 percent in 2016. More recent trends in this gap among the wider pensioner cohort also demonstrate a significant reduction in recent years. The gender pension gap for those aged 65+ declined from 38.2 percent in 2012 to 30.0 percent in 2016.

The duration of a pension interacts with poverty protection and income replacement to increase or reduce the aggregate cost of providing a state pension or other pensions. The demographic projections in the latest actuarial report[26] indicate that the proportion of older people aged 66

[26] Department of Employment Affairs and Social Protection 2017.

and over will double from 12 percent in 2015 to 25 percent in 2055. The drivers of this trend include a high fertility rate in the past, a high immigration rate since 2004 and a significant increase in life expectancy over the next 40 years. Other factors are expected to see other upward pressures on the cost of pensions, notably the wider social insurance coverage in recent decades. Life expectancy at age 66 between 2015 and 2055 for men is projected to increase by nearly a third from 17.6 years to 23.1 years and by nearly a quarter for women from 20.1 years to 24.7 years. The retirement duration will increase between 2016 and 2066 from 18.6 years to 21.3 years for men and from 22.2 years to 24.2 years for women. The duration of working life in Ireland is similar to the EU-28 average (Ireland – 35.4, EU-28 – 35.6) but it will have to exceed the EU average in the future to cope with the increase in the proportion of older people.

3.1.2. Redistributive elements of public pension schemes

Public pension systems provide over 90 percent of pensioners with income in their retirement whereas private pensions provide retirement income for around one third of pensioners. Social protection pensions are strongly redistributive because the objective is to prevent poverty by giving flat-rate payments. Social insurance pensions are financed by earnings-related contributions, but there is no strong link between payments and contributions. Value-for-money calculations by the *Actuarial Review of the Social Insurance Fund 2015* show that the present value of projected benefits to the present value of employers' and employees' contributions is: very positive for those on lower incomes and negative for higher earners; positive for women due to their longevity; more positive for those who have shorter histories of contributions than for those who have a history of total contributions; and very positive for the self-employed because the total contribution is significantly lower than that of employees.

There are provisions for people forced to leave the labour market early that allow them to draw a pension when they reach pension age. Those incapable of work may claim invalidity pension, and may, upon reaching state pension age, transfer to a maximum-rate contributory pension. People can receive credits while receiving carer's benefit or allowance. Those on maternity leave can get credits for 42 weeks, and homemaking periods thereafter can be disregarded for the purposes of pension calculations. Those who left the labour market before paying a significant number of contributions may claim the state pension (non-contributory).

The Central Statistics Office (2017) estimates that social welfare pensions and other social transfers provide most income for pensioners in the first to seventh deciles of the income distribution, ranging from 58 percent to 95 percent of income.

The maximum payment for pensioners who have average annual contributions of 48 weeks or over since they entered the labour force is EUR 243 in 2018 and the minimum payment for those who have average annual contributions of 10-14 weeks is EUR 97. The maximum payment is above the poverty rate and it has had a positive impact on reducing the poverty rate for pensioners by 5 p.p. between 2008 and 2016 to achieve the target for the Europe 2020 poverty and social exclusion strategy.

There is no legislative commitment to index the state pension to maintain its adequacy. However, over a long number of years successive governments have increased it by the rate average earnings increased, or more, in the context of the annual budgetary process. Following a 3 percent increase in January 2009 (a year with negative inflation of -4.5%), the maximum rate of pension payment was frozen between 2010 and 2015. The effect of this was to largely support living standards for pensioners. The average inflation rate over this period was 0.9 percent per year. The state pension was increased by over 1 percent in 2016, 2 percent in 2017 and 2 percent in 2018. To date, this informal indexation of the state pension has ensured that pensioners' living standards will match workers' living standards throughout retirement.

3.2. Retirement conditions for the self-employed and for people in non-standard employment

The self-employed account for around 16 percent of the labour force.[27] Non-standard workers are not categorised as such by the social insurance code and there is no indicator in official statistics on the number of workers who have jobs in non-standard employment. However, a report by the Irish Congress of Trade Unions uses the number of temporary jobs as a measure of non-standard jobs, which was 7 percent of the labour force in 2016. In most cases, such workers are covered for pension purposes under the social insurance system. The self-employed and employees get the same state pension. The self-employed pay less PRSI than the total contributions for employees, and so their state pension is better value for money.

Until recently, the self-employed were only entitled to long-term pension benefits but gradually they have become entitled to other benefits including invalidity pension in 2017. The self-employed pay PRSI at 4 percent if their annual earnings exceed EUR 5000 or a minimum flat-rate contribution of EUR 500 a year (whichever is the greater) compared with 14.75 percent total contributions for employees (employer 10.75%, employee 4%). A self-employed person whose income falls below EUR 5000 per annum and has paid PRSI in the past can apply to opt in and pay voluntary contributions to social insurance for an entitlement to the state pension and other long-term benefits. Workers in non-standard jobs classified as employees will be entitled to the state pension if they fulfil the contribution regulations.

3.3. Future adequacy and challenges

The theoretical replacement rates (TRRs) for Ireland project that an average earner retiring in 2056 at age 65 and after a 40-year career would see falling living standards (the net TRR would decrease by 7.6 p.p. to 37.7 percent in 2056).[28]

Under the increased state pension age which presumes employment from the age of 25 until the state pension age, TRRs for average earners are anticipated to decrease by 5.2 p.p. on a net basis. For low earners who work for 40 years up to the state pension age the TRR sees a reduction of 14 p.p. For average earners, breaks in employment due to unemployment or childcare provision reduce the long-term net and gross TRR relative to no breaks in a longer career of 42 years to state pension age by 4.4 p.p. and 4.6 respectively for a 3-year break. The demographic ageing features of the Irish pension system that give rise to such potentially significant declines in future replacement rates have been partially addressed by legislating for increases in the state pension age to 68 by 2028, although there may be a need to further adjust state pension age to reflect increasing longevity.

Challenges for pension adequacy in Ireland stem from the increased number and longevity of older persons and an increasing dependency ratio. In relation to the first-pillar state pension, future challenges to achieving adequacy include the need to encourage longer working to parallel increases in the state pension age. It also includes the need to strengthen the link between the social insurance contributions an individual makes and the level of benefit they receive whilst at the same time protecting adequacy for those individuals who are distanced from the labour force. In recognition of the need to make the system more equitable whilst at the same time ensuring that it is affordable and sustainable, in 2020 it is planned to replace the current average contribution test for the state pension and introduce a total contributions approach where pension payments made will more closely reflect contributions made over a working life.

[27] http://www.welfare.ie/en/downloads/ReportIntermediaryStructuresSelfEmploymentJanuary2018.pdf.

[28] The application to Ireland of the old base case, which presumes a retirement age of 65, is of limited instruction given that legislation provides that Ireland's state pension age will be 68 from 2028.

In relation to second/third pillar private supplementary pensions, a significant challenge for pension adequacy in Ireland lies in the need to improve the uneven coverage rate which stands at less than 50 percent of those in employment. Without supplementary pension provision, many of those retiring at state pension age may experience a significant drop in living standards relative to their pre-retirement income, and so a key priority is to increase the coverage and adequacy of supplementary pension provision. The government has signalled a move towards an automatic enrolment retirement savings system with first enrolments anticipated in 2022, and will publish a long-term pension reform plan covering all pillars of the system.

The old-age dependency ratio (population aged 65 and over as a percentage of the population aged 20-64) in Ireland is projected to increase from 22.5 percent in 2016 (EU-28: 30.3%) to 51.8 percent in 2056 (EU-28: 56.6%). Over the period 2016 to 2056, the old-age dependency ratio is projected to increase by 29.3 p.p. (EU-28: 26.3 p.p.). According to the *Actuarial Review of the Social Insurance Fund 2015*, gross public pension expenditure will increase from 2.2 percent of GDP in 2016 to 4.7 percent of GDP in 2071.[29]

4. Main opportunities for addressing pension-related challenges

Projections indicate that Ireland faces a considerable fiscal challenge as a modest surplus in 2016 in the SIF (from which insurance-based benefits such as contributory pensions are paid) will go into deficit. From 2016 to 2071 pensions-related expenditure is projected to increase from 70 percent to 80 percent of the fund. Measures are required to increase contributions to ensure that the first-pillar state pension remains sustainable.

Less than 50 percent of the employed population have supplementary pension coverage to augment state pension income. Opportunities exist to improve coverage in terms of uptake by occupational sector, lower- and middle-income groups, gender and contribution levels. The government confirmed in 2015 a decision to develop a roadmap for the introduction of a new supplementary workplace retirement saving system. The aim of auto-enrolment would be to progressively increase supplementary pension coverage, particularly among lower-paid workers.

DB schemes have been facing increased difficulties over the last two decades due to volatility in the stock markets, increasing liabilities arising from the demographic pressures of increasing life expectancy, low interest rates and regulatory requirements. The cost of providing benefits has increased at a rate that has not been covered by the level of the employer and employee contributions to pension schemes and the investment returns earned. The need to safeguard the pension benefits for scheme members and enhance employer responsibilities for their DB pension schemes is recognised. The Social Welfare, Pensions and Civil Registration Bill 2017 will, when enacted, provide for, amongst other matters, the introduction of a statutory minimum notice period where an employer decides to cease contributions to a DB scheme; for the annual preparation and submission of actuarial funding certificates to the regulator, being the Pensions Authority; and stipulates that where a scheme is in deficit a funding proposal must be submitted to the Pensions Authority within 6 months of the date of the actuarial funding certificate. The measures within the Bill will enhance the regulatory and supervisory oversight of DB pension schemes by the Authority and will ensure, in the case of a scheme in deficit, that necessary and timely action is taken to restore a scheme’s funding position. The aim of this legislation is to ensure that the scheme members’ pension benefits are protected and the future viability and sustainability of their schemes is ensured and made safer.

[29] Department of Employment Affairs and Social Protection 2017.

5. Background statistics – Ireland

1. Relative incomes of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.86	0.90	0.82	0.12	0.15	0.09
Income quintile share ratio (S80/S20), 65+	3.9	4.1	3.7	0.1	0	0.2
Aggregate replacement ratio (ARR)	0.35	0.35	0.38	-0.14	-0.11	-0.17

2. Poverty and material deprivation

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+ (%)	17.4	16.5	18.2	-5.1	-2.1	-7.5
At-risk-of-poverty (AROP), 65+ (%)	16.0	15.2	16.7	-5.1	-2.5	-7.0
Severe material deprivation (SMD), 65+ (%)	3.1	3.3	2.9	0.9	1.5	0.3
At-risk-of-poverty or social exclusion (AROPE), 75+ (%)	19.3	16.5	21.5	-5.4	-0.7	-8.0
At-risk-of-poverty (AROP), 75+ (%)	17.7	15.4	19.4	-5.9	-1.1	-8.8
Severe material deprivation (SMD), 75+ (%)	2.5	2.2	2.8	0.7	0.9	0.6
Relative poverty gap, 65+ (%)	11.1	14.6	6.2	3.5	3.9	0.1
At-risk-of-poverty (AROP), 65+: 50% threshold (%)	6.3	6.9	5.8	0.1	0	0.2
At-risk-of-poverty (AROP), 65+: 70% threshold (%)	29.8	25.3	33.7	-8.8	-8.3	-9.0
	2016			Change 2014-2016		
Material and social deprivation, age 65+ (%)						

3. Gender differences

Indicator	2016	Change 2008-2016
	Total	Total
Gender gap in pension income (65-79) (%)	26.1	-11.6%
Gender gap in non-coverage (W-M in p.p.) (65-79)	9.3	-8.0

4. Housing and health situation of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Population 65+ living in overcrowded households (%)	0.3	0.2	0.5	-0.1	-0.2	0
Tenure status among people 65+: share of owners (%)	91.4	91.3	91.6	0.5	-0.6	1.5
Housing cost overburden, 65+ (%)	2.6	2.8	2.3	0.6	0.8	0.2
Self-reported unmet need for medical care 65+ (%) *	2.1	1.2	2.9	0.5	-0.2	1.1
Healthy life years at age 65 (years) *		11.4	12.0		2.1	1.7

5. Pension duration

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Pension payment duration (2012) (years)		21.0	24.4			
Retirement duration (AWG) (years)		18.6	22.2		21.3	24.2

Data source: (1) (2) (3) (4) Eurostat, Sept-Oct 2017 (5) European Commission

*Notes: * - 2015 data*

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net (%)				Gross (%)			
		2016		*2056*		*2016*		*2056*	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Variant: old base case: 40 years up to 65	45.3		37.7		36.6		28.9	
	New base case: 40 years up to the SPA	75.4		69.5		65.5		61.4	
	Increased SPA: from age 25 to SPA	76.7		71.5		66.8		64.3	
	AWG career length case	51.0	49.5	43.5	42.4	42.0	40.6	33.4	32.5
	Longer career: 42 years to SPA			70.8				63.3	
	Shorter career: 38 years to SPA			68.2				59.6	
	Deferred exit: 42 years to SPA +2			73.0				65.8	
	Earlier exit: 38 years to SPA -2			36.6				28.0	
	Career break – unemployment: 3 years			66.4				58.7	
	Career break due to childcare: 3 years			66.3				58.6	
	Career break caring for family dependant: 3 years			67.2				59.4	
	Short career (20-year career)			46.3				41.0	
	Work 35 years, disabled 5 years prior to SPA			65.9				58.3	
	Early entry in the LM: from age 20 to SPA			78.5				69.4	
	Index: 10 years after retirement @ SPA			64.5				57.0	
	Extended part-time period for childcare			62.8				55.5	
	Pension rights of surviving spouses				37.0				29.6
Low (66%)	Variant: old base case: 40 years up to 65	47.8		33.8		39.4		28.9	
	New base case: 40 years up to the SPA	86.5		83.6		80.3		76.7	
	AWG career length case	49.5	48.1	39.0	38.0	42.0	40.6	33.4	32.5
	Career break – unemployment: 3 years			80.7				73.9	
	Career break due to childcare: 3 years			80.6				73.9	
	Short career (20-year career)			59.6				54.0	
High	New base case: 40 years up to the SPA	54.7		44.8		40.8		37.1	
	Average replacement rate across retirees								

7. Sustainability and context

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65 (years)	19.8	18.4	21.0	23.8	22.3	25.3
Old-age dependency ratio (20-64) (%)	22.5	21.2	23.7	51.8	45.4	58.5
Economic old-age dependency ratio (15-64) (%)	29.3	24.1	35.2	63.9	52.8	76.9
Employment rate, age group 55-64 (%)	57.2	65.7	48.9	62.5		
Pension expenditure as % of GDP (ESSPROS)	5.8*					

Data source: (6) Member State and OECD; (7) European Commission, DG ECFIN

*Notes: * - 2015*

Greece (EL)

Highlights

- Pensions in Greece appear to have played a significant role in cushioning the negative effects of the crisis on pensioners, given that most of the pension adequacy indicators have improved over the period 2008-2016.
- The 2016 pension reform is considered to be the most crucial reform of the pension system since its establishment. It entails important redistributive elements, which are expected to have a positive impact on future pension adequacy.
- Future pension adequacy in Greece is ensured, in the long run, through the application of a relatively high future gross pension replacement rate for low-earners. Yet, given that further reductions in pensions in payment are expected to be put into effect in the near future, the future adequacy of pensions in the short run is likely to be negatively affected.
- Ensuring sustainability remains the main concern of the pension system, which should go hand in hand with ensuring pension adequacy. Efforts need to be concentrated on addressing specific pension-related challenges, such as: economic recession, high unemployment, non-standard employment, undeclared work and contributions evasion.

1. General description of the national pension system

Pensions in Greece are based, since January 2017 (Law 4387/2016),[30] on a unified multi-tier (public) statutory pension scheme which consists of four parts: first, a 'national' (quasi-universal) non-contributory pension (financed by the state budget); second, a compulsory contributory (primary) pension which operates under a defined-benefit pay-as-you-go (PAYG) scheme (unfunded scheme);[31] third, a contributory auxiliary (secondary) pension based on a completely notional defined-contribution (NDC) scheme; and, fourth, lump-sum retirement benefits which are contributory, being provided under an NDC scheme. Moreover, the statutory pension scheme also provides the minimum pension benefit for persons over 65 years old who are not covered by a pension scheme, as well as the means-tested pensioners' social solidarity benefit (EKAS), which will be gradually phased out by the end of 2019.

Under the statutory pension scheme, two main social security institutions have been in operation since January 2017. These are: (a) the Unified Agency for Social Insurance (EFKA),[32] which provides all national and contributory (primary) pensions; and (b) the Unified Fund for Auxiliary Social Insurance and Lump Sum Benefits (ETEAEP).[33] The latter fund provides: (a) the auxiliary (secondary) pensions to all retired persons (except doctors, self-employed farmers and freelancers); and (b) the lump-sum retirement benefits to certain categories of salaried employees (that is, civil servants, sailors and employees in the banking and the wholesale/retail trade sectors) and to the self-employed liberal professions. There are

[30] It should be noted that, until the end of 2016, all pensions (main, auxiliary and lump-sum benefits) in Greece had been based on the compulsory public (first) pillar, which operated under a tripartite PAYG scheme (unfunded scheme), providing only defined-benefit pensions.
[31] It is worth noting that, in real terms, this part operates under a balance defined-contribution (DC) pension scheme rather than a defined-benefit scheme. The reason for this is that, as the law provides, the amount of the contributory pension is also subject to the pension system's fiscal performance.
[32] According to Law 4387/2016, all existing main pension funds had to be integrated, by 1 January 2017, into one Unified Agency for Social Insurance, which would also cover public sector employees. Note should be made of the fact that, until the end of 2016, the number of social insurance funds in operation, covering the main pensions of the private sector employees and self-employed, amounted to four major and two minor funds, while public sector employees had been covered by the Treasury of State.
[33] The existing, by that time, Unified Fund for Auxiliary Social Insurance (ETEA) and the various funds for lump-sum benefits were integrated, on 1 January 2017, into the new fund ETEAEP (Law 4387/2016).

also four mandatory equity funds in operation, which provide monthly dividends exclusively to retired public sector employees.

EFKA covers all retired persons in Greece. According to the latest available data (August 2017),[34] EFKA covers 2.6 million pensioners, while the total number of its actively insured persons (that is, employees in both private and public sectors and all the self-employed) is estimated at approximately 3.59 million persons or 52 percent of the working-age population (aged 15-64). ETEAEP provides auxiliary pensions only to 1.24 million persons out of the total number of pensioners, while it covers 2.5 million actively insured persons, representing 36.3 percent of the working-age population (aged 15-64).[35] As regards the (statutory) equity funds, dividends are paid every month to 407,000 beneficiaries, while contributions to these funds are paid by approximately 560,000 public sector employees.

The latest available data[36] reveal that the average monthly gross income from pensions (including auxiliary pensions) in Greece was EUR 895 in August 2017. With regard to the main (contributory) pensions, 40.8 percent of pensioners received an average monthly gross amount of less than EUR 500, while, for the auxiliary pensions, 71.7 percent of pensioners received an average monthly gross amount of less than EUR 200. It should be pointed out, however, that pension benefits have been based, until recently, on higher annual replacement rates.[37] Current rates are lower, varying between 0.77 percent and 2 percent (depending on the number of years of contributions) for the main (contributory) pensions, while for the auxiliary pensions these are set at 0.45 percent.

Apart from the statutory pension scheme, the Greek pension system includes also a few supplementary (voluntary) pension schemes, which take the form of occupational pension funds and private pension plans. The pension benefits which they provide are supplementary to the benefits of the statutory pension scheme and they are DC in nature (funded schemes). At present, there are 15 occupational pension funds that provide benefits in kind and in cash – paid in monthly annuities (pensions) or as a lump-sum. As to personal pension plans, these are the least developed and operate through individual pension accounts. Overall, these supplementary pension schemes make up an insignificant part of the whole pension system, given that they provide less than 1 percent of the total number of pension benefits in Greece,[38] while the coverage rate of occupational pension funds is estimated to be only 1.3 percent of the working-age population (aged 15-64).[39]

The statutory retirement age, since the 1 January 2013 (Law 4093/2012), has been increased from 65 years to 67 years. This applies to all – as a general rule – with a few early retirement exceptions, which concern, in particular, mothers of children with disabilities and persons engaged in arduous work.[40] However, for those with a contributory period of 40 years, the retirement age is set at 62 years, instead of 67. It should be noted that auxiliary pensions are based on the same qualifying criteria (pensionable age and contributory period) as those applying to the main (national and contributory) pensions. As to the early retirement age, this is set at 62 years, requiring at least 15 years of contributions. Law 4093/2012 provided also that for those who retire between the ages of 62 and 67 with less than 40 years of contributions, pension benefits were to be reduced by a six percent penalty for each year up to 67 years old.

[34] Own calculations based on data obtained from the Greek Ministry of Labour, Social Security and Social Solidarity and from IDIKA (2017), *Helios Monthly Report of August 2017*, Helios pensions information system, Athens, pages 4 & 26.
[35] Ibid.
[36] IDIKA (2017), op. cit., page 26 and own calculations.
[37] Until April 2016, the annual replacement rates were varying between 2 percent and 3 percent.
[38] Symeonidis G. (2016). *The Greek Pension Reform Strategy 2010-2016*, Social Protection & Labor – World Bank Group, Discussion paper No. 1601, page 2.
[39] OECD (2017). *Pensions at a glance 2017: OECD and G20 indicators*, OECD Publishing, Paris, page 151.
[40] Until August 2015, early retirement exceptions concerned also mothers of minors and specific categories of civil servants. These were abolished by Law 4336/2015.

As regards the effective retirement age, this is estimated at 62 years old for men and at 60.2 years old for women for the year 2016.[41]

There are special favourable pension rules for workers in arduous and hazardous jobs (WAHJ),[42] which relate to a lower retirement age, higher pensionable salaries and higher replacement rates. In particular, the statutory retirement age is set at 62 years, which is 5 years earlier than the respective age (67 years) of other workers. It requires 35 years of contributions with at least 25 years of arduous work for a full pension entitlement, or 15 years of contributions with at least 12 years of arduous work for a reduced pension entitlement. Moreover, an additional annual replacement rate of 0.27 percent is foreseen for each year of contributions paid as WAHJ, on the condition that retirement is not taken before the general statutory retirement age (67 years old).

Disability pensions are provided in the case of loss or reduced capacity to work. Employees with severe disability (80 to 100%) fulfil the criteria for a full pension entitlement, while employees with ordinary disability (67 to 79.9%) fulfil the criteria for a minimum pension entitlement (75% of full pension) provided they have the minimum required contribution period. The invalidity level is evaluated by the Disability Certification Centres (KEPA). According to the Helios official database, disability pensions were provided to 221,216 persons in August 2017,[43] which represents 8.6 percent of the total number of pensioners.

It is possible for retirees to combine income from pensions with income from work, but in this case their total pension income (national pension, contributory pension and auxiliary pension) is decreased by 60 percent as long as they receive income from work.

2. Reform trends

The most significant changes in this respect were introduced in 2010 by two Pension Reform Laws (Law 3863/2010 and Law 3865/2010). Most of the provisions of these laws[44] were to take effect from January 2015, while certain provisions (such as the eligibility criteria for pension entitlement, including early retirement) came into force in 2013. However, significant provisions of the above-mentioned laws, such as the change in the structure of the pension system and the application of new annual replacement rates, which were to take effect from January 2015, were postponed by the new government elected in January 2015. As a result, the structure of the pension system remained the same until the enforcement (1 January 2017) of the new pension reform (Law 4387/2016),[45] which, nevertheless, has reactivated most of the provisions of the 2010 Pension Reform Laws.

The new pension reform of Law 4387/2016 intended, among other things, to fully implement (with some modifications) the 2010 pension reform provisions, especially those concerning the changes in the structure of the pension system. The rationale behind this pension reform is to improve governance, to eliminate most of the inequalities of the past and to ensure the long-term financial sustainability of the system. The main changes introduced by the law were as follows.

[41] OECD (2017), op. cit., page 24.

[42] According to the most recent relevant Ministerial Decision Φ10221/οικ.26816/929 (Official Journal of Government, Issue No. 2778, Vol. B', 2 December 2011), which is currently in force, 38 jobs or professions of the private sector in different sectors of the economy are legally defined in Greece as 'arduous and hazardous'. In addition to these, 61 different work places/activities are also defined as arduous and hazardous jobs, where all employees (except those employed in the administration departments) are characterised as workers in arduous and hazardous jobs (WAHJ). For a more detailed analysis see: Ziomas D., Theodoroulakis M. (2016), *ESPN Thematic Report on Retirement regimes for workers in arduous or hazardous jobs (Greece)*, European Social Policy Network, Brussels: European Commission.

[43] IDIKA (2017), op. cit., pages 3-4.

[44] It should be noted that certain provisions of Law 3863/2010 were modified in 2012 by Law 4093/2012 and Law 4052/2012. These concerned, among other things, a further increase of the statutory retirement age (from 65 to 67 years) and of the early retirement age (from 60 to 62 years) as well as the merger of most of the auxiliary pension funds.

[45] This law was agreed in the framework of the third Memorandum of Understanding (signed in August 2015).

1. The integration of all statutory main (contributory) pension funds into EFKA and the integration of all statutory auxiliary pension and lump-sum benefit funds into ETEAEP.
2. The change of the structure of the pension system through the replacement of the statutory main (contributory) pension by a state-funded guaranteed national pension plus a contributory pension.
   (a) The state-funded national pension is equal to the at-risk-of-poverty (AROP) threshold for a single person (EUR 384 per month for 2016) for 20 years of contributions, reduced by two percentage points for every year less than that. 15 years is the minimum contributory period to be eligible for the national pension.
   (b) The contributory pension, which is added to the national pension, is the product of the multiplication of the pensionable salary by the sum of the annual replacement rates.[46] The pensionable salary is based on the average salary over the whole working life in the case of employees, while in the case of the self-employed, the pensionable salary is based on the average monthly taxable income over the whole working life.

   The new scheme has been put into effect from 1 January 2017 and applies to all new pensioners who retired after 12 May 2016. It is foreseen to be extended to all pensioners from 1 January 2019 onwards.
3. The harmonisation of the rules for social insurance contributions through the adoption of common contribution rates for all employees and self-employed persons: these are set at 20 percent for old-age pensions and at 6.95 percent for health insurance and apply to the employee's salary or to the monthly net taxable income[47] of the self-employed.
4. The establishment of a means-tested social solidarity allowance of EUR 360 per month for uninsured elderly persons.
5. The setting up of new lower annual replacement rates[48] for the calculation of both the contributory and the auxiliary pensions: the annual replacement rates applying to contributory pensions range from 0.77 percent to 2 percent (of the pensionable salary) depending on the number of years of contributions, while for the auxiliary pensions the respective rate is set at 0.45 percent.
6. The decrease in the upper ceiling of both the gross income from the main (contributory) pension and the total net income from pensions: from EUR 2773 to EUR 2000 and from EUR 3680 to EUR 3000 respectively.
7. The tightening of eligibility rules for survivors' pensions and for pensioners' family allowances. As to the former, the most important concerns the introduction, for the first time, of an age criterion for the surviving spouse to be eligible for a survivor's pension (i.e. at least 55 years old at the time of the spouse's death). As to the latter, these concern mainly the introduction of income criteria for the entitlement to family allowances.
8. The gradual phasing-out, by the end of 2019, of the means-tested pensioners' social solidarity benefit (EKAS).
9. The introduction of a link between positive economic performance and an increase in the total amount of the national and contributory pensions: the annual increase in pensions will

[46] These rates range from 0.77 percent to 2 percent (of the pensionable salary) depending on the number of years of contributions.
[47] From 1 January 2018, according to the recently adopted Law 4472/2017, the net taxable income of the self-employed will also include the social insurance contributions.
[48] These new rates apply to all new pensions from 1 January 2017, while it is foreseen to be extended to all pensions from 1 January 2019 onwards. It should be noted that, according to the recently adopted Law 4472/2017, the expected reduction of the pension benefit (contributory and auxiliary), following the application of the new lower replacement rates, cannot exceed 18 percent for each pension in payment.

be estimated on the basis of 50 percent of GDP growth and of 50 percent of the change in the consumer price index.[49]

The 2016 pension reform is expected to contribute to a great extent to the long-term financial sustainability of the system. At the same time, however, and notwithstanding the fact that some of the reforms address various disorders of the past (such as limiting early retirement,[50] harmonising benefit and contribution rules, applying universal replacement rates, etc.), a number of provisions of the reform have brought about a negative impact on pension adequacy for new pensioners.

Full implementation of the 2016 pension reform is expected to establish a closer link between contributions and benefits, minimising, thus, the generosity of the benefits, and to lead to an increase of the revenues from contributions by eliminating early-retirement provisions and, thus, extending the duration of the contributory period. This, in turn, is expected to bring about a decrease in the length of retirement, resulting to a decrease of pension expenditure. Moreover, the abolition of EKAS and the application of lower replacement rates for both current and future pensions as well as the decrease in the upper ceilings of the income from pension(s) are all expected to lead to a decrease of pension expenditure.

Overall, the significance of the 2016 pension reform lies in the structural change of the statutory pension scheme and in the establishment, for the very first time in Greece, of one single entity for contributory (main) pensions and of one single entity for auxiliary pensions and lump-sum benefits. These new entities are expected to apply uniform rules for benefits and contributions to all insured persons (salaried employees and self-employed persons), a development which has been long awaited in Greece.

3. Assessment of adequacy

3.1. Current adequacy

3.1.1. General assessment of current adequacy

The relative median income ratio of people aged 65+ has shown an increase of 0.21 (i.e. from 0.86 in 2008 to 1.07 in 2016), revealing that the income of old-age people is now higher than the income of younger age groups. The S80/S20 income quintile share ratio for people aged 65+ has shown a decrease from 4.5 in 2008 to 3.9 in 2016, while the respective ratio for the total population has increased from 5.9 in 2008 to 6.6 in 2016. This implies that pension reforms of recent years have had a positive impact on reducing income inequalities among people aged 65+.

Pensions in Greece, in spite of the successive cuts imposed over the period 2010-2016, have played a vital role in preventing older persons from falling into poverty. The at-risk-of-poverty or social exclusion (AROPE) rate of people aged 65+ has decreased by 6.1 percentage points (p.p.), i.e. from 28.1 percent in 2008 to 22 percent in 2016 (against 35.6% of the total population in 2016).

The AROP rate of people aged 65+ was 12.4 percent in 2016, much lower than for the population aged less than 65 years (23.5%). This implies that the income from pensions is by far more adequate than the income of the rest of the population.

[49] This was foreseen to be applied from 1 January 2017, but it has been postponed to be put into effect from 1 January 2023 (Law 4475/2017).
[50] This has already led to a change in the effective retirement age. That is, from 61.3 years old for men and 60 years old for women in 2014 it increased to 62 years old for men and 60.2 years old for women in 2016.

The severe material deprivation of older people was 15.2 percent in 2016, which is slightly higher than the respective rate of people aged 75+ (14.8%) and much lower than the severe material deprivation rate of the total population (22.4%). In 2008-2016, there has been a slight increase of 0.4 p.p. for people aged 65+.

The gender gap in pension income for persons aged 65-79 was 28.39 percent in Greece in 2016, below the EU average and more than 10 p.p. lower than in 2008. Women continue to have less access to the pension system than men. The gender gap in non-coverage rate remained almost unchanged over the period 2008-2016 (16.8 p.p.), being at a much higher level than the EU-28 on average (5.7 p.p.). Women in Greece continue to exhibit, by and large, low employment rates and short working careers, which, in turn, lead to short contributory periods and, thus, to the failure in fulfilling the qualifying retirement conditions.

The percentage of people aged 65+ living in overcrowded households has slightly decreased during the period 2008-2016 by 0.6 p.p. (i.e. from 14.2% in 2008 to 13.6% in 2016). Turning to examining the share of the population aged 65+ living in a household where total housing costs represent more than 40 percent of their total disposable household income, data show that this was 26 percent in 2016, remaining well below the respective percentage for the total population, which stood at 40.5 percent. In contrast to the worsening of the quality of housing conditions for the total population over the period 2008-2016, people aged 65+ continue to show an improvement in most of the relevant housing indicators.

The share of people aged 65+ who reported unmet needs for medical care increased by 6.7 p.p. over the period 2008-2016[51] (i.e. from 9.9% to 16.6%). This increase was higher for women aged 65+ than the respective increase for men aged 65+ (i.e. 8 p.p. for women and 5 p.p. for men). In 2015, men aged 65 were expected to live in a healthy condition for 7.9 years, while women aged 65 were expected to live in a healthy condition for 7.5 years. The deterioration of the elderly's health situation over recent years is the result of a prolonged economic crisis along with the decrease in public expenditure for health and the significant cuts in disposable incomes.

The pension payment duration is estimated at 23.9 years for men and 27.9 years for women. Retirement duration is projected to decrease by 1.2 years for men by 2056 (i.e. from 21.6 years in 2016 to 20.4 years) and 1.9 years for women (i.e. from 25 years in 2016 to 23.1 years). This means that the retirement period will be shortened, resulting in a decrease in public pension expenditure. However, it should be pointed out that developments in the indicators can hardly affect pension adequacy, given that the pension system in Greece is based mainly on a defined-benefit PAYG scheme.

3.1.2. Redistributive elements of public pension schemes

The current public pension scheme, which has been in force since January 2017, aims, among other things, to improve the redistributive functions of the pension system. In particular, it includes, for the very first time in Greece, along with a contributory pension, a guaranteed national pension, which is equal to the AROP threshold for a single person. In addition, it establishes a means-tested monthly social solidarity allowance for uninsured elderly persons (EUR 360), while it continues to provide survivors' pensions, having set a minimum guaranteed amount of EUR 360 per month for these pensions. Moreover, a compulsory minimum amount of contributions is set, which eventually leads to the entitlement of a minimum amount of contributory pension.

[51] Eurostat, EU-SILC online database.

Another redistributive element, which is considered crucial for preserving pension adequacy over time, is the application of an exclusively positive indexation mechanism for pensions in payment, to be put into effect from January 2023 onwards.[52] This mechanism entails an annual increase in pensions in payment, which will be calculated on the basis of 50 percent of GDP growth and of 50 percent of the change in the consumer price index. It should also be noted that the pension system provides that certain non-contributory periods, such as maternity leave, sickness leave and 1 year of receiving unemployment benefit, are counted as contributory periods in order to facilitate the fulfilment of the minimum contributory period criterion for pension entitlement.

However, it is considered necessary to point out that two redistributive elements of the pension system, which was in force until the end of 2016 (before the 2016 pension reform), are soon to be abolished. In particular, the EKAS, which is considered a kind of guaranteed minimum income for pensioners, is gradually phasing out, to be abolished by the end of 2019. Similarly, the minimum guaranteed pension, amounting to EUR 486, which continues to be provided to all pensioners (except farmers) who retired before 12 May 2016, will be abolished by the end of 2018. The abolition of the latter, however, may be partly compensated for by the provision of the new state-funded national pension.

3.2. Retirement conditions for the self-employed and for people in non-standard employment

The qualifying retirement conditions for the main (contributory) old-age pension have been the same for all types of employees and all the self-employed (i.e. freelancers, farmers and liberal professions) in Greece, since 18 August 2015 (Law 4336/2015). These are: (a) for a full pension, the statutory retirement age is set at 62 for a contributory period of 40 years, or at 67 for a contributory period of minimum 15 years; and (b) for a reduced pension, the statutory retirement age is set at 62 for a contributory period of 15 years (for farmers, there is no provision for the granting of a reduced pension). The only exceptions to these rules are: (a) the salaried-employed or self-employed mothers of disabled children; and (b) WAHJ. For both these categories, specific favourable pension entitlement conditions apply, namely a lower retirement age and shorter contributory periods. Nevertheless, there are still serious difficulties for non-standard workers concerning the fulfilment of the qualifying retirement conditions, which relate mainly to the short duration of their contribution periods.

The pension outcomes are based[53] on the same pension entitlement rules applying to all retired persons. For self-employed farmers, however, given that they had a specific contribution scheme which was different from the rest of the insured population, there are transitional provisions which foresee the gradual harmonisation of their pension benefits, by the end of 2030, with the rest of the insured population.

There is concern for most of the non-standard workers and the low-income self-employed with regard to their pension benefit adequacy. This is largely due to the fact that, given that their earnings-related contributions are rather low, their pension benefits, which are calculated on the basis of the average income of the whole working life, are also expected to be low.

3.3. Future adequacy and challenges

[52] Note should be made of the fact that all pensions in payment have been frozen since 2010.
[53] since May 2016, Law 4387/2016

According to the relevant OECD projections,[54] future pension adequacy in Greece is ensured, in the long run, through the application of a higher future gross pension replacement rate for low-earners than the respective one for average-earners. In particular, the future gross pension replacement rate for a standard worker with low earnings (i.e. 50% of average earnings) and a full working career (i.e. 40 years of contributions) is estimated at 67.4 percent (1.6 p.p. above the respective average rate of the OECD countries), compared with 53.7 percent for a standard worker with average earnings and 49.2 percent for a standard worker with high earnings. The future gross pension replacement rates show that pensions play a redistributive role, aiming to protect low-earners from old-age poverty. Yet, ensuring adequate pensions for non-standard workers with short working careers and low earnings remains a challenge, which needs to be addressed.

Notwithstanding the above, concerns are raised about the future adequacy of pensions in Greece in the short run, given the recently adopted provisions of Law 4472/2017, which entail, among other things: (a) a reduction of up to 18 percent for each pension in payment (contributory and auxiliary) to be put into effect from January 2019; (b) the freezing of existing pensions at current levels until the end of 2022; and (c) the abolition of EKAS by the end of 2019. All these provisions are expected to have a negative impact on the adequacy of pensions, especially for low-income pensioners.

4. Main opportunities for addressing pension-related challenges

The main concern of the pension system in Greece remains its sustainability, given that the country exhibits one of the highest rates of population ageing[55] among the EU-28, along with very high unemployment rates. Nevertheless, among the main issues regarding the sustainability of the pension system is how to secure financial viability along with social effectiveness that would ensure, among other things, pension adequacy. In this respect, it is imperative that the full accomplishment of the 2016 pension reform guarantees a decent level of benefits under the constraints posed by the level of economic growth together with the level of primary budget surpluses. Moreover, efforts should be concentrated on addressing specific pension-related challenges, such as: economic recession, high unemployment, non-standard employment, undeclared work and contributions evasion.

In particular, the implementation of active labour market policies along with policies and reforms aiming at promoting economic growth might reduce unemployment and increase activity rates (esp. women's), which would eventually lead to an increase in the number of insured persons. In this context, specific policies and measures (active ageing) should be taken in order to improve the rate of participation of older workers (55-67 years old). This will be crucial for the pension system as it is expected to lead to an increase of the average effective retirement age and, eventually, to an increase of the contributory period, which will result in a shortening of the length of retirement. To this end, further policies fostering early retirement disincentives should be promoted.

Particular emphasis should be placed on establishing appropriate mechanisms that would address the problems of undeclared work and contributions evasion, which both continue to remain at very high levels in Greece. To this end, specific social protection arrangements should be introduced in order to cover the emerging needs related to new forms of work (such as teleworking, etc.). Moreover, given that the number of non-standard workers has been on the increase over recent years, it is essential that existing pension entitlement rules become more flexible for them in order to improve their eligibility to pension outcomes and, in general, to improve their social protection coverage.

[54] OECD (2017), op. cit., page 101.
[55] The old-age dependency ratio for Greece is expected to double by 2056 (i.e. from 35.8% in 2016 to 76.3% in 2056).

5. Background statistics – Greece

1. Relative incomes of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	1.07	1.11	1.03	0.21	0.22	0.19
Income quintile share ratio (S80/S20), 65+	3.9	4.0	3.9	-0.6	-0.6	-0.4
Aggregate replacement ratio (ARR)	0.63	0.68	0.55	0.22	0.20	0.11

2. Poverty and material deprivation

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+ (%)	22.0	19.0	24.4	-6.1	-5.6	-6.5
At-risk-of-poverty (AROP), 65+ (%)	12.4	10.6	13.8	-9.9	-10.2	-9.8
Severe material deprivation (SMD), 65+ (%)	15.2	13.2	16.8	0.4	2.1	-0.9
At-risk-of-poverty or social exclusion (AROPE), 75+ (%)	22.3	17.4	26.0	-11.7	-13.9	-10
At-risk-of-poverty (AROP), 75+ (%)	12.6	9.3	15.0	-15.4	-18.1	-13.6
Severe material deprivation (SMD), 75+ (%)	14.8	11.8	17.1	-3.1	-2.7	-3.3
Relative poverty gap, 65+ (%)	18.7	20.0	17.8	-2.1	0.3	-5.0
At-risk-of-poverty (AROP), 65+: 50% threshold (%)	6.9	6.2	7.4	-5.4	-4.8	-6.0
At-risk-of-poverty (AROP), 65+: 70% threshold (%)	18.4	16.0	20.4	-12.6	-14.0	-11.4
				Change 2014-2016		
Material and social deprivation, age 65+ (%)	23.6	22.6	24.4	-1.1	-2.8	0.3

3. Gender differences

Indicator	2016	Change 2008-2016
	Total	Total
Gender gap in pension income (65-79) (%)	28.39	-10.66
Gender gap in non-coverage (W-M in p.p.) (65-79)	16.8	-0.1

4. Housing and health situation of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Population 65+ living in overcrowded households (%)	13.6	11.7	15.1	-0.6	-0.1	-1.1
Tenure status among people 65+: share of owners (%)	88.6	90.4	87.1	1.1	0.8	1.3
Housing cost overburden, 65+ (%)	26.0	19.9	30.9	10.9	8.2	13.2
Self-reported unmet need for medical care 65+ (%)	16.6	13.8	18.8	6.7	5.0	8.0
Healthy life years at age 65 (years) *		7.9	7.5		-1.1	-0.9

5. Pension duration

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Pension payment duration (2012) (years)		23.9	27.9			
Retirement duration (AWG) (years)		21.6	25.0		20.4	23.1

Data source: (1) (2) (3) (4) Eurostat, Sept-Oct 2017 (5) European Commission

*Notes: * - 2015 data*

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net (%)				Gross (%)			
		2016		*2056*		*2016*		*2056*	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Variant: old base case: 40 years up to 65	:		:		:		:	
	New base case: 40 years up to the SPA	:		:		:		:	
	Increased SPA: from age 25 to SPA	:		:		:		:	
	AWG career length case	:	:	:		:	:	:	
	Longer career: 42 years to SPA			:				:	
	Shorter career: 38 years to SPA			:				:	
	Deferred exit: 42 years to SPA +2			:				:	
	Earlier exit: 38 years to SPA -2			:				:	
	Career break – unemployment: 3 years			:				:	
	Career break due to childcare: 3 years			:				:	
	Career break caring for family dependant: 3 years			:				:	
	Short career (20-year career)			:				:	
	Work 35 years, disabled 5 years prior to SPA			:				:	
	Early entry in the LM: from age 20 to SPA			:				:	
	Index: 10 years after retirement @ SPA			:				:	
	Extended part-time period for childcare			:				:	
	Pension rights of surviving spouses								
Low (66%)	Variant: old base case: 40 years up to 65	:		:		:		:	
	New base case: 40 years up to the SPA	:		:		:		:	
	AWG career length case	:	:	:	:	:	:	:	:
	Career break – unemployment: 3 years			:				:	
	Career break due to childcare: 3 years			:				:	
	Short career (20-year career)			:				:	
High	New base case: 40 years up to the SPA	:		:		:		:	
	Average replacement rate across retirees	:				:			

7. Sustainability and context

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65 (years)	19.9	18.5	21.3	24.0	22.6	25.4
Old-age dependency ratio (20-64) (%)	35.8	32.4	39.1	76.3	64.1	89.4
Economic old-age dependency ratio (15-64) (%)	62.7	47.8	82.8	92.5	71.9	118.1
Employment rate, age group 55-64 (%)	36.3	46.2	27.2	70.4		
Pension expenditure as % of GDP (ESSPROS)	16.6*					
AWG projections	2016			2055		
Coverage ratio (% of pop aged 65+)						

Data source: (6) Member State and OECD; (7) European Commission, DG ECFIN

*Notes: * - 2015; : - data not available*

Spain (ES)

Highlights

- The Spanish pension system plays an important role in maintaining the quality of life, and especially in the fight against poverty for older persons. The better situation of the elderly population in Spain is due to the fact that pensions maintained their purchasing power. However, older women are more exposed to the risk of poverty and social exclusion than older men, mainly due to overall gender earnings gaps during working lives. Nevertheless, a maternity complement is recognised when calculating pensions that reduce the gender gap.
- Spain has one of the highest aggregate replacement ratios in Europe. Spanish pensioners have largely maintained their relative standard of living during the crisis. Prospective replacement rates suggest, as in other EU Member States, a future reduction of replacement levels. However, predictions indicate that Spain's replacement ratio will continue to be among the highest in the EU. At the same time, measures aimed at reducing the current big share of self-employed workers choosing the minimum contribution basis and a particular focus on access to social protection by non-standard workers will need particular attention.
- The recent reforms of the pension system will have a positive impact on the sustainability of the system. Recent pensions reforms are not fully implemented yet and, due to adjustments to its transitory provisions, are not generating at the moment a significant increase in the effective retirement age.
- In the context of short-term budget deficits of the social security system, the government should think about how to rebalance them while addressing sustainability and adequacy concerns, by considering measures to guarantee an additional increase in revenues and measures to ensure efficient and effective pensions expenditure. Currently, there is an ample political debate over possible solutions. Parliamentary work is also taking place in the framework of the Toledo Pact Commission.

1. General description of the national pension system

The public pensions system is composed of a general scheme and several special schemes[56] (self-employed, sea workers, coal mining workers, students, and public servants (civil and military)). They are regulated and managed by two different bodies: the Social Security Administration and the system of *Clases Pasivas* (currently in process of extinction: since 2011, all new civil servants enter the social security system).

The social security pensions system – which follows a pay-as-you-go (PAYG) scheme – is financed by employers and employees; as well as by the state in relation to non-contributory elements in the system. Pensions of *Clases Pasivas* are paid from the state budget.

In 2016, 93 percent of all pensioners were within the social security system scheme and 7 percent in the state civil servants scheme.[57] The government has paved the way for the two schemes (general scheme and *Clases Pasivas*) to be unified.[58] Since January 2011, new state civil servants have to adhere to the general scheme of the social security system. During the transition period until *Clases Pasivas* is fully dissolved, it will maintain its own regulation and its own budget, although *Clases Pasivas* tends to harmonise with the social security system.

[56] R.D.Legislativo 8/2015, 30 October, art. 9 and 10. Available at: https://www.boe.es/buscar/act.php?id=BOE-A-2015-11724.
[57] Number of social security pensioners (8,609,085) and state civil servant pensioners (601,201). Available at: http://www.minhafp.gob.es/es-ES/Paginas/Home.aspx.
[58] RDL 13/2010 of 3 December, Article 20. Available at: https://www.boe.es/buscar/doc.php?id=BOE-A-2010-18651.

The social security system provides a double level of pension protection:[59] contributory and non-contributory. The contributory modality follows a defined-benefit (DB) scheme and covers the contingencies of old age, invalidity and survivorhood. The non-contributory modality covers the contingencies of invalidity and old age of those individuals who are not entitled to contributory pensions and find themselves in situations of need. The management of non-contributory pensions is carried out by the social security administration, but it is financed with resources from the state budget. The total number of social security contributory pensions was 9.46 million[60] in 2016, 61.1 percent of which are retirement pensions.

Pensions have a guaranteed minimum amount. If the pension falls below the minimum amount set by the government, then a complement is added to it (*complemento de mínimos*); however, there are certain limitations, depending on an overall level of earnings, on receiving such complement.[61] The government also sets the maximum ceiling for pensions,[62] although there are exceptions for certain groups (persons with disabilities,[63] victims of terrorism, among others).

The public pensions system is characterised by a governance system based on political consensus established in 1995 by the *Pacto de Toledo* agreement.

Pension expenditure, as a percentage of GDP, is 12.1 of which 8.1 is on old-age pensions.[64]

Supplementary pension schemes are voluntary and structured into occupational and personal funds (third pillar). Only around 2 percent of workers have an occupational pension plan.[65] The majority of supplementary occupational schemes are linked to large firms (particularly in the financial and utilities sectors, as well as in multinationals), while small and medium companies have not developed these schemes so often. The total savings managed within the second and third pillar amounted to 16.34 percent of GDP in 2015.[66]

Requirements for social security pensions. Social security pensions follow a DB scheme. The amount of pension income is a percentage of the regulatory base which is the average of the contribution bases[67] for the last 20 years.[68] In the event that there are gaps in contributions (*lagunas de cotización*)[69] in the period considered, they are filled by a specified percentage[70] of the minimum bases of contribution of the corresponding moment. People with part-time contracts have a specific regulation.[71] There are specific conditions for early and partial retirement. The contribution bases of different social security regimes can be integrated into the regime for which one retires. As from 1 January 2016, women who are entitled to a contributory[72] pension and who have had at least two children will receive a bonus[73] on their pension. There is a ceiling on the amount of pension. The maximum income is fixed annually by the government.

[59] Article 2 of the General Law on Social Security. R.D. Legislativo 8/2015, 30 October, op. cit.
[60] The number of pensions is higher than that of pensioners. Available at: http://www.seg-social.es/Internet_1/Estadistica/Est/Pensiones_y_pensionistas/Pensiones_contributivas_en_vigor/Por_reg_menes/index.htm.
[61] The amount of the minimum complement may not exceed the amount set by the government for non-contributory pensions (EUR 5164.6) and shall be incompatible with individual or familiar annual earnings higher to EUR 7116.18.
[62] In 2017, the maximum (gross) retirement pension annually is EUR 36,031.80 and the minimum is EUR 8927.8 (single person) and EUR 11,016.6 (with an economically dependent spouse).
[63] For people with severe disabilities who need assistance from a third party, the pension amount is increased by 50 percent.
[64] Eurostat. Pensions [spr_exp_pens]. Data for 2015.
[65] AIREF. Appearance in the Commission of the Toledo Pact on 8 February 2017.
[66] www.dgsfp.mineco.es.
[67] Included as contribution periods are the breaks in employment for mothers/fathers for the care of children under the age of six and for mothers for the birth of their children. The inclusion of the days of compulsory military service is applied only in some circumstances.
[68] 20 years in 2017. It will be increasing annually until reaching 25 years.
[69] Self-employed and agricultural workers covered by special schemes of social security do not have the right to fill ‘contribution gaps’.
[70] 100 percent during the first 48 months and the rest of the gaps with the 50 percent of the minimum base.
[71] The contribution period is enlarged applying a coefficient of 1.5 percent to the equivalent days with part-time contracts.
[72] It excludes non-contributory pensions and voluntary early-retirement pensions.
[73] The percentage varies according the number of children: 5 percent for two, 10 percent for three or 15 percent if there are more than three.

The pensionable retirement age[74] is 65 years and 6 months, or 65 years if someone has made contributions for 36 years and 6 months in 2018. Some groups may be able to retire at an earlier retirement age, such as persons with disabilities,[75] as well as those in an arduous or hazardous job.[76]

To access the social security contributory pension, a minimum of 15 years of contributions is required and 2 years of contributions must be included in the 15 years prior to retirement, but people with part-time contracts have a specific regulation.[77] In general, 35 years and 6 months are required[78] to receive the maximum pension in 2018.

The pensions are annually revalued according to a pre-established index, regulated by Law (PRI). The value of this index since its application (2014) has been 0.25 percent (over the accumulated CPI value from 2014 to 2016).

There are incentives[79] to prolong working life and some cases of compatibility between work and pension: active retirement, flexible retirement, and flexible with self-employed retirement.

The social security pension scheme is currently undergoing changes voted for by congress in 2011 and 2013, which mainly affect retirement pensions. The implementation of the reforms is progressive and will be developed over a period of 15 years (2013-2027),[80] during which time the changes to the parameters will be gradually implemented. The main changes can be summarised as follows: raising the retirement age (from 65 to 67 years old or from 65 if one has contributed 38 years and 6 months); providing incentives to extend working life and tightening the requirements for early retirement and partial retirement; adjusting the parameters for determining the amounts of pensions by increasing the number of years to receive the maximum pension (from 35 to 37 years), increasing the number of years of contributions for calculating the base (from 15 to 25 last years before retirement) and applying smaller pension calculation coefficients; establishing a fixed mechanism for determining pension revaluation; strengthening the relationship between the amount of pensions through the sustainability factor (intergenerational equity factor); and promoting an active life after retirement by establishing a number of cases of compatibility between work and pension.

2. Reform trends

Since the implementation of reforms (2013), all parameters have been applied except the 'intergenerational equity factor' (sustainability factor) that will be introduced in 2019 for new pensions. This factor will correct the initial amount of a pension according to the life expectancy of the newly retired persons. Factor variation will be reviewed every 5 years and will apply to the new pensioners during the next 5 years. Among the reforms adopted between 2014 and 2017, the following are worth mentioning.

1. The Law of State General Budget for 2016[81] has added a new article to the General Law of Social Security in order to recognise the maternity supplement in the initial calculation of contributory pensions.

[74] It will be increasing until reaching 67 years, or alternatively, 65 if one has contributed 38 years and 6 months.
[75] The retirement age for persons with a degree of disability equal to or greater than 65 percent is reduced by a period equivalent to that resulting from applying a coefficient of 0.25 to the time actually worked or 0.50 if their degree of disability requires the assistance of a third person.
[76] Firefighters, air force staff, railway staff, mining workers, artists, bullfighting workers, regional police (*Ertzainza*).
[77] The number of years to qualify for the retirement pension is corrected by the global partiality coefficient which is the result of dividing the equivalent days of contribution by the number of natural days of contribution to social security.
[78] It will be increasing until reaching 37 years.
[79] It consists in adding a percentage of between 2 and 4 percent per year worked to the pension, which varies according to the number of years of contributions.
[80] There is an exception. The transition period to calculate the regulatory base of the pension ends in 2022.
[81] https://www.boe.es/buscar/act.php?id=BOE-A-2015-11644,

2. The Law on urgent reforms for self-employed workers.[82] The Law introduces measures aimed at supporting the self-employed during the starting-up phase of entrepreneurship activities; as well as at encouraging self-employed workers to increase their contribution bases by flexibilising the conditions for these contributions, adjusting them better to changes experienced in real incomes to voluntarily adapt the contribution to the income earned.

The 2011 and 2013 pension reforms have not yet been fully completed and continue their process of implementation. At the same time, the Parliamentary Committee for the Monitoring and Evaluation of the Toledo Pact (Toledo Pact) continues its work on the challenges of reforming the public pension system.

In a context of the budget deficits of the public pensions system since 2011, discussions on the adequacy and sustainability of future pensions are taking place. In general, options tend to focus on the improvement of the current PAYG system, by a further differentiation of measures and benefits of a contributory character to those of a non-contributory one, to be financed by state general resources. The sustainability of the social security system focuses on two main objectives: to reduce the deficits caused by the economic crisis[83] – which has practically emptied the Reserve Fund[84] – and to consolidate the reforms of 2011 and 2013 in order to curb the growth of public spending on pensions.

3. Assessment of adequacy

3.1. Current pensions adequacy

3.1.1. General assessment of current adequacy

In 2016, the at risk-of-poverty or social exclusion (AROPE) rate[85] of those aged 65+ (14.4%) was lower compared with those of working age (30.4%). The AROPE rate was also 3.9 percentage points (p.p.) below of the average of EU-28 (18.3%). Pensions maintained their purchasing power. The AROPE rate remains higher for women than for men (14.9 and 13.8%, respectively). The risk of poverty increases as age increases from 65 onwards. The AROPE rate for people aged 75+ (15.4%) is higher than for those aged 65+.

Older people in Spain are enjoying a higher median income that those aged below 65. Nevertheless, around one in seven persons remains at risk of poverty. The at-risk-of-poverty (AROP) rate of those aged 65+ is 13 percent and it is higher for women (13.2%) than for men (12.7%). In the period 2008-2016, poverty reduction has been higher among women (-14.8 p.p.) than among men (-9.4 p.p.), and even higher among women aged 75+ (-17.4 p.p.).

The relative poverty gap of people aged 65 years or over has decreased since 2008 (-3.9 p.p.), but the intensity of poverty remains higher for women (17.1%) than for men (11.9%), although close to women´s value for the EU28 (16.9%). Spanish pensioners have largely maintained their relative standard of living over the crisis. The aggregate replacement ratio in 2016 was (at 0.66) above the EU average (0.59) and experienced an increase during the period 2008-2016 (0.24 p.p.) that is among the highest across the EU. It indicates a positive trend in relation to the adequacy of pensions in Spain.

[82] Law 6/2017 on urgent reforms to self-employed work. Available at: https://www.boe.es/diario_boe/txt.php?id=BOE-A-2017-12207,
[83] It has incurred annual deficits since 2012. In 2016, the deficit was 1.6 percent of GDP, and is estimated at 1.4 percent in 2017.
[84] In order to guarantee the liquidity of social security pensions, the state has authorised the unrestricted disposition of the Reserve Fund and provided a loan of EUR 10.192 billion for the period 2017 and 2018 to finance the 'estimated' deficit of social security. Act 3/2017, General State Budget for 2017. Available at: http://www.boe.es/boe/dias/2017/06/28/pdfs/BOE-A-2017-7387.pdf.
[85] The ownership of a house by old-age pensioners is not included as imputed rent in the calculations of AROPE and AROP. At national level, this additional calculation is made by the National Statistical Office providing a much lower level of risk of poverty (6.3%). Available at: http://www.ine.es/prensa/ecv_2016.pdf,

The net theoretical replacement rates (TRRs) in Spain for the base case were among the highest in the EU in 2016. In addition, the TRR for average career length (Ageing Working Group – AWG – case) was 85.3 percent for men and 91.3 percent for women (above the EU-28 average[86] of 71%). The average pension payment duration is higher among women (25.4 years) than among men (20.9 years) due to differences in life expectancy at 65.

The average monthly pension of new retirees in 2016 shows an increase of 0.86 percent[87] compared with pensions before the reform entered into force. We can also observe just a modest increase in the average effective retirement age (64.1 years in 2016 compared with 63.9 years in 2012) which seems to be due to a high percentage of early retirements (44% of the total in 2016)[88] primarily as a consequence of personal adjustments to the transitory provisions of implementation of the reforms.

The application of the new pension revaluation index (PRI) has a negative/positive impact on pension's adequacy when the consumer price index (CPI) is higher/lower than the revaluation index applied. This happened in 2014-2016 (positive) and 2017 (negative). However, in the 2013-2016 period, the increase in pensions has been slightly higher than that of income because the evolution of CPI was negative or lower than the PRI in 2014 and 2015.

Women are more exposed to the risk of poverty or social exclusion in old age than men as they tend to carry an overall gender earnings gap (currently slightly lower than the EU-28 average); have lower access to retirement pensions (by 27.2 p.p. in the 65-79 age group, above the EU average);[89] and lower pensions (by 33.8% in the 65-79 age group, slightly below the EU average). Widowhood pensions contribute to the reduction of risk of poverty or social exclusion. Almost 30 percent of women aged 65 years or over receive a widowhood pension.[90] The number of beneficiaries (65+) of minimum contributory pensions, where women are overrepresented, has been decreasing rapidly since 2013, indicating an improvement in the building of rights. At the same time, more than 317,000 women have benefited from the maternity complement in the calculation of their initial pension during the first year of introduction of this measure in 2016.

3.1.2. Redistributive elements of public pension schemes

In addition to the equalising income effect of the design of the system, the Spanish public pensions system contains two main redistributive elements to guarantee an adequate minimum income in old-age people: the minimum pensions and the non-contributory pensions. Financing is assumed by the state.

The government establishes annual ceilings to guarantee a minimum income to the contributory pensions. If a pension is below the minimum ceiling, the government complements the pension until it reaches it. The annual minimum pensions amount for 2016 was established at EUR 8905 for a uni-personal economic unity, slightly higher than the national poverty threshold for this year (EUR 8209).[91] A quarter[92] of retirees within the social security scheme receive

[86] OECD (2017). Net pension replacement rates (indicator). doi: 10.1787/4b03f028-en.

[87] The average pension of a new retiree in December 2016 (EUR 1099.44) versus the updated pension of a new retiree in December 2012 (EUR 1089.95). Available at: http://www.seg-social.es/Internet_1/Estadistica/Est/Pensiones_y_pensionistas/Pensiones_contributivas_en_vigor/Por_reg_menes/index.htm.

[88] Economic and financial report on social security 2017.

[89] As indicated in the PAR2018 Vol I, (page 66 and footnote 55) this indicator tends to be higher in countries with contribution-based pension systems. In addition, it only provides a static picture of the situation. For instance, there are 1,149,622 women (65+) in Spain, but 1,059,092 of them are married and, therefore, they are potential beneficiaries of survivor pensions. This implies that if we consider a more dynamic approach, the potential access to a pension, the value of this indicator would be much lower.

[90] An average monthly amount of EUR 802 in 2016.

[91] See *Economic and Financial Report of 2017 social security budget*. Available at: http://www.seg-social.es/prdi00/groups/public/documents/binario/226972.pdf. See also EU SILC 21016 national data http://www.ine.es/prensa/ecv_2016.pdf.

complements to their retirement pension. Of the total pensioner population receiving minimum complements, more than half (60%) are women.[93] The share of recipients of minimum contributory pensions in the population aged 65 has been reduced since 2013 both for women and men.

Non-contributory pensions (NCPs) are for people who are not entitled to a contributory pension and find themselves in a situation of poverty.[94] Two groups of people can be beneficiaries, those aged 65+ and disabled persons. In 2017, the total number of beneficiaries was 455,306, of which 256,187 were old people (2.6% of the population aged 65+).[95] Around three quarters of beneficiaries are women. The NCP average pension[96] is about 60 percent compared with the minimum contributory pension for retirees. Among persons who receive an NCP, the pension is increased by 50 percent if they are disabled and need assistance from a third party. Beneficiaries of NCPs have free medical and pharmaceutical assistance and free access to social services, and receive an annual supplement of EUR 525 if they rent their dwelling.

Other measures that contribute to combat poverty are as follows:

1) Unemployment subsidy for persons aged 55+. The beneficiaries are persons who are unemployed, are not entitled to receive the contributory unemployment benefit[97] and are in a situation of poverty.[98] They receive a subsidy[99] until retirement and, during this period of time, the state guarantees the minimum contribution base for the retirement pension.

2) Almost a quarter of the total number of social security pensions are widowhood pensions,[100] of which 30 percent receive minimum complements. 98 percent of people receiving a widowhood pension with a minimum complement are women. In 2016, survival pensions as a share of total income, in the case of single people aged 65+, represented over 30 percent, not far from double the EU-28 average (around 15%).

3.2. Retirement conditions for the self-employed and for people in non-standard employment

At the end of 2016, 1.97 million 'self-employed natural persons'[101] were registered for social security, which represents 10.6 percent of the total number of persons employed at that time.

Self-employed workers are entitled to almost the same benefits as workers covered by the general social security scheme, but there are certain peculiarities in the procedure for calculating the contribution and the amount of the pension. One of the differences is that social security contributions are not determined by the income from their activity, but rather each person can choose their contribution base, which ranges between a minimum and a maximum

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[92] Number of people with a minimum complement: 2.45 million. Total number of people with a social security pension: 9.46 million. Social Security Statistics. Available at: http://www.seg-social.es/Internet_1/Estadistica/Est/Pensiones_y_pensionistas/Pensiones_contributivas_en_vigor/Por_reg_menes/index.htmadisticas.

[93] 1.5 million are females out of 2.45 million, as of 31 December 2016. Available at: http://www.seg-social.es/Internet_1/Estadistica/Est/Pensiones_y_pensionistas/Pensiones_contributivas_en_vigor/Por_reg_menes/index.htmadisticas.

[94] Their income has to be annually lower than EUR 5150.6, in 2016. Also, it is required to have been a resident in Spain for at least 10 years, 2 of which must be immediately prior to the date of application for the pension.

[95] Available at: http://www.empleo.gob.es/estadisticas/bel/PNC/index.htm.

[96] The average annual amount of the non-contributory retirement pension is EUR 5164.6 (data for 2017).

[97] The beneficiary must have made contributions towards their unemployment benefit during a minimum period of 6 years.

[98] Their annual income along with their family's income cannot exceed 75 percent of the minimum standard salary.

[99] The monthly amount is EUR 426 (14 instalments).

[100] As of 31 December 2016, 735,000 women received a widowhood pension with a minimum complement, out of 752,500 beneficiaries of this type.

[101] The Ministry of Employment and Social Security distinguishes between the 'individual self-employed' (1.97 million) and the so-called corporate self-employed (1.25 million), who are partners of commercial companies, cooperatives or other corporate entities, provided that they exercise control over the company. There is also another group made up of family members who collaborate with self-employed persons, religious officials and members of professional associations. Available at: http://www.empleo.gob.es/es/sec_trabajo/autonomos/economia-soc/autonomos/estadistica/2016/4trim/Publicacion_RESUMEN_DE_RESULTADOS.pdf.

base set by the government.[102] In 2016, 86.0 percent of the self-employed were insured at the minimum contribution base. This percentage reached 90 percent for persons under the age of 40 and 30.8 percent of those over 55 years old pay higher contributions than the minimum base in order to get higher pensions.[103]

The fact that contributions are low and that the self-employed do not have the right to fill contribution gaps[104] to determine the regulatory pension base have resulted in low pension amounts. In 2017, the average amount of retirement pensions for the self-employed was approximately 41 percent lower than that of pensioners in the general scheme[105] and the proportion of pensions with supplements to reach the minimum pension was 37 percent.[106]

The improvements introduced in the recent law,[107] approved at the end of 2017, encourage self-employed workers to increase their contribution bases by flexibilising the conditions for these contributions, voluntarily adjusting them better to changes in real incomes. The new law aims at supporting the self-employed during the starting-up phase of entrepreneurship activities; and improves the compatibility of working conditions with pension benefits[108] for workers in the general scheme. It allows also for compatibility between work and the full amount of the pension if the self-employed person has hired an employee. Another group affected by low pension amounts are non-standard workers. Among them, the total amount of the contribution bases for both temporary and part-time workers is lower than that which would apply to a full-time worker, if such circumstances occur in the period taken into account for calculating the amount of the pension.[109]

In the case of part-time workers, the 2014 legislation[110] has corrected the distortion caused by considering the equivalent days of work to calculate the contribution period to access to the retirement pension. From now on, the 'global partiality coefficient'[111] is applied to the years required for entitlement to a pension. In addition, the period of contributions is 'artificially' increased by applying a corrective coefficient of 1.5 to the equivalent days of part-time work to calculate the amount of retirement pension. Although the corrections have been made, the retirement pension income of non-standard workers remains low because the contribution bases are low due the shorter time worked in relation to a person with a full-time contract.

3.3. Future adequacy and challenges

Long-term (2056) TRRs for pensions will, in most cases, decrease in comparison with 2016. The net TRR for the base case (40 years up to the standard pensionable age (SPA)) in Spain will decrease by 10 p.p. TRRs obtained on the basis of projected working life durations (AWG case) will be 3 p.p. higher than the case base (89.5% in comparison with 86.5%). According to other specific TRR cases, Spain, as most EU Member States, grants a minor bonus for postponing retirement and around actuarial reduction in the case of early retirement. Short

[102] Available at: http://www.seg-social.es/Internet_1/Trabajadores/CotizacionRecaudaci10777/Regimenes/RegimenEspecialTrab10724/TablaResumendebases747/index.htm.
[103] Available at: http://www.empleo.gob.es/es/sec_trabajo/autonomos/economia-soc/autonomos/estadistica/2016/4trim/Publicacion_RESUMEN_DE_RESULTADOS.pdf.
[104] In the event that there are gaps in the payment of contributions in the period considered, these are filled by a specified percentage of the contribution base of the corresponding moment. The first 48 months with 100 percent of the minimum base; the remaining months with 50 percent of the minimum base.
[105] The average pension for pensioners in the general scheme was EUR 1208.44 in 2006, while the average pension for self-employed persons was EUR 710.09. Source: Social Security pensions statistics.
[106] Source: Social Security pensions statistics.
[107] Law 6/2017, of 24 October, on Urgent Reforms of Self-Employed Work.
[108] D.F.5th Law 6/2017. Available at: www.boe.es/buscar/act.php?id=BOE-A-2017-12207.
[109] In 2017, it amounts to 20 years. However, the number of years has been increasing annually by 1 year until 2022, when it will total 25 years.
[110] RDL 11/2013 and Law 1/2014, of 28 February.
[111] It is the result of dividing the equivalent days of contribution by the number of days of effective contribution to social security. The global partiality coefficient is applied to eligibility.

careers (20 years) will have a significant impact on the long-term replacement rate, while, as currently, the reduction is less than half compared with a full 40-year career.

When there are interruption periods for childcare or extended part-time periods for childcare, the replacement rate for women (between 81.1 and 82%) will be higher than for men (77.3 and 78.1%) in 2056. This is probably due to compensatory measures for women (maternity complement) when calculating the initial pension. In the case of persons who have suffered a disability 5 years before retirement age, the replacement rate will be significantly higher that the base case in 2056, due to the interplay of more favourable fiscal rules.

In the long term, the introduction of the ‘sustainability factor’ which links pension income to life expectancy at 65 years, the new PRI and the other measures introduced in the recent reforms, while responding positively to sustainability challenges, will influence future pension levels. The pension replacement rates 10 years after retirement will be around 9 p.p. lower in 2056.

The main challenge for the future adequacy of pensions is to maintain a high level of labour career length and contributions, and to reduce the gender gap in wages and level of participation in employment. The new labour relations (new forms of self-employment and non-standard work) will pose pressures on pensions adequacy due to the decrease in work intensity, causing a decrease in income, in social contributions and taxes.

4. Main opportunities for addressing pension-related challenges

Introducing measures in the labour market to ensure longer and complete working careers, to reduce the number of involuntary non-standard work, and to keep the unemployment rate low can help in addressing the pension-related challenges.

In order to reduce the gender gap in pensions, further measures should be implemented aimed at: ensuring women’s access to all levels of education; improving measures to reconcile work and family life; increasing the public offer of services for the care of children from birth to 3 years of age; and remunerating leave for the care of family members, among others. New rules and incentives to increase the pension age and the length of careers can contribute to better pensions on condition of extending working lives. But at least part of the solution to the earnings-relation and income-maintenance needs of higher-income groups may have to be found in the strengthening of occupational and private pension plans. Measures aimed at reducing the current big share of self-employed workers choosing the minimum contribution basis and a particular focus on access to social protection by non-standard workers need in this regard particular attention.

The implementation of the intergenerational equity factor in 2019, linking the statutory pension age to life expectancy is a good way to reconcile the sustainability and adequacy of pension systems in the context of ageing populations. However, it has a strong inequality-generating component, as between retirees’ pensions prior to the application of the law and retirees’ pensions from 2019 onwards.

5. Background statistics – Spain

1. Relative incomes of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	1.01	1.05	0.98	0.18	0.21	0.17
Income quintile share ratio (S80/S20), 65+	4.3	4.3	4.2	-0.9	-1.1	-0.8
Aggregate replacement ratio (ARR)	0.66	0.69	0.51	0.24	0.23	0.09

2. Poverty and material deprivation

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+ (%)	14.4	13.8	14.9	-11.8	-9.1	-13.8
At-risk-of-poverty (AROP), 65+ (%)	13.0	12.7	13.2	-12.5	-9.4	-14.8
Severe material deprivation (SMD), 65+ (%)	2.5	1.9	2.9	0.6	0.1	0.9
At-risk-of-poverty or social exclusion (AROPE), 75+ (%)	15.4	15.0	15.7	-14.3	-10.5	-16.7
At-risk-of-poverty (AROP), 75+ (%)	14.7	14.6	14.7	-14.4	-9.9	-17.4
Severe material deprivation (SMD), 75+ (%)	1.8	1.2	2.2	-0.1	-0.9	0.5
Relative poverty gap, 65+ (%)	13.9	11.9	17.1	-3.9	-9.9	-0.3
At-risk-of-poverty (AROP), 65+: 50% threshold (%)	6.0	5.1	6.7	-9.1	-8.2	-9.8
At-risk-of-poverty (AROP), 65+: 70% threshold (%)	23.8	20.8	26.1	-11.4	-11.2	-11.4
				Change 2014-2016		
Material and social deprivation, age 65+ (%)	11.9	10.0	13.4	-1.3	-1.0	-1.4

3. Gender differences

Indicator	2016	Change 2008-2016
	Total	Total
Gender gap in pension income (65-79) (%)	33.79	-0.38*
Gender gap in non-coverage (W-M in p.p.) (65-79)	27.2	-0.2*

4. Housing and health situation of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Population 65+ living in overcrowded households (%)	1.8	1.5	2.1	0	-0.7	0.6
Tenure status among people 65+: share of owners (%)	91.4	92.8	90.4	2.4	2.4	2.4
Housing cost overburden, 65+ (%)	3.5	2.3	4.4	-0.6	-0.9	-0.3
Self-reported unmet need for medical care 65+ (%)	0.7	0.6	0.9	0.5	0.4	0.6
Healthy life years at age 65 (years) **		9.5	8.9		-0.4	0.1

5. Pension duration

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Pension payment duration (2012) (years)		20.9	25.4			
Retirement duration (AWG) (years)		20.9	23.7		21.7	24.7

Data source: (1) (2) (3) (4) Eurostat, Sept-Oct 2017 (5) European Commission

*Notes: * - there were breaks in time series (2008 data); ** - 2015 data.*

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net (%)				Gross (%)			
		2016		*2056*		*2016*		*2056*	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Variant: old base case: 40 years up to 65	96.8		86.5		88.9		78.1	
	New base case: 40 years up to the SPA	96.8		86.5		88.9		78.1	
	Increased SPA: from age 25 to SPA	96.8		86.5		88.9		78.1	
	AWG career length case	85.3	91.3	89.5		78.0	84.2	81.2	
	Longer career: 42 years to SPA			86.5				78.1	
	Shorter career: 38 years to SPA			86.5				78.1	
	Deferred exit: 42 years to SPA +2			91.7				83.7	
	Earlier exit: 38 years to SPA -2			73.0				65.1	
	Career break – unemployment: 3 years			86.5				78.1	
	Career break due to childcare: 3 years			86.5	90.3			78.1	82.0
	Career break caring for family dependant: 3 years			85.7	89.4			77.3	81.1
	Short career (20-year career)			51.9		82.7		41.9	
	Work 35 years, disabled 5 years prior to SPA			106.7				85.1	
	Early entry in the LM: from age 20 to SPA			86.5				78.1	
	Index: 10 years after retirement @ SPA			77.2				66.8	
	Extended part-time period for childcare			85.7	89.4			77.3	81.1
	Pension rights of surviving spouses				64.4				52.6
Low (66%)	Variant: old base case: 40 years up to 65	97.4		89.9		88.9		78.1	
	New base case: 40 years up to the SPA	97.4		89.9		88.9		78.1	
	AWG career length case	88.2	92.6	92.1		78.0	84.2	81.2	
	Career break – unemployment: 3 years			89.9				78.1	
	Career break due to childcare: 3 years			89.9	92.6			78.1	82.0
	Short career (20-year career)			62.2				53.4	
High	New base case: 40 years up to the SPA	89.5		81.0		81.2		72.4	
	Average replacement rate across retirees	:				:			

7. Sustainability and context

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65 (years)	21.1	19.0	23.0	24.6	22.8	26.3
Old-age dependency ratio (20-64) (%)	30.5	26.2	34.8	64.2	57.1	71.6
Economic old-age dependency ratio (15-64) (%)	47.2	37.1	59.5	75.7	65.9	86.3
Employment rate, age group 55-64 (%)	49.1	55.7	42.8	76.9		
Pension expenditure as % of GDP (ESSPROS)	12.1					
AWG projections	2016			2055		
Coverage ratio (% of pop aged 65+)						

Data source: (6) Member State and OECD; (7) European Commission, DG ECFIN.

*Notes: * - 2015*

France (FR)

Highlights

- Statutory pension schemes are heavily reliant on the pay-as-to-go approach combined with a legal requirement for employees to partake in occupational pensions. The occupational pension schemes have been designed to supplement public pensions in order to supply, altogether, between 60 and 80 percent of the retiree's previous work income; in addition, there are voluntary schemes.
- The retired population features less poverty than the rest of the population also thanks to an aggregate replacement ratio close to two thirds (0.68) of net pay. This is however likely to regress in the long term due to the way pensions are indexed.
- Large disparities also exist between pension amounts. In spite of a constant improvement in their situation, women still on average receive much lower pensions (a gap of 32.7%), albeit for longer periods (28.5 years) than men (24.3 years).

1. General description of the national pension system

The French pension system comprises two main parts.

1. Statutory pension schemes: these are integrated into the social security organisation set up by the state. They include the general scheme (which covers two thirds of the working population), the agricultural scheme, schemes for self-employed people, and special schemes for some types of employee (train drivers, civil servants, etc.).
2. Occupational pension schemes: these schemes are known as AGIRC (for executives) and ARRCO (for non-executives). They are created by social partners and have been developed to aim at private sector employees and can amount to an average 57 percent of the total pension for managers and 31 percent for non-managers. In total, for 2016, occupational scheme pensions constituted 24.5 percent of the total pension entitlements paid out by obligatory schemes.[112]

Affiliation to the statutory and occupational pension schemes is a legal obligation, unlike the third, much less common[113] system in France: personal pension schemes, which can be put in place as part of a company's social protection package.

Financing of the statutory and occupational schemes is based on a pay-as-you-go system, i.e. the contributions paid in by employers and employees are used to fund pensions paid out during the same period. Personal pension schemes, on the other hand, are financed by funded pension plans, in other words, by the savings constituted from the collected contributions.

The statutory and occupational pension schemes are based on a contribution principle, by which retired people receive a pension calculated as a percentage of the remuneration of their former activity. Pensions are thus proportional to the contributions paid in during working life.

For statutory pension schemes, the principal factors taken into account to determine pension rights are the following: age of retirement, relevant pay, replacement rate, duration of contributions (or assimilated duration), and pension indexation.

In the general scheme, the legal retirement age is 62, yet obtaining a full pension (50% replacement rate), which is calculated based on the average annual salary of the best 25 years,

[112] Social security accounts commission, report of September 2016.
[113] Coverage as a percentage of working-age population (15-64 years), 2016: 5.7 percent (Source: OECD Global Pension Statistics).

requires being able to show a contribution duration of between 163 and 172 quarters depending on the year of birth. If this condition cannot be met, it is still possible to retire at 62, but only on a reduced, ‘discounted’ pension. In contrast, a higher, ‘premium’ pension is available to those who continue working beyond 62 if they have already paid in the required amount of contributions.

People covered by the social insurance system pay contributions up to a gross pay threshold known as the ‘social security ceiling’ (EUR 3269 a month in 2017). Only pay below this ceiling is taken into account to calculate the statutory retirement pension (apart from special schemes).

People who can show a specified duration of work before the age of 20, or a specified permanent level of incapacity to work, can retire at the age of 60. In addition, workers exposed to arduous conditions meeting criteria established by the arduous conditions account[114] can retire early, limited to a maximum of 2 years.

Statutory pensions are reviewed each year on 1 October according to the price index.

However, people belonging to special employee schemes benefit from more favourable rules in terms of retirement age and in particular the way that pensions are calculated (75% replacement rate, consideration of salary of the last 6 months, and no ceiling), and for this reason they are not obliged to belong to an occupational scheme in order to make up the statutory pension.

In the occupational schemes, the retirement age is also 62. Pensions are calculated according to the number of retirement points acquired in exchange for contributions paid in, multiplied by the value of the point retained to calculate the pension. The pay taken into account essentially corresponds to the total gross pay.

Two different mechanisms allow combining work income and retirement benefits, as follows.

- *Retraite progressive*: wages and a pension can be combined starting from the legal age of retirement. The insured person reduces the number of working hours (40% to 80% of effective work) and receives the corresponding share of wages combined with a share of the old-age pension. In this case they keep paying contributions which will increase the pension.

- *Cumul emploi-retraite*: a retired person who decides to resume work can combine wage and pension but can no longer earn additional pension entitlements.

Thanks to the combination of statutory and occupational schemes, the French pension system was able to ensure a 0.68 aggregate replacement ratio in 2016.

2. Reform trends

During the period covering 2014-2017, two main reforms were established, mainly with the aim of safeguarding the financial viability of the statutory and occupational pension schemes.

The impact of these reforms on the employment of people close to retirement is noticeable: the lengthening of the duration of work is 1 year.[115]

The first of these reforms is the Act of 20 January 2014, which concerns all of the statutory schemes. In a continuation of previous reforms (1993, 2003 and 2010), it further restricts the parameters used to determine pensions by adopting the following measures.

1. A 0.3 percent increase in contributions, staggered to 2017 at a rate of 0.15 percent for employees and 0.15 percent for employers.

[114] On this point, see Section 2 below.
[115] Annex to Social Security Financing Act for 2018.

2. An extension of the duration of contributions required for a full pension (now amounting to 43 years in 2035 for people born from 1973) along with more flexible conditions for validating a quarter (lowering of the validation threshold to a contribution amount equal to 150 hours of the minimum wage[116] instead of 200 hours).
3. Move of the annual pension review date from 1 April to 1 October each year.
4. Establishment of centralised processing of pension claims from people with multiple pensions, i.e. people who can claim two or more pensions from two or three schemes subject to the same rules (general scheme, agricultural employee scheme and social security scheme for the self-employed). This measure only became effective on 1 July 2017.

As well as these technical adjustments, a more innovative side of this law is the creation of a personal arduous conditions account for workers exposed to professional risks likely to damage their health. However, following criticisms from employer organisations, in particular regarding the complexity of its implementation, this measure will be made simpler from 1 January 2018 following a reform of the French labour code instigated by President Macron. Now called the c*ompte professionnel de prévention* (personal prevention account), it will only include six of the initial 10 arduous conditions criteria, i.e. night work, repetitive work, shift work, work in hyperbaric environments, noise and extreme temperatures). The other criteria (handling heavy loads, awkward postures, mechanical vibrations and toxic risks) will not feature in the new account. Lastly, in the new measure, financing will no longer be covered by specific employer contributions, but will come under the occupational accident and disease branch of social security.

Established by the reform of 20 January 2014, the longer duration of contributions required to obtain a full pension will have long-term consequences for the length of retirement. On average, the generation born in the 1980s will see their retirements reduced by four months. This includes taking into account their longer life expectancy.

The second reform is the inter-professional agreement of 30 October 2015 concluded between trade union and employer organisations and concerning occupational schemes for employees in the private sector. This reform considerably changes the rules applicable to these schemes in terms of the age of retirement. From 1 January 2019, it establishes a 10 percent drop in pensions for employees who do not continue to work for an extra year after reaching full-pension retirement age (62 years old if the required contribution duration is fulfilled), which amounts to an inducement to extend working life.

Nevertheless, the introduction of this measure should have a limited impact on the retirement age, moving it by 0.1 years each year on average starting from 2019.[117] In terms of its impact on the amount of pensions, assuming that some workers will not postpone their retirement and will accept a drop in their pensions, estimates point to a 1 percent decrease in pensions measured over the entire duration of retirement.[118]

Along with changes in rules relating to the minimum insurance duration and inducements to postpone the retirement age, the main impact of reforms introduced from 2014-2017 results from the modification to the pension indexation. This change leads to a downward trend in replacement rates resulting from two measures:

[116] The minimum wage (*salaire minimum interprofessionnel de croissance* – SMIC) equalled EUR 9.76 gross per hour in 2017.
[117] Pensions advisory council, April 2016 session, Work to explore the indicators in preparation for the annual report of June 2016, documents No. 4 & 5.
[118] Ibid.

- a shift of the annual statutory pension review date from 1 April to 1 October 2017 following the Act of 20 July 2014;

- an under-indexation of the value of purchasing a retirement point (-1% compared with the inflation rate) in occupational schemes following the inter-professional agreement of 30 October 2015.

The impact of these measures has not however prevented a year-on-year increase in the average pension. This strong trend results partly from the arrival of new retirees who have had more lucrative careers, and thus higher pensions, and partly from the death of older pensioners who on average received lower pensions than retired people as a whole.[119]

3. Assessment of adequacy

3.1. Current adequacy

3.1.1. General assessment of current adequacy

The analysis of statistical data reveals that while 13.6 percent of the population lived under the poverty line in 2016,[120] pensioners constituted the category least affected by the phenomenon. A little over one million of them, or 7.2 percent, live on under EUR 1002 a month.[121] This rate has been constantly dropping since 2011 (it was 10% in 2010). Retired people aged 75 are the most affected: 8.5 percent of them are considered to be poor, compared with 5.6 percent of those aged 65 to 74.[122]

This situation is linked to the beneficial effect of the retirement system, although retired people may have other types of income apart from pensions (e.g. income from property). It is true that increasing numbers of people can show a full duration of insurance contributions at the date of their retirement, which results in a progressive increase in the average pension with each generation. Another reason is the successive increases in the minimum contributory old-age pension, which in particular concerns single and very old women (78% of beneficiaries are women). An even more significant factor is other forms of social aid (financial aid to pay for housing, to acquire a complementary health plan, to remain in the home or move to an old peoples' home, etc.).

Another observation is that despite a general improvement, women's pensions are lower than men's. In 2015, women's pensions were on average 39.2 percent lower than men's according to national statistics (EUR 1050 gross compared with EUR 1728 excluding reversionary pensions).[123] This gap can be explained by the fact that women are generally less well paid than men during their working life and that their careers are more often incomplete. Nevertheless, this rate was only 25.1 percent taking into account reversionary pensions, which are mostly paid out to women (taking pensions to EUR 1309). According to Eurostat, the gender gap in pensions is 32.7 percent for the age group between 65 and 79 years.[124] This gap has been constantly closing since 2004 partly due to the fact that the women currently retiring have had longer careers than women in previous generations.[125]

[119] Pensions advisory council, average net pension projections, June 2017.
[120] Data source: Eurostat, Sept.-Oct.2017.
[121] The poverty rate is defined as the proportion of people whose standard of living is below the poverty line, calculated here as a 60 percent fraction of the median standard of living of the French population as a whole.
[122] Source: Insee, France.
[123] Ministry for Social Affairs and Health, Retirement and pensioners, 2017.
[124] Data source: Eurostat, Sept.-Oct. 2017 European Commission.
[125] Ibid.

It is nevertheless observed that the extension of the duration of contributions and, to an even greater extent, the increase of the retirement age on a full pension, have had the effect of removing from retirement a significant number of people who were already excluded from employment, such as the over-60s in long-term unemployment. As a result, some of these people end up in situations of poverty, often finding themselves obliged to claim minimum social benefits (80,000 of them receive minimum benefits, representing EUR 2 billion of additional benefits). On the other hand, undeniable progress has been made in maintaining 60-to-62-year-olds in employment, a situation that now includes the majority.[126]

In addition, the reforms underway since 1993 have had a stabilising effect on the duration of retirement, despite longer life expectancies. This period amounts to 24 years for men and 27.8 years for women. While since 2010 the retirement age has become later, it has been stable at 61.5 years old since 2012.

3.1.2. Redistributive elements of public pension schemes

A minimum old-age pension is guaranteed for people aged 65 or over. This is based on a solidarity allowance for old people and is aimed to make up their income to a guaranteed monthly level, which in 2017 was EUR 803 for a single person and EUR 1245 for a couple. This allowance is more frequently allocated to women (56% of beneficiaries) than to men, and in three quarters of cases beneficiaries live alone. However, only 3.5 percent of retired people are concerned by this measure.

The spouse of a person entitled to (or likely to be entitled to) a statutory or occupational pension can claim a survivor pension (54% of the pension in the general statutory scheme, 60% in occupational schemes) in the event of their death.

In addition, the gaps between pensions and their duration reflect the inequalities between socio-professional categories. Pension amounts are closely related to the pay received during careers. Given that the best 25 years of contributions to the general scheme are taken into account, and even the last 6 months for some special employee schemes, workers whose careers were progressive get a better deal than workers with uniform career paths: the relationship between pensions and average income over the entire career is higher for the former than for the latter. Yet, while managers tend to reap the greatest benefits, uniform career paths are more common among certain socio-professional categories such as unskilled and manual jobs for which the pension duration is generally shorter due to a lower life expectancy at retirement age.

3.2. Retirement conditions for the self-employed and for people in non-standard employment

The statutory pension schemes for traders and artisans are 'aligned' with the general employee scheme. This alignment takes the form of standardised rules for the opening of pension rights (age of access to retirement, duration of prior insurance payments), for calculating pensions (reference working income, replacement rate, decreases and increases in pension amounts) and rules relating to the base and rate of contributions (17.75%). Survivor pensions for spouses surviving a deceased pensioner also follow identical rules.

The statutory pension schemes for liberal professions are different from the above. They only provide for a modest basic pension that is financed according to a point-distribution technique. The reason is the lower level of contributions paid compared with other schemes.

[126] Pensions Advisory Council, *Postponement of retirement age: macro-economic effects*, monthly report, 19 October 2016.

In general, self-employed workers in the statutory schemes acquire fewer rights to old-age pension benefits than employees in the general scheme. This is due to the lower contribution rates paid in by self-employed workers for professional incomes higher than the social security ceiling.

Self-employed people, like employees, also benefit from occupational retirement schemes for different self-employed categories.

Employees in non-standard jobs, along with their low remuneration, are penalised by the discontinuous, irregular character of their work when it comes to acquiring rights to pensions. They can find themselves unable to show pay at least equal to 150 hours of work on the minimum wage to validate one quarter of pension rights. But if a person works less than 150 hours, they don't validate it. Failing to show sufficiently high contributions, they can also have difficulty acquiring a sufficient number of complementary retirement points.

3.3. Future adequacy and challenges

In the medium to long term, retirement pensions are likely to progress more slowly than pay. Having followed a rising trend up to 2015, the average pension should now steadily drop until 2060. More specifically, the theoretical net replacement rate, estimated at 76.3 percent for those who retired in 2016, is likely to amount to 68.6 percent in 2056 for a 40-year uninterrupted career average-earner. This drop appears to be mostly due to lower returns in occupational pension schemes and a move from salary indexation to price indexation by both statutory and occupational pension schemes. The decrease could be even greater in the case of a higher growth scenario and vice versa. On the other hand, the predicted drop seems to have little to do with the reforms implemented in France since 2010 involving two phenomena moving in opposite directions: the extension of professional careers, which follows on from an increase in the retirement age, is accompanied by an increase in the amounts of pensions paid out, while the measures adopted since 2012 (shift in the pension review date in 2014, drop in returns for occupational pension schemes) have a counterbalancing effect. The decrease in theoretical replacement rates is likely to be greater for men than for women due to an improvement in the average female pension over the generations, reflecting women's greater participation in the labour market and higher pay.

4. Main opportunities for addressing pension-related challenges

Without doubt, the pension system will need to adapt further to current changes in society and the labour market. The system is particularly hard to interpret given the wide range of rules, and its complexity tends to make transitions to or from waged employment to self-employment difficult. In addition, disparities in pension rights and contribution efforts are difficult to reconcile with the notion of national solidarity that nevertheless constitutes its foundation. The consequence is a pessimistic public view of the pension system's viability, although the pay-as-you-go principle is generally not questioned.

It would therefore be worth promoting a greater balance between the statutory pension schemes, which should cover not just basic pensions but also pensions paid to surviving spouses.

5. Background statistics – France

1. Relative incomes of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	1.02	1.05	1.00	0.07	0.05	0.08
Income quintile share ratio (S80/S20), 65+	4.4	4.2	4.6	0.00	-0.20	0.30
Aggregate replacement ratio (ARR)	0.68	0.68	0.67	0.03	0.01	0.06

2. Poverty and material deprivation

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+ (%)	10.0	8.2	11.4	-4.1	-2.5	-5.2
At-risk-of-poverty (AROP), 65+ (%)	8.2	6.7	9.4	-3.7	-2.4	-4.6
Severe material deprivation (SMD), 65+ (%)	2.9	2.4	3.2	-0.4	-0.1	-0.7
At-risk-of-poverty or social exclusion (AROPE), 75+ (%)	10.8	8.5	12.3	-5.2	-2.1	-7.1
At-risk-of-poverty (AROP), 75+ (%)	9.4	7.9	10.5	-4.2	-0.8	-6.2
Severe material deprivation (SMD), 75+ (%)	2.2	1.3	2.8	-1.1	-1.3	-1.0
Relative poverty gap, 65+ (%)	11.0	11.4	10.9	2.9	4.4	2.1
At-risk-of-poverty (AROP), 65+: 50% threshold (%)	2.3	2.0	2.6	-0.2	0.1	-0.4
At-risk-of-poverty (AROP), 65+: 70% threshold (%)	16.0	13.3	18.1	-7.3	-5.2	-8.8
				Change 2014-2016		
Material and social deprivation, age 65+ (%)	10.1	8.0	11.6	-0.7	0.2	-1.5

3. Gender differences

Indicator	2016	Change 2010-2016
	Total	Total
Gender gap in pension income (65-79) (%)	32.7	-5.1*
Gender gap in non-coverage (W-M in p.p.) (65-79)	1.9	-0.7*

4. Housing and health situation of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Population 65+ living in overcrowded households (%)	2.2	2.1	2.3	-1.1	-0.9	-1.1
Tenure status among people 65+: share of owners (%)	78.6	82.6	75.6	1.0	0.3	1.4
Housing cost overburden, 65+ (%)	4.0	2.3	5.3	-1.2	-0.4	-1.7
Self-reported unmet need for medical care 65+ (%)	1.1	0.9	1.3	-0.2	0.0	-0.3
Healthy life years at age 65 (years) **		9.8	10.7		1.1	0.6

5. Pension duration

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Pension payment duration (2012) (years)		24.3	28.5			
Retirement duration (AWG) (years)		22.7	26.8		23.3	27.3

Data source: (1) (2) (3) (4) Eurostat, Sept-Oct 2017 (5) European Commission

*Notes: * - change for 2010-2016, there were data breaks in time series (for 2008 data); ** - 2015 data.*

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net (%)				Gross (%)			
		2016		*2056*		*2016*		*2056*	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Variant: old base case: 40 years up to 65	76.3		62.5		61.3		48.3	
	New base case: 40 years up to the SPA	76.3		68.6		61.3		53.4	
	Increased SPA: from age 25 to SPA	76.3		70.9		61.3		55.7	
	AWG career length case	74.1	66.8	72.4	64.0	61.3	52.9	57.2	49.5
	Longer career: 42 years to SPA			70.9				55.7	
	Shorter career: 38 years to SPA			66.0				51.0	
	Deferred exit: 42 years to SPA +2			70.9				55.7	
	Earlier exit: 38 years to SPA -2			59.7				46.2	
	Career break – unemployment: 3 years			68.4				53.3	
	Career break due to childcare: 3 years			68.7	70.7			53.5	55.5
	Career break caring for family dependant: 3 years			62.7				48.5	
	Short career (20-year career)			35.9				25.7	
	Work 35 years, disabled 5 years prior to SPA			56.8				44.0	
	Early entry in the LM: from age 20 to SPA			73.3				56.9	
	Index: 10 years after retirement @ SPA			60.1				45.7	
	Extended part-time period for childcare			67.4	69.3			52.3	54.3
	Pension rights of surviving spouses				38.3				29.7
Low (66%)	Variant: old base case: 40 years up to 65	81.1		64.2		61.3		48.3	
	New base case: 40 years up to the SPA	81.1		69.8		61.3		53.4	
	AWG career length case	77.5	70.0	76.1	65.8	61.3	52.9	57.2	49.5
	Career break – unemployment: 3 years			69.7				53.3	
	Career break due to childcare: 3 years			70.0	72.6			53.5	55.5
	Short career (20-year career)			33.6				25.7	
High	New base case: 40 years up to the SPA	56.2		51.5		43.0		38.5	
	Average replacement rate across retirees								

7. Sustainability and context

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65 (years)	21.6	19.4	23.5	24.8	23.0	26.6
Old-age dependency ratio (20-64) (%)	33.2	28.9	37.4	49.2	42.7	55.8
Economic old-age dependency ratio (15-64) (%)	46.3	37.7	55.6	60.8	50.3	72.6
Employment rate, age group 55-64 (%)	49.8	51.6	48.2	65.1		
Pension expenditure as % of GDP (ESSPROS)	14.6					

Data source: (6) Member State and OECD; (7) European Commission, DG ECFIN

*Notes: * - 2015*

Croatia (HR)

Highlights

- Although pensioners experience a significant drop in living standards compared with their pre-retirement income, the situation has been slowly improving in recent years.
- A gender gap partially results from the different pensionable ages for men and women that are currently being equalised (by 2030).
- Projections estimate a significant drop of theoretical replacement rates by 2056.
- Significant policy changes that favour employability and labour market participation of the elderly as well as promote longer working lives seem crucial, since they will positively affect both pension adequacy and the system's sustainability.

1. General description of the national pension system

Since 2002 the Croatian pension system has been a mixed system consisting of three pillars. The legislative framework is complex and has been changed frequently. The first pillar is statutory designed as a pay-as-you-go (PAYG) defined-benefits scheme financed by contributions, with a high deficit financed from the state budget (around 48%). The second pillar is a statutory funded defined-contribution (DC) pillar with mandatory participation. The third pillar is a voluntary supplementary pillar that includes both open funds and closed funds sponsored by employers, trade unions or professional associations (i.e. occupational).

Regarding personal coverage, the first pillar covers all economically active persons, while some others including full-time volunteers, apprentices and parents with children under 1 year of age can opt in. All insured persons who were under 40 at the time of the 2002 reform had to participate in both the first and second pillars (double coverage). Those between 40 and 50 could choose between staying in the first statutory PAYG scheme or additionally joining a second-pillar (statutory funded) scheme, while those over 50 had to remain within the first pillar. The dependency ratio within the first pillar grew rapidly between 1990 and 2000, being itself a major driver of the reforms. Since 2010, it is higher than 80 percent, reaching a peak in 2014 of 87.57 percent. Since then, it has fallen slightly. At the end of 2016, the first pillar had 1.440 million contributors and 1.233 million pensioners; hence a dependency ratio of 85.64 percent. It is useful to note that during the summer months there are improvements in the dependency ratio due to seasonal employment in tourism. The number of individual accounts (including inactive accounts) within the second pillar, reached 1,784,169 at the end of 2016. The number of savers within the supplementary voluntary third pillar is slowly growing, but despite some state incentives it remains low overall (around 286,000 people at the end of 2016). The coverage of open (i.e. personal) pension funds is estimated at 9.3 percent of the population aged 15-64, and the coverage of closed (i.e. occupational) pension funds at 1.1 percent.

The total contribution rate for the two mandatory pillars is 20 percent. Persons covered only by the PAYG scheme pay all contributions to the first pillar, while those under both pillars pay 15 percent to the first pillar and 5 percent to the second pillar. Since January 2017, due to tax reform, persons receiving non-regular income from employment and self-employment (so-called other income) pay contributions at a reduced rate (10% instead of 20%). The pension contribution is paid from employee wages or from the 'pension insurance base' (for self-employed persons and some other categories). Contributions paid into statutory pension schemes are tax-exempt, while pension payments are taxed. Contributions paid into voluntary pension schemes are taxed, with the exception of employers' matching contributions. Third-pillar pensions in payment are tax-exempt.

Pension benefits comprise the old-age pension (including several early-retirement pension options), survivors' pension and three types of disability pension (total, partial and temporary). Pension entitlement is conditional upon: (a) pensionable age; and (b) qualifying years. The pensionable age still differs for men and women, although it will be equalised to 65 by 2030. The early retirement window is set 5 years lower. From 2031 to 2038 there is a transitional period increasing the retirement age to 67, and for early retirement to 62. As a result of several reforms, the early retirement decrement is no longer actuarially neutral.[127] Regarding qualifying years, for old-age retirement 15 years are required while for early retirement the requirement is 35 years. In addition, from 2014, two new early retirement options without pension decrement were introduced: (a) at age 60 for those who had completed at least 41 years of contributions; and (b) for persons that reached early retirement age and have been unemployed for at least 2 years as a result of the bankruptcy of their employer. From 2015 the pension at age 60 with 41 years of contributory period was no longer treated as an early pension but as a long-career old-age pension. Deferred retirement is possible, but with an accrual bonus only for a maximum of 5 years (hence up to age 70).[128] Since 2014 old-age pensions continue to be paid, in full, to beneficiaries who continue to be employed part time, up to a maximum of half-time working hours. This measure does not apply to regular self-employment activities or to early pensions. The Labour Act as well as many laws in the public sector still link automatic termination of employment to becoming 65 (e.g. civil service, public administration, education, health sector). The healthcare legislation provides that the salary compensation should be entirely covered by the employer for workers aged 65 or older.

Croatia has numerous groups of so-called privileged pensioners, who have earned their pension under more favourable conditions based on their status. Statistically they are now divided into 17 categories and at the end of 2016 made up 14.49 percent of all pensioners. In addition, persons performing hazardous and arduous work, as well as some other categories of persons (e.g. persons with certain disabilities), enjoy pension advantages in the form of additional years of service and retirement age reduction, partially financed by employers' additional contributions.

2. Reform trends

The Croatian pension system has undergone many reforms: one systemic reform (from 1998 to 2002), and several parametric reforms, the last one encompassing all three parts of the pension system (2013-2015). Frequent and often contradictory reforms have failed to achieve a balance between adequacy and long-term sustainability.

A number of recent reforms have sought to improve adequacy in the mandatory pillars. Firstly, in August 2014, life-cycle funds were introduced into the second pillar. Each mandatory pension fund (currently there are four) has to have three sub-funds of different investment risk exposure (aggressive, balanced and conservative). Participation in the sub-funds automatically changes with age. The balanced sub-fund is the default fund until 5 years before statutory pension age. Although fund members are expected to be better off than in the old single-fund model, the negative timing risk due to market shocks has not been eliminated. Secondly, in 2014, changes in the 'basic pension' formula were introduced (the formula for payments under the first pillar for two-tier pensioners). The new formula replicates the single-tier pension

[127] In 2007 it was reduced from 0.34 percent to 0.15 percent per month. In 2011 and in 2014, it was made subject to years of contributions, so the decrement for retiring 5 years early now varies between 6 percent and 20.4 percent.

[128] The bonus of 0.15 percent per month of later retirement (maximum 9% for 5 years) is granted provided that the beneficiary has completed 35 years of insurance and the pension is taken for the first time.

formula making it proportional to the pension contribution rate ratio, with the effect that it increases pension benefits compared with the original formula. The effect of this increase is different for different income groups, but will in any case result in an increase in pension system costs.

In 2014, changes in the eligibility criteria for disability pensions were introduced; disability started to be assessed based on residual work capacity, a control examination must be performed no later than 3 years from the date a reduced working capacity, or a partial or complete loss of working capacity occurred. A new control examination may be determined at the initial control examination. From 2015, total disability pensions acquired under general conditions are being converted to old-age pensions when the recipient reaches retirement age. This measure resulted in the administrative reduction of the number of disability pensioners but without any impact on pension expenditures.

Since 2014, old-age pension is being paid in full to beneficiaries who continue part-time employment. The national reform programme from 2017 previewed an extension of the personal scope of this measure.

Although the Income Tax Act of 2017 increased the basic personal tax allowance for employed and self-employed persons, making it equal to the amount for pensioners, pensioners still enjoy preferential tax treatment due to the new provision which provides for a reduction of a pensioner's tax obligation by 50 percent.

So far, only some measures aimed at promoting longer working lives have been envisaged by the government: accelerated retirement age increases, higher early retirement decrements, and changes to the preferential early retirement option for the long-term insured (i.e. for those aged 60 with 41 years of contributions). Further, since 2013, the government has signalled its intention to reform the existing generous system of entitlements for workers in arduous and hazardous jobs. None of the planned reforms have been undertaken yet; they appear to have been postponed until 2018.

Policy debate on improving pension adequacy recurrently focuses on three issues. Firstly, on the introduction of a 27 percent pension supplement also for two-tier pensioners. There are dissenting opinions on the issue, drawing attention to the fact that the proposal should be considered in the context of previous 'basic pension' formula increases, as well as arguments of fairness and relating to the long-term financial availability of such a measure. Secondly, the Union of Croatian Pensioners advocates the introduction of a 'social pension' aimed at older people without the right to a pension. Thirdly, the Union of Croatian Pensioners has called for the abolition or reduction of the statutory funded pillar so as to leave more resources for current pensioners, thus opposing the systemic reforms implemented so far.

3. Assessment of adequacy

3.1. Current adequacy

3.1.1. General assessment of current adequacy

Although pensioners experience a significant drop in living standards compared with their pre-retirement income, data show that the situation has been slowly improving

The aggregate replacement ratio (ARR: the ratio of income from pensions of persons aged between 65 and 74 years and income from work of persons aged between 50 and 59 years) in 2016 was among the lowest in the EU-28, according to Eurostat data, at 0.39. However, this was itself a slight increase on previous years, particularly on the low of 0.32 in 2010. The low ARR can be explained by sustainability constraints reflected in the pension formula and the limited number of years of contribution (short working lives).[129] The gender gap in pensions has dropped by 3.12 percentage points (p.p.) since 2010, standing at 22.71 percent in 2016. National data show constant increases in the duration of old-age and early retirement: at the end of 2010 it was 18 years and 1 month, at the end of 2016 it was 20 years and 7 months and at the end of September 2017 it was 21 years and 1 month.

The relative median income ratio of older people (65+) is slowly improving. It increased by 0.5 p.p. from 2010, being 0.83 in 2016, although it remains below the EU-28 average. Furthermore, for women, the situation is less positive than for men (in 2016 it was at 0.79 compared with 0.88 for men). This can be explained by a lower retirement age and shorter periods of contribution (especially for older cohorts), thus directly affecting the level of income from pension benefits. Income inequality between the top and the bottom quintile of those aged 65+, as measured by the income quintile share ratio S80/S20, was 4.6 in 2016, showing a drop of 0.7 compared with 2010. The overall risk of poverty or social exclusion (AROPE) for older persons naturally remains higher than for the total population (at 27.9% in 2016). Nevertheless, the AROPE rate for those aged over 65 has decreased since 2010 by 3.8 p.p. (being 33.7% in 2016), and for those aged over 75 even more, by 6.4 p.p. (dropping to 37.8% in 2016). Data on material and social deprivation (MSD) for those aged over 65 show an even bigger decrease, by 6.4 p.p. since 2010 (18.3% in 2016). The housing situation of older people in Croatia (65+) is good, since 96.5 percent are homeowners; although 8.4 percent are still overburdened with housing costs. Thus, there is a potential in using homes for building up income in retirement. The health situation indicators are below the EU-28 average. The expected healthy life years at the age of 65 were 4.7 years for men and 4.5 years for women compared with the EU average of 9.4 years. Data also point to a decrease in healthy life years: from 2010 to 2016 it decreased by 1.9 years for men and 2 years for women, which should be an incentive for the improvement of preventive and curative healthcare policy. Regarding meeting the need for medical care, in 2016 there were 4.3 percent of those over 65 that have self-reported unmet need, hence slightly above the EU average of 3.5 percent. It should also be mentioned that the adequacy of pensions is sometimes complemented by the availability of some social services for older persons at a reduced price: e.g. public transport tickets, as well as concert, theatre and cinema tickets, and so on.

3.1.2. Redistributive elements of public pension schemes

A redistributive (solidarity) element is strongly present in the Croatian pension system, especially the first PAYG pillar, in several forms. Firstly, apart from covering all economically active persons, the mandatory system covers also non-working parents. A non-working parent may be granted pension insurance during the first year of a child's life, based on a personal claim; and an unemployed carer parent for as long as specific care is needed. In addition, pension credits are also provided for disability and survivors' pensions in the form of an 'additional insurance period', that is a fictive period (not covered by contributions) accredited for the purpose of increasing benefits. Moreover, if the risks of death and disability were caused by accidents at work or occupational diseases then the pension is calculated for a minimum 40-year insurance period, hence in most cases regardless of the actual years of insurance. Secondly, minimum-pension receivers can be considered as implicit pension subsidy receivers, while those having the right to a maximum pension can be considered as implicit pension tax payers. Namely, the minimum pension is not means-tested. It depends on the number of qualifying years multiplied by the minimum actual pension value, which is set at 97 percent of the actual pension value, resulting in a significant degree of redistribution. However,

[129] The share of pensioners receiving pensions based on the basis of 40 or more qualifying years, although slowly increasing is still very low (at the end of 2016 only 14.84%). Moreover, around 41 percent of pensioners have less than 30 years of service, more women than man. Information from the Croatian Pension Insurance Institute.

this degree of redistribution is partially reduced by the ‘pension supplement’ of 27 percent, resulting in the fact that those whose average wages or contribution bases were below 76.3 percent compared with the average national wage will be entitled to the minimum pension. The regular maximum pension is capped at 380 percent of a person’s earnings compared with economy-wide average earnings, while contributions can be paid up to 600 percent of average earnings. Thirdly, ‘privileged’ categories of pensioners, as well as early retirement takers (due to a non-actuarially neutral decrement), are implicit pension subsidy receivers, especially taking into account the length of retirement.

Furthermore, although indexation of pensions was suspended completely as an austerity measure in 2010 and 2011, the indexing mechanism was not weakened after indexation was reintroduced. On the contrary, in 2014, more adequacy favourable indexation was introduced, equally applying to first- and second-pillar pensions.

3.2. Retirement conditions for the self-employed and for people in non-standard employment

The Croatian social security system includes employees, self-employed persons and some non-standard workers. However, the actual level of their benefits in respect of specific social risks differs depending on three elements: (a) the type of contributions paid; (b) the contribution rate; and (c) the contribution base.

Under mandatory pension insurance, self-employed persons and members of their families are granted the same rights, under the same conditions, as employed persons and their family members. Self-employed persons pay their own contributions, at the same rate as employed persons; however, the contribution base differs according to the type of self-employment activity. Unlike the situation for employees, periods of insurance by self-employed persons are recognised only where contributions have actually been paid. In cases where contributions have not been paid, the pension is granted only for the period covered by contributions: but additional contributions can be paid retrospectively, in which case the pension is recalculated.

Despite recent tax reform and some other improvements, there is still a variety of contribution bases and contribution rates that makes work under non-standard contracts (e.g. contract for service, author’s contract, student contract or occupational training etc.) cheaper than using standard employment contracts or contracting with self-employed workers. Hence, apart from distorting the labour market, such an approach is adversely affecting future pension adequacy for non-standard workers.

3.3. Future adequacy and challenges

The net theoretical replacement rates (TRRs) for men and women differ under current scenarios as a result of a different pensionable age for men and women that is undergoing an equalisation period (until 2030). By 2056, the TRR is expected to drop significantly. Croatia’s net TRR of an average-earner that worked for 40 years up to the standard pensionable age (SPA), that will be 67 by that time, will have fallen by 16.4 p.p. A person starting working at 25 and having worked until the SPA, hence 42 years, can expect a 1.6 p.p. higher TRR. Those delaying retirement above the SPA by 2 years will have a TRR increased by 3.5 p.p. Hence, an increase in retirement age and career length results in higher pension entitlements, however it is questionable whether the incentive to work longer is rewarding enough taking into account life-expectancy increases and hence the length of retirement. Comparing TRRs by earning profiles, it is evident that low-earners (with two thirds of average earnings) have a higher TRR than average-earners and much higher than high-earners. This can be explained by the strongly redistributive character of the first-pillar PAYG scheme, where low-earners have a right to the minimum pension without a means-test, and the maximum pension is capped. Regarding gross and net TRR under all length-of-career scenarios and earning profiles, it should be pointed out that the much higher net TRR values compared with gross values can be linked to tax policy, as indicated above.

Hence, there are a number of significant challenges to pension adequacy, especially taking into account long-term demographic problems: negative natural increase rates, emigration, and low employment rates of older workers. Therefore, significant policy changes that favour employability and labour market participation of older people seem crucial, since they will positively affect both pension adequacy and the system's sustainability.

4. Main opportunities for addressing pension-related challenges

In the context of continued problems with the pension system's sustainability, insufficient economic growth and unfavourable demographic trends and projections, the scope for new measures to increase pension adequacy are rather limited. Indeed, in general terms, most of those which may have an impact on adequacy have already been introduced in recent years.

Therefore, the only significant policy changes that favour employability and labour market participation of the elderly seem crucial, since they will positively affect both pension adequacy and the system's sustainability. In addition, some other, more fairness-oriented, changes are needed. Hence, reform recommendations could include the following:

1) changes in the labour law and health insurance legislation that hampers employment after 65;

2) speeding up the increases in the retirement age with a possible linkage to life expectancy or healthy life years indicators;

3) stronger (actuarially fair) discouragement of early retirement and a higher pension deferral bonus;

4) reduction of special early-retirement schemes;

5) changes in the special system of arduous and hazardous workers and promotion of transfers to other jobs in order to postpone retirement;

6) partial retirement with proportionate/partial pension benefits in payment;

7) division of a minimum pension into an 'earned' part and a 'social pension' part which would be means-tested;

8) division of privileged pensions into an 'earned part' and a 'privileged' part, which would improve transparency and enable adaptation of the privileged parts depending on the available budgetary resources;

9) social security contributions should be collected on all types of income from work equally, so as to improve the level of future benefits for atypical workers, and;

10) since funded pensions will have an increasingly important role in the future replacement rates, some improvements could be considered for the second pillar, e.g. regarding investment rules, lifecycle portfolio management and enhanced minimum guaranteed rates of return.

More resources for the poorest pensioners and those who did not earn a pension should be found within better adapted means-tested social assistance measures, reducing stigma and barriers to access.

5. Background statistics – Croatia

1. Relative incomes of older people

Indicator	2016			Change 2010-2016		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.83	0.88	0.79	0.05	0.04	0.06
Income quintile share ratio (S80/S20), 65+	4.6	4.5	4.5	-0.7	-0.6	-0.6
Aggregate replacement ratio (ARR)	0.37	0.39	0.40	0.05	0.01	0.09

2. Poverty and material deprivation

Indicator	2016			Change 2010-2016		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+ (%)	33.7	28.8	37.0	-3.8	-2.5	-4.6
At-risk-of-poverty (AROP), 65+ (%)	27.0	22.4	30.1	-3.5	-2.7	-3.9
Severe material deprivation (SMD), 65+ (%)	15.2	14.0	16.0	-0.5	1.4	-1.6
At-risk-of-poverty or social exclusion (AROPE), 75+ (%)	37.8	31.1	41.5	-6.4	-4.5	-7.3
At-risk-of-poverty (AROP), 75+ (%)	31.2	25.0	34.6	-6.4	-5.1	-7.0
Severe material deprivation (SMD), 75+ (%)	15.3	12.2	17.0	-2.6	-0.6	-3.7
Relative poverty gap, 65+ (%)	24.6	27.7	22.1	-0.4	1.8	-2.9
At-risk-of-poverty (AROP), 65+: 50% threshold (%)	16.2	15.2	16.8	-3.0	-0.9	-4.4
At-risk-of-poverty (AROP), 65+: 70% threshold (%)	35.0	29.7	38.5	-4.2	-3.6	-4.6
				Change 2014-2016		
Material and social deprivation, age 65+ (%)	18.3	16.2	19.7	-6.4	-5.8	-6.7

3. Gender differences

Indicator	2016	Change 2010-2016
	Total	Total
Gender gap in pension income (65-79) (%)	22.71	-3.12
Gender gap in non-coverage (W-M in p.p.) (65-79)	6.6	6.6

4. Housing and health situation of older people

Indicator	2016			Change 2010-2016		
	Total	Men	Women	Total	Men	Women
Population 65+ living in overcrowded households (%)	22.1	18.1	24.7	-1.4	-2.3	-0.8
Tenure status among people 65+: share of owners (%)	96.5	96.5	96.4	-0.2	-0.4	-0.1
Housing cost overburden, 65+ (%)	8.4	6.0	10.0	-15.1	-13.8	-15.8
Self-reported unmet need for medical care 65+ (%)	4.3	4.1	4.4	-5.5	-2.9	-7.2
Healthy life years at age 65 (years) *		4.7	4.5		-1.9	-2.0

5. Pension duration

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Pension payment duration (2012) (years)		18.3	27			
Retirement duration (AWG) (years)		18.4	23.6		21.5	25.1

Data source: (1) (2) (3) (4) Eurostat, Sept-Oct 2017 (5) European Commission

*Notes: * - 2015 data; Data for 2010 used for comparisons as data for 2008 – n.a.*

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net (%) 2016 Men	Net (%) 2016 Women	Net (%) 2056 Men	Net (%) 2056 Women	Gross (%) 2016 Men	Gross (%) 2016 Women	Gross (%) 2056 Men	Gross (%) 2056 Women
Average Earnings	Variant: old base case: 40 years up to 65	56.6	60.2	38.6		40.4	42.9	27.5	
	New base case: 40 years up to the SPA	56.6		40.2		40.4		28.6	
	Increased SPA: from age 25 to SPA	56.6	51.7	41.8		40.4	36.8	29.8	
	AWG career length case	62.3	52.8	42.0	37.4	44.4	37.7	29.9	26.7
	Longer career: 42 years to SPA			41.8				29.8	
	Shorter career: 38 years to SPA			38.5				27.4	
	Deferred exit: 42 years to SPA +2			43.8				31.2	
	Earlier exit: 38 years to SPA -2			36.0				25.7	
	Career break – unemployment: 3 years			38.7				27.6	
	Career break due to childcare: 3 years			40.2				28.6	
	Career break caring for family dependant: 3 years			38.9				27.7	
	Short career (20-year career)			20.2				14.4	
	Work 35 years, disabled 5 years prior to SPA			43.6				31.1	
	Early entry in the LM: from age 20 to SPA			44.9				32.0	
	Index: 10 years after retirement @ SPA			38.0				27.1	
	Extended part-time period for childcare			34.2				24.4	
	Pension rights of surviving spouses				33.0				23.5
Low (66%)	Variant: old base case: 40 years up to 65	61.3	65.2	48.2		46.7	49.6	36.7	
	New base case: 40 years up to the SPA	61.3		50.0		46.7		38	
	AWG career length case	67.4	57.2	52.7	46.6	51.4	43.6	40.1	35.5
	Career break – unemployment: 3 years			48.2				36.7	
	Career break due to childcare: 3 years			50.5				38.5	
	Short career (20-year career)			24.1				18.4	
High	New base case: 40 years up to the SPA	45.8		32.4		30.3		21.4	
	Average replacement rate across retirees								

7. Sustainability and context

Indicator	2016 Total	2016 Men	2016 Women	Projections for 2056 Total	Projections for 2056 Men	Projections for 2056 Women
Life expectancy at 65 (years)	17.1	15.2	18.7	22.2	20.5	23.8
Old-age dependency ratio (20-64) (%)	31.7	25.3	38.1	56.9	49.8	64.3
Economic old-age dependency ratio (15-64) (%)	50.1	36.5	66.1	75.6	63.0	89.7
Employment rate, age group 55-64 (%)	38.1	45.1	31.6	52.0		
Pension expenditure as % of GDP (ESSPROS)	9.1					
AWG projections	2016			2055		
Coverage ratio (% of pop aged 65+)						

Data source: (6) Member State and OECD; (7) European Commission, DG ECFIN

*Notes: * - 2015*

Italy (IT)

Highlights

- Despite high pension expenditure, security in old age is uneven in Italy: the pension system effectively performs the income maintenance function while protection against poverty is inadequate, and tight eligibility conditions include regressive clauses.
- The 2016 pension reform addressed these challenges relying on the equity principle: the aim was to increase solidarity by both facilitating early retirement for selected worker categories and raising lower pension incomes.
- The interplay between NDC statutory schemes, a more flexible labour market, lower contribution rates for self-employed and atypical workers, as well as the coverage gap in supplementary schemes may lead to inadequate pensions for workers with short/interrupted careers in future decades.
- In order to improve adequacy in the long run, while continuing to ensure fiscal sustainability, measures should be taken to strengthen the redistributive capacity of statutory pension schemes and better integrate the latter with supplementary funded schemes.

1. General description of the national pension system

The Italian pension system is still in the midst of an incomplete transition from the traditional single-pillar structure towards a multi-pillar configuration. Before the 1990s, the pension architecture relied on a single (two-tiered) public pillar providing comparatively generous defined-benefit (DB) pensions at low retirement ages and only limited protection against poverty.[130] Several reforms in the last 25 years have implied changes along various dimensions: (a) the transition to a multi-pillar system, through the development of supplementary voluntary occupational (second-pillar) and personal (third-pillar) pension schemes; (b) the replacement of DB with notional defined-contribution (NDC) schemes in the statutory public pay-as-you-go (PAYG) pillar; and (c) the rapid tightening of eligibility conditions for retirement by both substantially raising pensionable ages and linking with demographic changes.

The public, statutory pension system is multi-tiered. The ‘old-age social allowance’ (*assegno sociale*, formerly ‘social pension’) constitutes the first tier. It is an anti-poverty, income-tested programme financed by general revenues, providing flat-rate social assistance benefits to poor elderly people (Section 3.1.2).

Second-tier PAYG schemes represent the main component of the public statutory pillar, covering 100 percent of the employed population: private and public employees, the self-employed and ‘project workers’ – so-called *parasubordinati*, i.e. formally self-employed people who mostly work as employees through collaboration contracts (‘bogus’ self-employed). While in the past these were all DB schemes, since the 1995 reform an NDC system applies to new entrants in the labour market after 1 January 1996. For workers with less than 18 years of contributions in 1995, the NDC system applies pro rata – i.e. for working years after 1995 only – while the DB system initially remained in force for workers with at least 18 years of contributions in 1995. However, the 2011 reform applied the NDC system pro rata – i.e. for working years after 2011 – also to these previously exempted workers.

[130] This implies that supplementary funded pensions are irrelevant for (most) current pensioners’ income.

Contribution rates vary from 33 percent of gross earnings for private and public employees[131] to 20/21 percent for the self-employed and 31 percent for project workers. As an effect of the 2011 reform, contribution rates for the self-employed (Section 3.2) will be gradually increased to 24 percent of declared income by 2018.

Eligibility conditions for old-age and early-retirement pensions, as well as the old-age social allowance, are automatically linked to changes in life expectancy and they are being rapidly tightened due to reforms adopted in 2009-2011. While the pensionable age was still 65/60 years for men/women respectively in 2010, it has been drastically increased in the last 8 years: in 2018, full harmonisation is reached for the first time at 66 years/7 months – this applying to both males and females, and to all professional categories in the public and in the private sector. A further increase is expected in 2019 due to the 'linking' mechanism. A minimum contribution period of 20 years is required. Deferred retirement is possible (as well as incentivised via actuarial calculations) up to an age of 70 years/7 months.[132] For workers fully included in the NDC system, a further condition applies: retirement before 70 years/7 months is allowed only in cases where the pension equals at least 1.5 times the 'old-age social allowance' mentioned above – about EUR 650 per month (the so-called pension value threshold).

As for the possibility of retiring prior to reaching the pensionable age, the new 'early retirement scheme' (*pensione anticipata*) introduced by the 2011 reform applies different rules to workers subject to the NDC system pro rata (in the short term) and those fully subject to the NDC system in the medium to long run. For the first group, in 2018 retirement is possible after contributing for 42 years/10 months (males) or 41 years/10 months (females). Differently, workers fully included in the NDC system are allowed to retire at 63 years/7 months, subject to the fulfilment of two conditions: (a) the payment of contributions for at least 20 years; and (b) the pension amount being at least 2.8 times the old-age social allowance (second pension value threshold).

The special rules for workers in arduous and hazardous jobs (WAHJ, *lavoratori in mansioni usuranti*) were modified by the 2016 reform (Section 2). Since 1 January 2017, WAHJ are allowed to retire prior to reaching the pensionable age provided they have worked as employees in relevant jobs for at least 7 out of the previous 10 years before applying for retirement or, alternatively, if they have worked in such jobs for half their career.[133]

The combination of pensions with income from work is fully permitted to workers entitled to statutory DB pensions. Differently, workers subject to the new NDC system may combine old-age/early-retirement pensions with income from work, provided that they fulfil at least one of the following conditions: (a) 60/65 years of age for women/men; (b) 40 years of paid contributions; and/or (c) 35 years of paid contributions and 61 years of age.

In addition to public pension provision, private sector employees – and public employees hired after 2000 – are entitled to a severance-payment benefit, the so-called TFR (*trattamento di fine rapporto*) when they retire or change their employer.[134]

Alongside the reformed and increasingly less generous public statutory schemes (see below), the regulatory framework established in 1993 aimed to develop voluntary defined-contribution (DC) supplementary funded schemes, mainly relying on tax incentives and especially the transfer of the TFR to pension funds. The regulatory framework allowed the setting up of different types of supplementary pension schemes: (a) 'closed' pension funds (CPFs) are

[131] Contributions were not levied on yearly gross earnings above EUR 100,324 in 2017.
[132] Only 5 years of paid contributions are required at this age.
[133] Legislation identifies WAHJ as those employees performing particularly strenuous manual jobs listed in Law No 247/07. For details see the ESPN *Thematic Report on retirement regimes for workers in arduous or hazardous jobs* – Italy (Jessoula et al. 2016).
[134] Project workers and obviously the self-employed are not entitled to the TFR.

typical occupational schemes for specific groups of employees established by collective agreements (second pillar); (b) 'open' pension funds (OPFs) are hybrid institutions, comprising both second- and third-pillar forms depending on affiliation modes – i.e. collective vs individual; and (c) personal pension plans through life insurance contracts (PIPs) constitute the third pillar. Importantly, since 2007, a 'silent-consent' mechanism for the transfer of TFR contributions (roughly 7% of gross wage) to funded occupational pension schemes has been operating for private sector employees.

2. Reform trends

The extremely rapid tightening of eligibility conditions – a 7-year increase of female pensionable age in 7 years (2012-2018) coupled with the elimination of seniority pensions[135] – implied by the 2009-2011 reforms during the worst economic recession and employment crisis for decades – contributed to two main developments: (a) a 'old in, young out' effect, with 1 million more older workers (aged 50-64) in employment vis-à-vis a 0.9 million net reduction (1.8 million gross) for young workers (15-34 years) between 2008 and 2013;[136] and (b) the steep increase of unemployment among workers aged 50+ – from c. 130,000 individuals (2007) to 500,800 (2016)[137] – despite the continuous increase of employment rates for older workers (55-64) – from 34.3 percent in 2008 to 50.3 percent in 2016.

The 'pension package' (Poletti-Renzi reform) – adopted following negotiations with trade unions and included in Italy's 2017 Stability Law – primarily aimed at tackling such challenges by facilitating early retirement. Actually, the main innovation is the so-called APE (*anticipo finanziario a garanzia pensionistica*) which provides two different options. The 'financial version' allows an individual to leave the labour market up to 3 years and 7 months earlier than the standard pensionable age (i.e. at 63 years) by means of a loan issued by a bank. Workers aged 63 and above may thus apply for such a loan in order to receive a monthly benefit until the pensionable age. Then they will repay their debt through monthly instalments over a 20-year period. The loan is protected by an insurance contract to cover the risk of early death. The second option – the 'social version' of APE – is state-subsidised and potentially more effective. It allows certain categories of disadvantaged workers (see below) – with at least 30 years of paid contributions – to exit early from the labour market (also up to 3 years and 7 months before the standard pensionable age) through the provision of an allowance of a maximum EUR 1500/month. Eligible workers are: (a) unemployed individuals who have exhausted their right to unemployment benefits at least 3 months previously; (b) persons taking care of a severely disabled and dependent relative for at least 6 months; and (c) severely disabled workers. The same treatment applies to workers who have paid contributions for at least 36 years and have been employed in 'hard' jobs (different from WAHJ) for at least 6 years. Both the financial and social versions of APE are being implemented on a trial basis until 31 December 2018.

In addition to APE, reform includes the following measures concerning eligibility conditions for retirement: (a) an additional provision to protect former workers with no job and no pension due to the 2011 reform (so-called *esodati*); (b) elimination of penalties in cases of early retirement before 62 years of age – after 1 January 2018, provided the worker has completed a contributory period of 42 years and 10 months; and (c) more favourable retirement conditions

[135] Seniority pensions represented the main route to early retirement in Italy, allowing workers to retire prior to reaching the pensionable age provided a pre-defined period of paid contributions.
[136] In 2008-2013, the population aged 15-34 decreased by 0.9 million individuals; the population aged 50+ increased by 1.05 million while employment growth in the same age bracket was even higher (+1.07 million, see ISTAT 2014).
[137] Both developments are particularly detrimental per se, as well as taking into account the persistent lack of a minimum income scheme and underdevelopment of active labour market policies (ALMPs), especially lifelong learning programmes.

for disadvantaged workers (same as above, these include persons taking care of a disabled or dependent relative and the unemployed with no benefits) with at least 12 months of paid contributions before 19 years of age (so-called *lavoratori precoci*).

The Stability Law also introduced some important changes to the rules for WAHJ. Among these, the suspension (until 2025) of the automatic linking of retirement conditions to changes in life expectancy and the elimination of the waiting periods (12 months for employees, 18 months for the self-employed) between the fulfilment of age/contribution requirements and the effective date of retirement. Also, WAHJ are no longer required to spend the last year before retirement in AHJ in order to be eligible for the special rules.

The second goal of the 2016 reform was to address the uneven distributional profile of (public) pension incomes in Italy: according to most recent data, in 2014, 40.3 percent of pensioners received a pension income below EUR 1000/month (13.3% below EUR 500/month). The share of those receiving pensions between EUR 1000 and EUR 1499/month was 21.6 percent, while 38 percent were above EUR 1500/month.[138] Thus, the reform contained measures aimed at increasing lower pension incomes, among which were: (a) an increase in the amount of the 14th monthly pension instalment (*quattordicesima*) and the extension of the latter to c. 1.2 million individuals with low pension benefits; and (b) an increase up to EUR 8000/year of the 'no tax area' for pensioners below 75 years.

Finally, the reform allowed people to cumulate contributory periods in different statutory pension regimes in order to fulfil the eligibility conditions to be entitled to either old-age (*pensione di vecchiaia*) or early-retirement pensions (*pensione anticipata*).

The reform represented a turning point when compared with austerity-driven interventions in 2009-2011: it increased expenditure (about EUR 6 billion in 3 years) and relied on the principle of equity in order to tackle both the uneven distribution of resources among current retirees and the most severe social consequences of prolonged economic and labour market stagnation outlined above. Yet, implementation was either delayed (e.g. the financial version of APE was actually implemented in late 2017) or revealed substantial weaknesses in reform design (Jessoula 2016). Notably, with regard to the social version of APE – the main innovation when adequacy as duration of retirement is concerned – figures are still not final, but the strict eligibility conditions might lead to the rejection of around 35 percent of applications (roughly 13,000 rejections out of 39,777 total applications). In addition, the tight contributory requirements vis-à-vis the short career length of Italian women (c. 26 years on average) contributed to the significant under-representation of females among applicants as well as beneficiaries of this new provision.

As for measures aimed at supporting low-income pensioners – namely, both the extension of coverage and the increase in the level of the 14th monthly instalments – analyses have shown that they indeed constitute progressive measures which may contribute to adequacy/poverty prevention in old age; nevertheless, the non-application of means-testing of household incomes did not allow the exclusion of high-income families from beneficiaries. By contrast, the provisions for WAHJ are more positive with respect to adequacy, as is the possibility of combining contributions in different pension regimes and the option to receive supplementary pensions in order to retire before reaching the pensionable age.

In the field of supplementary pensions, the 2017 Stability Law and the more recent Competition Law (Law no 124/2017) have modified the regulatory framework in three main respects. First, on a trial basis between July and 31 December 2018, workers enrolled in supplementary pension schemes and fulfilling the same conditions to receive APE may claim

[138] For a purposeful comparison, the average gross earnings in industry and services were EUR 28,230/year in 2010 (Eurostat).

DC pensions at 63, that is earlier than the standard pensionable age of 66 years and 7 months. Second, the Competition Law established that supplementary pensions may also be claimed 5 years (up to 10 years if allowed by collective agreements) prior to reaching the pensionable age in cases of unemployment for more than 24 months (previously 48 months). Third, according to the same Law, collective agreements may define the minimum share of workers' TFR to be transferred to supplementary occupational funds – previously, 100 percent of TFR had to be transferred to the latter in cases of enrolment.

3. Assessment of adequacy

3.1. Current adequacy

3.1.1. General assessment of current adequacy

The high public pension expenditure, the unbalanced distributional profile of the latter, and the tight eligibility conditions for retirement implemented in the last 7 years prompt three main considerations concerning the adequacy of the Italian pension system.

First, high pension expenditure ensures a relatively high level (on average) of economic security and income maintenance in old age. In 2016, the ratio between the median disposable income of older people and the median disposable income of those aged below 65 years was 100 percent in Italy vs 92 percent for the EU-28 average. The aggregate replacement ratio (ARR) was 0.68 in Italy vs 0.58 in the EU (2016). Also, the ARR was on the rise in Italy between 2008 and 2016 (+17 percentage points (p.p.) vis-à-vis an increase of 9 p.p. in the EU), this suggesting that the gross income position of 'young' pensioners (aged 65-74) has improved compared with older workers' (50-59) median gross income. However, when looking at the gender dimension all indicators show that women fare systematically worse than men in Italy. The ARR (2016) presents a 16-point gap between males (72%) and women (56%) compared with a 6-point gap only in the EU. Furthermore, while the ARR for males is in Italy remarkably above the EU average (72% vs 61%), it is not for females (56% in IT, 55% in the EU). Also when looking at the gender gap in pension income (GGP, 65-79 years) Italian figures are in line with the EU average: the GGP was 36.8 percent in Italy in 2016 – slightly above the 2012 level (36%) but lower than in 2008 (-0.88 p.p.) – vs 37.22 percent in the EU.

Second, despite high expenditure, the pension system's design does not provide strong protection against poverty. Although in Italy the elderly are relatively better off compared with their younger counterparts – in 2016, the share of the population aged 65+ at risk of poverty or social exclusion (AROPE) was significantly smaller (23.9%,[139] down by 0.4 p.p. since 2008, but with a remarkable increase by 4 p.p. since 2015) than in the age bracket 0-64 (31.6%) and among children 0-6 years (29.4%) – weaknesses appear when Italian figures are compared with EU averages. Italy still had a below-average severe material deprivation rate (SMD) for people aged 65+ in 2008 (6.7% vs 7.6% for the EU), but the situation has rapidly deteriorated since the start of the sovereign debt crisis, and it shows an opposite trend compared with the EU – 10.9 percent for Italy in 2016 (+4.2 p.p. since 2008) vs 5.9 percent for the EU (-1.7 p.p.). The relatively weak protection against poverty also appears when considering that the AROPE rate for older people (23.9%) is significantly above the EU average (18.3%) in 2016.[140] In a similar vein, the distributional profile of pension incomes is uneven (Section 2) and income inequality in old age (65+) is actually higher in Italy than in the EU: the figures for the S80/S20 ratio are 4.8 (IT) vs 4.1 (EU-28) in 2016 – 6.6 (IT) vs 5.5 (EU-28) for those aged 0-64. Similar to the

[139] These figures are provisional.
[140] The weaker condition of elderly women also appears with regard to poverty: in Italy, 26.4 percent of women aged 65+ were 'at risk of poverty and social exclusion' in 2016 compared with 20.6 percent of men, and to 20.7 percent of women in the EU.

above, while income inequality in the EU is diminishing (-0.1 on the S80/S20 scale in 2008-2016), it is increasing (+0.3 p.p.) in Italy.

Third, the remarkable – as well as extremely rapid – increase of pensionable ages since 2010 raises issues related to both retirement duration – the third dimension of pension adequacy – and the interplay between expected longer working lives on the one hand, and labour market performance and social service development on the other. As for duration of retirement, the strict and rigid eligibility conditions for retirement may be particularly detrimental for (especially manual) workers with long careers and lower life expectancy – with likely substantial regressive effects. Also, the 2008-2016 significant growth of unemployed people aged 50 and above (in combination with youth unemployment rates well above 30% since the great recession) suggests that measures must be taken to improve the absorption capacity of the Italian labour market and tackle the negative side-effects of austerity-driven pension reforms. Last but not least, due to the notorious underdevelopment of social care services (both for children and the dependent elderly) in Italy, female workers – who, again, have experienced a 7-year increase of pensionable age in 7 years between 2012 and 2018 – are very likely to encounter severe problems in reconciling care duties with a longer working life.

3.1.2. Redistributive elements of public pension schemes

The redistributive capacity of the reformed public system and the overall emerging multi-pillar pension architecture is limited, since both the mandatory PAYG (NDC) and supplementary funded schemes (DC) were designed in accordance with the 'actuarial neutrality' principle. While there are no explicit redistributive mechanisms in DC supplementary schemes, redistribution in the public statutory schemes relies on three (modest) solidarity provisions.

First, the 'old-age social allowance' constitutes the main redistributive component. It is actually financed through general revenues and provides flat-rate modest social assistance benefits to poor people aged 66 years/7 months (from 1 January 2018) and above. The yearly amount is EUR 5824.91 – paid out in 13 monthly instalments of EUR 448.07.[141] Beneficiaries aged 70 and above also receive a monthly supplement of EUR 190. In order to be entitled to the old-age social allowance applicants must pass an income test. Though important with regard to one of the three key dimensions of pension adequacy (anti-poverty function), this scheme is not able to actually lift beneficiaries out of poverty – the 'absolute poverty' line calculated by the National Statistical Office (ISTAT) being EUR 746/month for a single-member household (residing in a medium-size municipality in central Italy) in 2016.

The second redistributive element, key for both poverty prevention and income maintenance in the long run, is represented by contribution credits in statutory NDC schemes. These credits are provided in cases of compulsory maternity leave (five months), parental leave, and subsidised unemployment. The higher inclusiveness of the unemployment benefit system (UB) entailed by the 2012 and 2015 reforms will likely make these credits more relevant for pension adequacy, namely for the income maintenance of workers with frequently interrupted employment careers (atypical workers, see Section 3.2).

Third, the measures recently adopted with the 2016 pension reform (Section 2) are important for pension adequacy in two respects. Provisions for low-income pensioners should be effective in terms of both better income maintenance and more effective protection against poverty in old age. Differently, the relaxation of eligibility conditions for retirement for the selected categories may help (when effectively fine-tuned) to tackle the regressive effects – due to differential life

[141] EU citizens and lawfully resident third-country nationals are both entitled to benefits. For a single person, the income threshold to be eligible for the old-age social allowance is EUR 5824.91/year. Eligible persons must have been residing continuously in the country for at least 10 years.

expectancy – produced by substantially higher pensionable ages following the austerity driven reforms of 2009-2011. Both developments are thus important for the adequacy, as well as the equity profile, of the public pension system.

3.2. Retirement conditions for the self-employed and for people in non-standard employment

Two considerations are important concerning old-age and survivor protection for the self-employed and atypical workers: (a) the public pension system (first pillar) is inclusive in terms of coverage, which is indeed universal for the employed population; and (b) despite broad coverage, remarkable regulatory differences have traditionally existed across the five main occupational groups of the self-employed (agricultural workers, artisans and dealers/shopkeepers) and atypical workers (those on fixed-term contracts and project workers on continuous collaboration contracts). Current pension levels actually reflect such regulatory differences and vary greatly under the different schemes managed by INPS, the National Social Insurance Institution: the average monthly pension is in fact EUR 1045 in the fund for employees, compared with EUR 602, EUR 880 and EUR 811 in the schemes for agricultural workers, artisans and dealers/shopkeepers respectively (INPS, 2016). The figures for project workers and professionals covered by the so-called *gestione separata* are much lower (EUR 165/month), but it should be recalled that this pension scheme only started operating in 1996.

While coverage is compulsory, and the rules regarding pension calculation and eligibility conditions for all these groups have been harmonised with dependent employees, pension system fragmentation implies regulatory variation across the various types of self-employed and atypical workers, as well as vis-à-vis 'standard workers' on full-time, open-ended contracts. Atypical workers on fixed-term contracts are subject to a contribution rate of 32.87 percent of the gross wage, while project workers on continuous collaboration contracts and professionals in sectors not covered by independent pension funds are compulsorily included in a special regime with contribution rates set at 31 percent for project workers and 27 percent for professionals. Importantly, the contribution rates were significantly lower (around 20%) until Law No. 247/07 prompted a gradual increase for these categories of worker. However, the 2017 budget law (No. 232/2016) stopped this increase, and reduced the contribution rate for professionals from 27 percent to 25 percent. The three traditional groups of the self-employed – farmers, artisans and dealers/shopkeepers – share a similar condition, with lower contribution rates varying from 20.1 percent to 24.1 percent of declared income. Such variation is relevant because, according to the logic of the NDC system applied to all categories insured by INPS, different contribution rates will translate into very different pension amounts (at the same current income) in future decades. Projections by the Ministry of Finance (MEF-RGS 2015) actually show that the decline in replacement rates over coming decades is expected to be much larger for self-employed workers than for employees: whereas in 2010 a self-employed worker retiring at 65 years/7 months after 38 years of contributions had a gross theoretical replacement rate (TRR) of 77.2 percent (compared with 73.7% for employees), in 2040 it will be 47.3 percent for a self-employed person retiring at 69 years/2 months with 38 years of contributions. Concerns have repeatedly been raised also about pension adequacy for atypical workers in the medium to long run. In fact, since the NDC system directly translates career fragmentation into lower pension levels (see Section 3.3), the figures reported in the 2015 *Pension Adequacy Report* show that Italy is among the countries that most severely penalise – in terms of expected pension levels – workers with short careers (30 years), which is typical of temporary workers who have frequent spells of unemployment/non-employment.

Finally, with regard to future benefit adequacy, worries also arise from the limited coverage of the self-employed and especially atypical workers in supplementary pension schemes.

3.3. Future adequacy and challenges

Future pension adequacy must be assessed considering the 'actuarial neutrality' principle shaping both public statutory (NDC) and supplementary funded (DC) schemes, the limited coverage of the latter (vs universal coverage of statutory schemes, see Section 1), the steep increase in the standard pensionable age (SPA), as well as labour market features and performance.

On the one hand, despite the projected decline (*ceteris paribus*) of TRRs due to the application of the NDC formula in the next decades, the tightening of eligibility conditions with the 2009-2011 reforms will contribute to maintaining high pension levels in the future, at least for workers with full uninterrupted careers. Since NDC rewards longer careers and pensions claimed at later ages,[142] only a limited decline of gross TRR – from about 71 percent in 2016 to 68.1 percent in 2056[143] – is in fact expected for a worker with a 40-year career to the SPA ('base case': 70 years/6 months).

On the other hand, NDC schemes substantially penalise workers with either interrupted careers or retiring prior to reaching SPA. Thus, gross TRRs rapidly diminish when considering these variants, which are not unlikely if both the weak performance of the Italian labour market – the average duration of working life was 31.2 years in IT vs 35.6 EU in 2016 (see also Section 3.1) – and the high SPA (above 70 years in 2056, among the highest in the EU) are taken into account. Assuming 40 years of paid contributions and retirement at 65, a gross TRR in 2056 is reduced by 13 p.p. when compared with 2016 (56.9% vs 70.6%) and by 11 p.p. compared with the 'base case' above (68.1%).

4. Main opportunities for addressing pension-related challenges

In light of the adequacy challenges outlined above, in the short term a rigorous evaluation of measures introduced by the 2016 reform, as well as their implementation, is needed to assess whether, and to what extent, the main challenges concerning the (inadequate) poverty-prevention capacity of the pension system and the potentially regressive effects of the tight eligibility conditions for retirement have been tackled. This is particularly important for those measures – such as APE – implemented on a trial basis, with the aim to make a step toward an empirically well-grounded pension policymaking.

Moreover, some measures should be adopted in order to contain – or eliminate – the regressive impact of the current much stricter eligibility conditions for retirement. First, the so-called pension value thresholds (Section 1) – which do not allow workers with expected low pensions to retire either at the standard pensionable age or via early-retirement pensions – should be removed (or substantially relaxed). Second, the 'linking' principle, currently translating 100 percent of life expectancy gains into higher pensionable ages and contributory requirements, should possibly be better calibrated in order to consider differential life-expectancy gains (across the various professional categories) as well as discrepancies between life-expectancy gains and the increase of years in good health. Both these measures might significantly improve the equity and the adequacy profile – with respect to retirement duration – of the Italian pension system.

For the long term, acknowledging that in strictly actuarial systems such as NDC pension schemes (and DC supplementary pensions), fairness in terms of regulatory homogeneity and actuarial neutrality does not necessarily entail adequate pensions in the future, measures should

[142] This is due to an actuarial rate for pension calculation which rises with pension age.
[143] 2016 pensions are computed almost exclusively under the old DB, which still largely applies, while 2056 pensions are computed under the NDC regime.

aim at strengthening the solidarity and redistributive capacity of public statutory schemes in order to reduce penalties for workers with fragmented careers. Accordingly, the role of supplementary funded schemes – currently covering workers already well protected in the statutory schemes – should be reconsidered.

5. Background statistics – Italy

1. Relative incomes of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	1.00	1.03	0.98	0.12	0.12	0.13
Income quintile share ratio (S80/S20), 65+	4.8	4.8	4.6	0.3	0.2	0.3
Aggregate replacement ratio (ARR)	0.68	0.72	0.56	0.17	0.15	0.16

2. Poverty and material deprivation

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+ (%)	23.9	20.6	26.4	-0.5	0.3	-1.0
At-risk-of-poverty (AROP), 65+ (%)	16.1	13.6	18	-4.8	-3.7	-5.6
Severe material deprivation (SMD), 65+ (%)	10.9	9.7	11.9	4.2	4.1	4.5
At-risk-of-poverty or social exclusion (AROPE), 75+ (%)	25.9	20.9	29.1	0.7	1.4	0.5
At-risk-of-poverty (AROP), 75+ (%)	17.0	13.1	19.5	-5.0	-4.0	-5.4
Severe material deprivation (SMD), 75+ (%)	12.2	10.4	13.4	5.9	5.9	6.0
Relative poverty gap, 65+ (%)	16.9	17.1	16.8	-2.4	0.9	-3.7
At-risk-of-poverty (AROP), 65+: 50% threshold (%)	8.1	6.9	9.0	-3.4	-1.5	-4.6
At-risk-of-poverty (AROP), 65+: 70% threshold (%)	23.5	20.8	25.6	-6.1	-4.5	-7.1
				Change 2014-2016		
Material and social deprivation, age 65+ (%)	15.3	14.1	16.2	-3.8	-3.7	-3.9

3. Gender differences

Indicator	2016	Change 2008-2016
	Total	Total
Gender gap in pension income (65-79) (%)	36.80	-0.88
Gender gap in non-coverage (W-M in p.p.) (65-79)	15.2	3.7

4. Housing and health situation of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Population 65+ living in overcrowded households (%)	10.0	9.7	10.2	1.2	1.3	1.1
Tenure status among people 65+: share of owners (%)	84.4	85.9	83.3	2.7	2.0	3.3
Housing cost overburden, 65+ (%)	6.5	5.0	7.6	-1.6	-0.4	-2.5
Self-reported unmet need for medical care 65+ (%)	6.6	5.6	7.3	0.2	-0.1	0.4
Healthy life years at age 65 (years) *		7.8	7.5		0.2	0.4

5. Pension duration

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Pension payment duration (2012) (years)		24.8	28.2			
Retirement duration (AWG) (years)		20.3	23.9		19.9	22.2

Data source: (1) (2) (3) (4) Eurostat, Sept-Oct 2017 (5) European Commission

*Notes: * - 2015 data*

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net (%)				Gross (%)			
		2016		*2056*		*2016*		*2056*	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Variant: old base case: 40 years up to 65	78.4		63.7		70.6		56.9	
	New base case: 40 years up to the SPA	78.9	78.7	75.7		71.1	70.8	68.1	
	Increased SPA: from age 25 to SPA	81.5	80.0	85.1		73.5	72.1	76.6	
	AWG career length case	79.0	74.5	74.8	76.4	70.4	66.2	67.3	68.8
	Longer career: 42 years to SPA			78.8				75.7	
	Shorter career: 38 years to SPA			72.8				65.4	
	Deferred exit: 42 years to SPA +2			78.8				75.7	
	Earlier exit: 38 years to SPA -2			68.5				61.3	
	Career break – unemployment: 3 years			71.4				64.0	
	Career break due to childcare: 3 years			73.6				66.1	
	Career break caring for family dependant: 3 years			74.0				66.5	
	Short career (20-year career)			39.1				34.7	
	Work 35 years, disabled 5 years prior to SPA			60.5				53.9	
	Early entry in the LM: from age 20 to SPA			99.4				90.5	
	Index: 10 years after retirement @ SPA			74.6				65.7	
	Extended part-time period for childcare			66.9				59.9	
	Pension rights of surviving spouses				46.1				40.9
Low (66%)	Variant: old base case: 40 years up to 65	78.3		63.1		70.6		56.9	
	New base case: 40 years up to the SPA	78.8	78.6	75.6	75.6	71.1	70.8	68.1	
	AWG career length case	78.8	74.2	74.8	76.4	70.4	66.2	67.3	68.8
	Career break – unemployment: 3 years			71.8				64.7	
	Career break due to childcare: 3 years			73.3				66.1	
	Short career (20-year career)			38.5				34.7	
High	New base case: 40 years up to the SPA	64.7	64.5	88.3		54.5	54.2	79.2	
	Average replacement rate across retirees	:				:			

7. Sustainability and context

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65 (years)	20.6	18.9	22.2	24.3	22.6	26.0
Old-age dependency ratio (20-64) (%)	37.0	32.1	41.8	67.4	58.8	76.3
Economic old-age dependency ratio (15-64) (%)	58.2	42.4	79.9	89.9	69.2	116.4
Employment rate, age group 55-64 (%)	50.3	61.7	39.7	69.6		
Pension expenditure as % of GDP (ESSPROS)	16.9*					

Data source: (6) Member State and OECD; (7) European Commission, DG ECFIN

*Notes: * - 2015*

Cyprus (CY)

Highlights

- The at-risk-of-poverty (AROP) and at-risk-of-poverty or social exclusion (AROPE) rates among the elderly in Cyprus decreased impressively over the period of 2008-2016. This change is attributed to several factors, including the redistributive capacity of the social security pension system.
- Following the significant 2009-2013 pension reforms, few legislative changes took place, primarily aiming at making a small number of necessary adjustments to the pension system.
- Theoretical replacement rates with respect to the social security pensions are projected to increase over the period of 2016-2056; however, the challenge of ensuring the adequacy of pensions in future remains, especially for people who are not at the lower end of incomes and have no access to occupational pensions.
- Policymakers should consider ways to consolidate and expand gains in poverty reduction, as well as to reform the second pillar of the pension system (occupational pensions) in a way that promotes adequacy, sustainability, safety and transparency.

1. General description of the national pension system

The current pension system in Cyprus primarily consists of the following two pillars.

First pillar – social security pensions.

(a) The general social insurance scheme (GSIS), a compulsory earnings-related scheme which covers every person gainfully employed in Cyprus, both in public and private sector, including the self-employed.

(b) The social pension scheme, a non-contributory scheme providing minimum pensions to elderly residents of Cyprus, aged 65 and above, with no or low pension income that is below the level of the social pension. The social pension ensures universality in pension provision and its rate is equivalent to 81 percent of the full basic pension of the GSIS.

The first pillar also provides additional minimum-income protection to pensioners, which goes beyond the provision of the minimum pension within the GSIS and the social pension. Such provisions include:

- income support, which is provided to low-income pensioners through the scheme for the support of pensioners with low income,[144] a non-contributory income-tested scheme, and the Easter allowance,[145]
- the guaranteed minimum income (GMI), a means-tested top-up benefit which is provided to all persons/families with income below a minimum threshold.[146]

Second-pillar occupational pensions:

(a) the government employees pension scheme (GEPS), which provides supplementary pension benefits to their members;

[144] Pensioners with pension income below the poverty thresholds are entitled to a special allowance whose level is announced annually by the Ministry of Labour, Welfare and Social Insurance.
[145] Easter allowance is a non-contributory means-tested benefit given to eligible pensioners once per year.
[146] The level of the GMI benefit is estimated by the Ministry of Labour, Welfare and Social Insurance using reference budget methods and increases with the size of the recipient unit. Currently, the level is set at 480 EUR per month for a single person.

(b) the semi-government sector employees pension schemes, which provide supplementary pension benefits to permanent employees of semi-state utility organisations, local governments and other public law authorities; and

(c) the voluntary provident funds and other similar collective arrangements, set up on a single-employer or industry-wide basis, which provide defined-contribution lump-sum benefits to their members.

The backbone of the pension system is the GSIS. The GSIS was introduced in 1957 and reformed in 1964 and 1980. The 1980 reform converted the previous flat-rate contributions scheme to the current earnings-related insurance scheme. Participation in the GSIS is compulsory for every person employed in Cyprus and is financed with contributions paid by employers, employees and the government. The total contribution rate for employees is 20.2 percent (with an upper ceiling on insurable earnings which is annually revised) and is paid at 7.8 percent by the employee, 7.8 percent by the employer and 4.6 percent by the government. The contribution rate for the self-employed is 19.2 percent and is paid at 14.6 percent by themselves and 4.6 percent by the government. The total contribution rate is legislated to increase by 1.3 percentage points (p.p.) every 5 years up to 2039.[147]

The statutory retirement age is currently at 65 for both males and females, but early retirement at the age of 63 is possible if the applicant: (a) satisfies the stricter eligibility criteria on contributions; or (b) was entitled to invalidity pension immediately before reaching the age of 63; or (c) is between the ages of 63 and 65 and would be entitled to invalidity pension if they had not reached the maximum age for entitlement to an invalidity pension (63 years). However, there are financial disincentives (actuarial reductions in statutory pensions equal to 0.5% for every month included in the period between the date the person chooses to claim the pension (beyond age 63) and the age of 65) to discourage retirement before the age of 65; and there are financial incentives for prolonging working life until the age of 68 (postponement of pension entitlement comes with the benefit of increasing pension by 0.5% for each additional month of postponement). There are no special arrangements for workers in hazardous/arduous occupations with the exception of miners, for whom retirement is possible at the age of 58 in accordance with the number of years worked in a mine.

Pensions provided by the GSIS consist of a basic and a supplementary part and are calculated on the basis of the contributory period and the level of insurance points gained.[148] Specifically, for the statutory pension, the basic pension is set at 60 percent of the average of actual and assimilated basic insurable earnings over the relevant period (the period between 5 October 1964 (or the first day of the year of attainment of age 16, if later) and the week before the week of statutory pension entitlement). This rate increases to 80 percent, 90 percent and 100 percent if the beneficiary has one (spouse), two or three dependants, respectively. The supplementary pension is equal to 1.5 percent of the total insurance points (actual and assimilated) of the beneficiary in the supplementary part. The basic part is indexed to the annual increase of the basic insurable earnings, while the supplementary part is indexed to the consumer price index.

In addition to compulsory GSIS pensions, several employees and professional groups have also access to supplementary retirement income through occupational schemes.[149] The most important occupational pension scheme in terms of coverage is the GEPS. The GEPS provides pensions to central government employees, teachers, academics, police officers and personnel of the armed forces. The GEPS underwent drastic changes in 2011-2012, primarily driven by

[147] The next round of increases is scheduled for 1 January 2019.

[148] Each year, gross earnings up to a ceiling, which is indexed annually, (insurable earnings) are transformed to points by dividing by the value of the insurance points (for 2017 this value was set at EUR 9068). The first insurance point of each year refers to basic insurance while insurance points of more than one refer to supplementary insurance.

[149] According to administrative data, the latest available coverage rate of occupational pension provision is 39.1%.

fiscal sustainability concerns. Most importantly, as of 2011, participation in the GEPS has been closed for newcomers in the public sector. Employees of the semi-government sector also have access to smaller-coverage occupational schemes which provide the same or similar benefits as the GEPS. Access to occupational pension income is also available to certain categories of the self-employed (e.g. lawyers, doctors, dentists) who have set up and operate their own defined-benefit occupational schemes. In parallel, a large number of small provident funds[150] operate in the private sector, financed by employees and employers on a voluntary basis, typically offering lump-sum payments to their members upon certain contingencies (termination of employment, retirement, incapacity, death or dissolution of the fund). The relative importance of provident funds on retirement income is rather limited, as many of their members receive their entitlements before retirement (e.g. on termination of employment).

2. Reform trends

Reform trends

The pension landscape was extensively altered during the period 2009-2013. Most of the reforms that took place in that era were primarily driven by fiscal sustainability concerns and implemented either immediately or gradually over a long-term horizon. In principle, the future adequacy of the social security pensions was not affected negatively by the above reforms. The financial crisis following the 2013 events, affected negatively the second pillar of the pension system – occupational pensions; including for newcomers in the public and semi-government service, as well as several small provident funds which were dissolved. At the same time distrust towards financial collective arrangements dominated public opinion.

The considerable extent of the 2009-2013 legislative pension reform developments altogether left relatively limited space for further legislative initiatives in 2014-2017. During the latter period only a small number of marginal policy changes materialised, mostly aiming at making certain refinements in the pension system. These include minor modifications in the framework governing the operation of occupational pension schemes in 2014 and 2015, as well as amendments in the GSIS, such as the tightening of the eligibility criteria for widow's pension[151] in 2017 and, as of 1 January 2017, a 0.81 percent increase in the rate of the basic pension,[152] additional to the increase provided by the indexation mechanism.[153]

Important legislative initiatives are currently under preparation. The pertinent ministries are examining the possibility of reforming the legal framework that governs the operation of supplementary pension schemes. This potential reform is multifaceted and includes a variety of separate goals such as: the establishment of a new single independent authority for the supervising of insurance companies, occupational pension schemes and provident funds, for which a draft law has been prepared and is currently at the stage of consultation; and the introduction of a new scheme for covering public and semi-government sector employees who are not covered by the GEPS.

[150] According to administrative data, there were 1959 registered provident funds in 2014, of which approximately 41 percent have fewer than 10 members, 46 percent between 10 and 100 members and 13 percent have more than 100 members.
[151] Specifically, the criteria are made stricter so as to reduce marriages of convenience after retirement. The new legislation stipulates that in cases where the deceased had married after retirement, 5 years of marriage should have passed before widow pension eligibility is granted.
[152] The level of GSIS minimum pension and social pension was revised accordingly.
[153] Albeit this increase is small, it affects over 160,000 pensioners.

3. Assessment of adequacy

3.1. Current adequacy

3.1.1. General assessment of current adequacy

Before 2008, Cyprus was characterised by one of the highest AROP(E) rates among the elderly in Europe. However, after 2008, the AROPE rate for the 65+ and 75+ groups dropped sharply by 26.4 p.p. and 33.5 p.p. respectively, reaching 22.9 percent and 29.9 percent in 2016. A similar strong declining pattern is observed for the AROP rate; a 26.8 p.p. reduction for the 65+ group and 33.6 p.p. for the 75+ group over the same period. The above decreases in AROPE and AROP rates over the period 2008-2016 are the largest across all the Member States.

The sharp decrease of the risk of poverty among the elderly in Cyprus reflects an improvement in their relative income. In particular, the relative median income ratio (i.e. the ratio between the median equivalised disposable income of persons aged 65+ over the median equivalised disposable income of persons aged between 0 and 64) increased by 20 p.p. over the period 2008-2016, reaching 0.79 in 2016.

On the negative side, it should be noted that the current levels of AROP and AROPE remain at levels above the EU average, while income inequality among the elderly, as reflected by the S80/S20 indicator, also remains at relatively high levels. Compared with 2008, the aggregate replacement ratio (ARR) increased by 11 p.p. However, its current level (0.44) can still be considered rather low when compared with the EU average.

Pension payment duration (2012) in Cyprus is 20.9 years for men and 23.0 for women. Pension duration can be expected to slightly shorten over the short term due to the 2012-2013 reforms (e.g. introduction of actuarial reductions for early retirement), which are not yet reflected in the more recent data.

The overall picture is that poverty prevention improved significantly, income continuation improved moderately and pension duration will most likely decrease in the short term, albeit slightly. The improvement in most indicators (and especially poverty indicators) can be attributed to the following factors.

1. The maturation of the pension system. The current pension system was introduced in the 1980s and pensioners at the top end of the age scale retired before making enough contributions to be entitled to a full pension. Poverty among the elderly declines over time in proportion to the decline of the share of these retirees in the pensioner population.
2. The economic crisis affected mostly the income of non-pensioners through job losses and reductions in wages and benefits. This relative effect pushes poverty in old age downward, all other things being equal.
3. The anti-poverty effect of non-contributory policies supporting low-income pensioners. Most of these policies were kept intact during the crisis, while the transition from the public assistance to the GMI scheme[154] did not affect the income adequacy of older recipients. These policies mitigate poverty in old age (particularly its extreme forms).

Notwithstanding the large decrease in poverty in old age, gender disparities remain at high levels. In particular, the gender gap in pension income (65-79) reached 48.66 percent in 2006;

[154] Public assistance was abolished in 2014 and gradually substituted by the GMI scheme.

4.88 p.p. above the 2008 levels. The ARR for women stands at 0.38 compared with 0.53 for men (2016). Disparities in pension income result in differences in AROPE rates, which are especially high for women aged 75 or above, who to a great extent had not participated enough in the labour market and were covered by the less generous social insurance flat-rate scheme which was in force prior to 1980. Also, overall, gender differences in pensions reflect the following factors: (a) a higher incidence of career interruptions and non-standard forms of employment among women; (b) labour market inequalities and particularly gender pay gaps; and (c) higher life expectancy among women.

The current adequacy of pensions is undermined by the lack of universal access to a publicly funded healthcare system, even though the great majority of elderly people are currently covered by the existing public system for free, as well as the availability and affordability of long-term care services. The healthcare system is currently under reform and it is expected that the new national health insurance system, to be introduced in March 2019, will provide viable solutions. Statutory provisions of long-term care are limited and the majority of households rely on private spending or provision of care by family members. Having said that, low-income elderly people are fully covered by social care services through the GMI framework. On the other hand, current pension adequacy is complemented by extensive home-ownership, access to good housing conditions[155] and the prevalence of intergenerational solidarity, with parents supporting their children during the various stages of their life cycle and adult children supporting their frail elderly parents.

3.1.2. Redistributive elements of public pension schemes

Labour market inequalities (gender pay gap, career gaps, low pay, etc.) are transmitted to the pension system through insufficient contribution records resulting in pension disparities. There are certain elements of the social security pension system which help mitigating those inequalities, as follows.

1. Minimum income provisions – retirees with low or no contribution records can benefit from minimum income arrangements. Firstly, a specified level of minimum pension is payable to GSIS pensioners who satisfy certain minimum contributory requirements. Also, persons who do not fulfil the eligibility criteria for a GSIS pension can be entitled to a social pension. The social pension is an income-tested scheme, tested only against pension income, and effectively its aim has been to increase the financial autonomy of uninsured women (e.g. housewives), who currently represent the 97 percent of total beneficiaries of the social pension. In the context of the GMI framework, low-income pensioners of the GSIS and social pension scheme can top up their pension income through the scheme supporting pensioners' households with low income, as well as be entitled to a housing allowance and long-term care subsidy. These policies contribute decisively in limiting material deprivation as well as reducing the AROP rate.
2. Pension adequacy is preserved through an indexation mechanism. Effectively, the basic pension of the GSIS is indexed to wages and the supplementary part to price inflation. Although this mechanism offsets the erosion effect of price inflation, it does not guarantee that the income gap between the working and non-working population will not widen in view of the potential growth in jobs and wages. Yet, low-income pensioners are protected from wage growth since their pension income relies mostly on basic pensions. GSIS minimum pensions as social pensions are also indexed to wages.

[155] Housing deprivation among the elderly is uncommon in Cyprus. In 2016, only 1 percent of the population aged 65+ lived in overcrowded households, while the housing cost overburden rate stood at 1.9 percent, much lower than the EU average of 10.5 percent.

3. Pension credits help insured persons to partly offset the loss of contributions during certain periods of employment interruption. Assimilation of basic insurable earnings is possible for periods of full-time study (or approved training), military service in the National Guard, unemployment, incapacity for work (sickness, injury, maternity and paternity), parental leave as well as for periods of child-raising of up to 156 weeks. Assimilated insurance mitigates the effect of reduced labour market activity on pension disparities, although it does not cancel it.

There are also provisions for people forced to leave the labour market early (due to incapacity, disability or employment injury), derived rights (widow's pension and orphan benefits), while the basic pension and minimum pension under the GSIS as well as other social security benefits increase with the number of dependants of the recipient. Finally, it should be noted that there is a link between contribution and benefits under the GSIS as most of the provisions are earnings-related, while a maximum threshold is applied to earnings for the purpose of contribution payments.[156]

3.2. Retirement conditions for the self-employed and for people in non-standard employment

Retirement conditions for entitlement to GSIS pensions are the same for all categories of insured persons (employees, the self-employed and the voluntarily insured).[157] However, the rate of social insurance contributions and the method of calculation of insurable earnings differ between employees and the self-employed. The contributions of employees are calculated on their earnings (up to a certain ceiling), while the self-employed pay contributions on their notional income as estimated by compulsory minimum-income thresholds.[158] Those minimum-income thresholds are calculated as a multiple of the basic insurable earnings and vary according to the occupational category of the self-employed and level of experience. Currently, the thresholds vary from 1.5 times (farmers, fishermen, vendors and other unskilled workers) to 4.45 times the basic insurable earnings (doctors, lawyers, accountants, economists, pharmacists, real estate agents, merchant wholesalers with over 10 years of experience).[159] It is important to note that those income thresholds reflect an affordable level of income based on the capacity of the people belonging to each occupational category to contribute. That capacity is derived from earnings surveys and therefore from time to time those notional income thresholds are adjusted in line with the changes in the level of earnings of each occupational category.

Certain categories of the self-employed (e.g. doctors, dentists, lawyers) have access to supplementary retirement income through occupational schemes. However, the majority of non-standard employees, the dependent self-employed and other self-employed people rely solely on GSIS pensions as well as other social security pensions. There are no available national data or studies assessing the pension adequacy of these groups; however, there is international evidence pointing to the possibility that they face a higher risk of poverty after retirement. There is also some evidence that non-standard employees in Cyprus are underpaid in relation to comparable-standard employees, also resulting in differences in insurable earnings, which ultimately translate into pension disparities.

[156] In cases where the wage exceeds this threshold no contributions are calculated on the exceeding amount.
[157] Effectively, it is not possible to opt out of the scheme, while all categories of non-standard workers are included in it.
[158] The self-employed have the option to declare insurable earnings above these thresholds.
[159] Yet, there is the option to declare insurable earnings below these thresholds, provided that the insured self-employed are able to prove that their actual income is lower than the threshold corresponding to their occupational category.

3.3. Future adequacy and challenges

Theoretical replacement rates (TRRs) are expected to increase over the period 2016-2056. According to the baseline scenario (40 years up to standard pensionable age (SPA)) the net TRR for an average earner is expected to increase considerably by 5 p.p. (i.e. from 62% to 67%) for both genders. The corresponding increases for low and high earners are 3 p.p. (from 69% to 72%) and 6 p.p. (from 50% to 56%), respectively. According to the Ageing Working Group (AWG) estimates, which make country-specific assumptions about the average career length, the expected increase in net TRR is 7 p.p. for men (average-earner). The simulation exercise, further, shows that in the case of the increased SPA scenario, the net TRR will reach 72 percent in 2056 for both genders.

The prospective replacement rates for both genders under the scenario of 3-year career breaks due to unemployment or childcare show a relatively small effect on adequacy, primarily due to the pension credits of the GSIS. In general, the differences between current and prospective replacement rates for low- and high-earners, as well as from complete and shorter careers, show that the social security pension system will maintain its redistributive role in the future.

Despite the expected improvement in TRRs, the challenge of future adequacy of pensions is often publicly debated, especially with regards to those pensioners relying only on the first pillar of the pension system and who are not in the lower end of incomes. Several stakeholders have stressed that prospective pensioners should have access to supplementary pension income in order to secure an adequate retirement level. The government is currently working towards a reform of the institutional framework for occupational pensions by introducing best practice policies, as seen in European and international practice. A relevant decision of the Council of Ministers has been taken in September 2016. The main challenge is to achieve a consensus of the relevant stakeholders, i.e. the government, the employers and the beneficiaries of the schemes.

4. Main opportunities for addressing pension-related challenges

The most urgent challenges of the pension system (i.e. preserving sustainability and reducing the very high rates of elderly poverty observed in the past decade) have been addressed to a satisfactory degree. Notwithstanding the improvement in indicators, important challenges lie ahead.

1. The gains in the reduction of poverty in old age should not be taken for granted, but be actively defended and further expanded as there is still room for improvement; possibly through considering fiscally responsible ways of strengthening the adequacy of the social security pension system.
2. The pension gap between men and women stands at high levels. This inequity stems from gender inequalities in the labour market, which were particularly intense for older cohorts of women. Although women's presence in the labour market has strengthened over recent decades (likely narrowing the gender pension gap in the future), labour market interventions should be considered. Equally important is to assess whether there is a possibility of changing the parameters of the social security pension system aiming at mitigating the effect of labour market inequalities on pensions.
3. The long-term impact of the past reforms on the retirement paths of various vulnerable occupational/employment groups has not been assessed in a comprehensive manner and, consequently, not addressed. Currently, there are no special provisions for groups such as the dependent self-employed and non-standard

workers. Evaluating the potential of adjusting the pension system to cover the divergence in the needs of those people is a rather neglected area deserving more attention in Cyprus.

The main opportunities with the reform of the second pillar for pensions are for: a wider coverage of the population; better governance of the occupational pension funds, also necessitated by the implementation of IORP II; transferability of pension rights with a change of employer; and enhanced supervision and guidance for the sector through the newly established and fortified independent supervisory authority.

5. Background statistics – Cyprus

1. Relative incomes of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.79	0.86	0.77	0.20	0.23	0.20
Income quintile share ratio (S80/S20), 65+	4.8	5.2	4.3	0.20	0.30	0.10
Aggregate replacement ratio (ARR)	0.44	0.53	0.38	0.11	0.15	0.01

2. Poverty and material deprivation

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+ (%)	22.9	19.5	25.8	-26.4	-24.1	-28.2
At-risk-of-poverty (AROP), 65+ (%)	19.5	15.8	22.8	-26.8	-25.2	-27.9
Severe material deprivation (SMD), 65+ (%)	5.4	5.4	5.5	-5.5	-4.4	-6.3
At-risk-of-poverty or social exclusion (AROPE), 75+ (%)	29.9	21.8	36.3	-33.5	-39.3	-28.7
At-risk-of-poverty (AROP), 75+ (%)	27.8	19.4	34.4	-33.6	-39.4	-28.9
Severe material deprivation (SMD), 75+ (%)	4.4	3.7	5.0	-8.2	-9.3	-7.3
Relative poverty gap, 65+ (%)	14.3	13.2	15.1	-3.4	-2.5	-4.7
At-risk-of-poverty (AROP), 65+: 50% threshold (%)	8.6	6.1	10.7	-16.3	-13.4	-18.7
At-risk-of-poverty (AROP), 65+: 70% threshold (%)	34.2	30.4	37.5	-24.5	-21.8	-26.7
				Change 2014-2016		
Material and social deprivation, age 65+ (%)	10.8	10.2	11.3	-5.0	-2.6	-7.0

3. Gender differences

Indicator	2016	Change 2008-2016
	Total	Total
Gender gap in pension income (65-79) (%)	48.7	3.9*
Gender gap in non-coverage (W-M in p.p.) (65-79)	0.7	1.3*

4. Housing and health situation of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Population 65+ living in overcrowded households (%)	1.0	0.3	1.6	-0.4	-0.6	-0.2
Tenure status among people 65+: share of owners (%)	59.7	64.0	56.0	13.8	13.4	14.0
Housing cost overburden, 65+ (%)	1.9	1.8	2.0	-0.1	1.3	-1.2
Self-reported unmet need for medical care 65+ (%)	0.4	0.6	0.3	-2.0	-1.2	-2.6
Healthy life years at age 65 (years) **		8.4	7.3		-0.7	-0.3

5. Pension duration

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Pension payment duration (2012) (years)		20.9	23.0			
Retirement duration (AWG) (years)		19.5	22.2		20.7	24.4

Data source: (1) (2) (3) (4) Eurostat, Sept-Oct 2017 (5) European Commission

*Notes: * - there were breaks in time series (2008 data); ** - 2015 data.*

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net (%)				Gross (%)			
		2016		*2056*		*2016*		*2056*	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Variant: old base case: 40 years up to 65	62.0		n.a.		56.0		n.a.	
	New base case: 40 years up to the SPA	62.0		67.0		56.0		59.0	
	Increased SPA: from age 25 to SPA	62.0		72.0		56.0		64.0	
	AWG career length case	60.0	57.0	67.0	n.a.	54.0	53.0	59.0	n.a.
	Longer career: 42 years to SPA			70.0				62.0	
	Shorter career: 38 years to SPA			64.0				56.0	
	Deferred exit: 42 years to SPA +2			70.0				62.0	
	Earlier exit: 38 years to SPA -2			57.0				50.0	
	Career break – unemployment: 3 years			63.0				56.0	
	Career break due to childcare: 3 years			62.0**				56.0**	
	Career break caring for family dependant: 3 years			62.0				55.0	
	Short career (20-year career)			45.0				40.0	
	Work 35 years, disabled 5 years prior to SPA			59.0				52.0	
	Early entry in the LM: from age 20 to SPA			79.0				69.0	
	Index: 10 years after retirement @ SPA			61.0				52.0	
	Extended part-time period for childcare			57.0**				51.0**	
	Pension rights of surviving spouses				75.0				67.0
Low (66%)	Variant: old base case: 40 years up to 65	69.0		n.a.		64.0		n.a.	
	New base case: 40 years up to the SPA	69.0		72.0		64.0		64.0	
	AWG career length case	68.0	70.0	72.0	n.a.	62.0	65.0	65.0	n.a.
	Career break – unemployment: 3 years			70.0				63.0	
	Career break due to childcare: 3 years			74.0**				.67.0**	
	Short career (20-year career)			52.0				47.0	
High	New base case: 40 years up to the SPA	50.0		56.0		40.0		44.0	

7. Sustainability and context

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65 (years)	20.1	19.0	21.3	23.9	22.7	25.1
Old-age dependency ratio (20-64) (%)	24.3	23.2	25.2	53.9	47.4	60.5
Economic old-age dependency ratio (15-64) (%)	33.3	28.8	38.2	61.5	50.1	73.8
Employment rate, age group 55-64 (%)	52.3	61.6	43.2	69.7	74.4	65.5
Pension expenditure as % of GDP (ESSPROS)	10.9*					

Data source: (6) Member State and OECD; (7) European Commission, DG ECFIN

*Notes: * - 2015*

Latvia (LV)

Highlights

- The share of older people at-risk-of-poverty or social exclusion (AROPE) is high and growing. Minimum pensions are very low and have been frozen since 2006. The current income replacement rate is one of the lowest in the EU and projected to remain so in the long run.
- To avoid a repetition of negative valorisation of pension rights during a downturn, the 2015 reform smoothed pension accrual over the economic cycle. The reform has improved inter-cohort equality and resulted in a significant increase of pensions granted in 2010-2015.
- The importance of the funded pillars in old-age income provision is constantly growing. To address the disproportionately high management fees, they were capped in December 2017.
- Effective social safety nets and targeted social benefits and services for the elderly need to be implemented.

1. General description of the national pension system

The old-age pension system consists of a state-administered mandatory notional defined-contribution (NDC) scheme, a mandatory statutory funded defined-contribution (DC) scheme and voluntary supplementary pensions. Pillar I is a pay-as-you-go (PAYG) NDC scheme. The amount of the individual pension from pillar I is determined by lifetime contributions paid into the scheme thus accumulating the individual's notional pension capital. For years of service prior to 1996, notional capital is calculated on the basis of the wage history in 1996-1999 (for those who had low wages in 1996-1999 but have at least a 30-year insurance record, the basis is the country's average insured wage in the reference period).

To calculate the individual amount of annuity at retirement, the individual pension capital is divided by the gender-neutral average life expectancy at the age when the pension is claimed (G-factor). In this manner, the Latvian pension formula automatically links the amount of the assigned pensions to longevity changes. Thus, the G-factor for the age of 62 years has increased from 18.50 in 2014 to 18.96 in 2017. That means that persons of the same age and with the same amount of accumulated pension capital who retired later receive lower monthly pensions. The notional pension capital is annually valorised based on the national wage bill growth, meaning it is affected by the size of the labour force, i.e. fewer working people mean lower valorisation. Pension entitlements are thus affected by demographic changes twice: through valorisation of pension rights during accrual and through benefit calculation upon claiming a pension.

The pensionable age in the mandatory pension system is set to increase from 62 to 65 by 2025 by 3 months every year (starting from 2014). In 2017 it was 63 years for both men and women. The minimum insurance period to qualify for an old-age pension is set at 15 years and from 2025 it will be raised to 20 years. Early retirement is possible 2 years before statutory pensionable age provided the applicant has a minimum 30-year insurance record. During early retirement (i.e. before reaching the statutory pensionable age) the pension is paid at the level of 50 percent of the calculated pension amount. Early retirement is more widespread among women: 16.4 percent of newly granted old-age pensions in 2017 were early, compared with 12.5 percent for men. Pensioners, except early retirees, may combine receiving a full pension with income from work that also gives entitlement to a periodic recalculation of pension benefit. Many Latvian pensioners are using this opportunity.

Pillar II is a statutory funded DC scheme, launched in 2001. Pillar II is mandatory for those born after 1 July 1971. The vast majority of all those born between 1 July 1951 and 30 June 1971 who had the right to join the pillar voluntarily have exercised this right. On 30 October 2017, there were 1.272 million members of the state-funded pension scheme and the total worth of assets was c. EUR 3.200 billion. At the same time, a significant proportion of the members are inactive, i.e. have not made a single payment into the scheme throughout a year: in 2016 inactive members made up 22.2 percent (2015 – 21.8%, 2014 – 20.4%). Since 2009, the proportion of active participants has not exceeded 80 percent, while before the 2008 crisis it was at 87-89 percent. The large proportion of non-active participants is due to massive emigration. The benefit is accrued by transferring part of the social insurance contributions to one of nine mandated asset managers offering 23 pension plans of three various risk profiles: active, balanced and conservative. At the time of retirement, the accumulated capital can be converted into an annuity either by adding it to the first-pillar notional capital or by purchasing a life pension insurance policy.

Pillar III is voluntary: any person and employer can make contributions to a private pension fund – six funds offer 18 pension plans. In June 2017, pillar III covered 28.5 percent of the economically active population and was predominantly financed from own contributions, with less than 20 percent of all contributions made by employers, and the assets equalled EUR 410 million (7.8 times less than pillar II assets). The share of inactive members is higher than in mandatory funds: 29.5 percent made no contributions in 2016 (30.3% in 2015, 33.5% in 2014). 16 percent of all assets belong to one pension plan covering just 4.6 percent of participants. This is the only 'closed' pension fund in Latvia for employees of three state-owned shareholding companies, with employer contributions; therefore, it can be considered as a sort of occupational pension.

Under transitional rules, persons who were employed in arduous or hazardous jobs before 1996 continue to benefit from favourable early retirement conditions (no reduction, possibility of combining early pension with work income). Thus, this is an outgoing provision.

2. Reform trends

The major reform in pillar I concerned notional capital valorisation indices, which are based on the wage bill index (WBI). The impact of the crisis (emigration, wage cuts, sharp rise in unemployment) resulted in a negative pension capital valorisation for 3 successive years (2009-2011), highlighting the risks associated with this approach. In June 2015, the parliament passed amendments to the Law on State Pensions introducing additional rules for calculating annual indices. The index will not be allowed to fall below 1 (nor rise above 1.15). When growth resumes, the index will be kept at 1 as long as needed to offset the freeze during the downturn. The law has a retroactive effect, resulting in a recalculation of all pensions granted in 2010-2015. The positive (i.e. above 1) index was achieved only from 2016, while during the preceding seven consecutive years (2009-2015) zero valorisation was applied to notional pension capital.

This reform has considerably improved inter-cohort equality, and brought about a significant increase in pension benefits to those affected by the negative indices.

Changes in pension indexation rules took place in 2017. The role of the real growth of the WBI is enhanced: starting from 2017, indexation ratio (IR) = consumer price index (CPI) + 0.5 of real growth of WBI (instead of 0.25 of real growth of WBI before). In 2018 new amendments to indexation rules for old-age pensions are coming into force: the indexation ratio will be made dependent on the length of insurance record to remunerate persons with longer working careers. For those with 30-39 years of insurance or arduous or hazardous work record, IR = CPI + 0.6 of real growth of WBI; and for those with more 40 years, IR = CPI + 0.7 of real growth of

WBI. According to the estimates of the Ministry of Welfare, these amendments will apply to 90 percent of all pensioners. The same legislative act prescribes increase of pensions to those retired according to the previous pension law, i.e. before 1996 (who are mostly older than 80 years now). Until now, these pensioners received a monthly EUR 1 supplement for each year of service until 1996 – from 1 July 2018 this amount is increased to EUR 1.50. Thus, a person with 30-year service record before 1996 would receive not a EUR 30, but a EUR 45 supplement per month.

Pillar II mandatory pension funds offer three types of pension plan: active, balanced and conservative, depending on the investment strategy. For active plans the permitted share of stocks in their portfolio is capped at 75 percent from 2018. The total number of plans remained stable in 2014-2016: eight active + four balanced + eight conservative, while some movement in the market was observed in 2017 when three new active pension plans were introduced. The competition, however, is still low and the average nominal return rates – 5.24 percent in 2014, 1.93 percent in 2015 and 2.02 percent in 2016 – are below those in many other Member States. In Latvia, pension fund managers have been able to levy high fees for managing the assets. The problem was recognised by decision-makers and, starting from 2015, the fees were split between 'constant rate' and 'variable rate' and linked to fund performance. The caps remained high though: 1.5 percent of the asset value for conservative plans and 2 percent for others. This reform did not reduce the fees: in 2013-2014 (i.e. before the reform) the average management fee was equal to 1.52 percent (in 2015, 1.46%; in 2016, 1.56%).[160] The 2017 newcomers were offering considerably lower fees to attract clients. The most recent amendment (proclaimed on 6 December 2017) provides for a lowering of the constant fee caps to 0.6-0.4 percent dependent on the amount of fund assets and significantly reduces the variable fee in 2018-2019.

The ability of the private pension funds to ensure an adequate supplement to PAYG pensions raises concerns. The authors of an annually updated pension savings report from the European Federation of Investors and Financial Services Users, having analysed the performance of Latvian mandatory pension funds since the commencement of their operation in 2003, conclude that delivered real returns are negative, and most of the pillar II pension funds were not able to beat inflation.[161]

Despite the increase of living costs, there was no development in the minimum pension amount: it remains unaltered since 2006 and equals EUR 70.43-108.85 per month depending on the length of insurance record. In 2016, the average record of those retiring with a minimum pension was 22.2 years and the amount of newly assigned minimum pensions was EUR 79.44 (2015, 22.6 years and EUR 80.62; 2014, 22.6 years and EUR 81.70). According to the presently discussed proposals of the Ministry of Welfare, the minimum pension levels may be raised in 2019, by approximately 47 percent. On the one hand, this is a considerable increase and will be of help to the needy. On the other hand, even with such an increase the minimum levels would remain below the poverty line.

Another change to come into force from 2018 is the increase of income tax allowance for pensions. Presently it amounts to EUR 235 (it has not been revised since the introduction of a special tax allowance for pensioners in 2009), but from 1 January 2018 it will be raised to EUR 250, from 1 January 2019 to EUR 270, and from 1 January 2020 to EUR 300. At the same time, the base rate of the tax will be reduced from 23 percent to 20 percent.

The current political debates on pension issues are focusing on: (a) the possibility of inheriting pension capital accumulated in pillar II funds should the insured person die before reaching pensionable age (presently it is transferred to the social budget); (b) the possibility of

[160] Financial and Capital Markets Commission.
[161] *Better Finance. Pension Savings: The Real Return/2017 edition*.

transferring part of social contributions for the contributor's parents' pensions; and (c) limiting/expanding service pensions. The expansion of service pensions has afforded to a growing number of public employees higher benefits than those produced by the general pension formula – the average newly assigned old-age pension in 2016 amounted to EUR 320 while the average newly assigned service pension was EUR 570. The average age of granting a service pension was 51 in 2016, and the absolute majority of service pensioners continue to work. The development of the service pension scheme is not based on NDC principles; the pension amount is not contribution-based. Sometimes there is a lack of clear criteria for the award of service pensions, as pointed out in a report of the State Audit Office on the functioning of the pension system in the spring of 2017.

3. Assessment of adequacy

3.1. Current adequacy

3.1.1. General assessment of current adequacy

The AROPE rate of older persons is among the highest in the EU. The AROPE rate in 2016 was 43.1 percent in the 65+ age group and 49.1 percent in the 75+ group. Old women were more exposed to the risk of poverty than old men, with more than a half of all women above 75 years (53.7%) being in the at-risk group. Mostly, these are those retired before 1996 under the previous pension law which produced very low benefit amounts further devalued by low indexation.

The relative median income ratio (65+) is the second lowest in the EU: 0.63 compared with 0.92 in EU-28. Since 2008 it has improved by 0.1 (from 0.53), but looking at the figures more closely one can find that the highest rates were observed in 2011-2012 (0.86 and 0.80 respectively), which was not the sign of a fast improvement of pensioners' wellbeing, but of a rapid deterioration of working-population incomes. Thus, although the average European indicator showed stable growth by 0.01-0.02 per year, in Latvia we see an increase from 0.53 to 0.86 from 2008 to 2011, and then a roll back to 0.63 by 2016. For further perspective, one could look back before 2008 (when the economy was overheated); in 2006, the ratio equalled 0.67.

Considering the two components of AROPE: severe material deprivation (SMD) and the at-risk-of-poverty rate (AROP), the following inference can be made: material deprivation is decreasing much more successfully than relative poverty risk. In total, during the period 2006-2016, the number of the elderly exposed to the risk of poverty or social exclusion has decreased by 29,000 (or 8.8 percentage points (p.p.)); meanwhile the number of severely materially deprived elderly persons has been cut 2.5 times – from 142,000 to 57,000. However, the number of relatively poor seniors with incomes lower than 60 percent of the median has conversely risen by 32,000. This is definitely due to the fact that the very threshold has grown 2.5 times during this period of time: from EUR 127 to EUR 318.

The threshold was growing quite unevenly though, following the overall dynamics of wages and employment: a fast (more than twofold) increase in pre-crisis 'fat' years, with a subsequent sharp decline in 2010-2011 and a return to pre-crisis levels only in 2015. High AROP rates have returned also, although not so record-breaking as in 2008-2009.

In contrast to the EU-28 average, in Latvia the greatest part of the AROPE rate was constituted by SMD in 2006-2007 and 2010-2014: in 2011 the SMD rate was responsible for 88 percent of the aggregate AROPE rate. That means that unlike the majority of the EU countries, in Latvia the relative poverty threshold was very close to the absolute one. With the AROP threshold being EUR 318 in 2016 the average pension was only EUR 280, and 74.3 percent of all old-age pensioners had pensions below EUR 320 in December 2016.

Income inequality among those aged 65+ in Latvia is among the highest in the EU: the S80/S20 (65+) being 4.6 compared with the EU-28's 4.1. Income differentiation is more pronounced among men than women. Compared with 2008 (when the ratio was 5.6), the situation seems to having improved considerably, but looking back to 2006 we'll find the same 4.6, while the lowest ratios were observed in 2011-2012 – 3.6 and 3.7 respectively, which were well below EU averages.

The aggregate replacement ratio (ARR) in Latvia is one of the lowest in the EU: 0.42 as opposed to 0.58 in EU-28 – inadequately low especially taking into account the low basis for replacement. The choice of reference year can make a significant difference when observing medium-term trends. 2008 was the year with the lowest ARR ever (0.30), while 2006 demonstrated 0.49. The highest ARR in the last decade was observed in 2011 – 0.53, and since that time is decreasing with each year.

Gender differences in Latvia are less pronounced than the average for the EU: the gender gap in pension income (65-79) is 15.43 percent compared with 37.22 percent in the EU-28. However, there is a strong gender difference in terms of poverty, with an AROP rate for women at 42.9 percent vs 28.4 percent for men. The gap in coverage is practically negligible – 0.6 percent in favour of women. The gender difference is also strong concerning the current and foreseen old-age dependency ratios, highlighting a higher risk of poverty for women.

But the topic that is very painful for Latvia is the health situation of the elderly: healthy life years at age 65 are less than half the EU average: 4.1 men/4.0 women in Latvia compared with 9.4 for both sexes in EU-28 on average. On self-reported unmet need for medical care (65+), Latvia again is among the outliers with 12.6 percent as against 3.5 percent in EU-28. Although the share of those who have reported their medical needs unmet has decreased by 3.8 p.p. from 2008, healthy life years have shortened during the same period by 0.7 years for men and 0.9 years for women.

3.1.2. Redistributive elements of public pension schemes

The Latvian pension system includes a comparatively limited number of intra-generational redistributive elements, since individual accounts for pension capital accumulation are used both in the funded and PAYG pillars. Having reached the pension age, individuals convert this financial and non-financial capital into an annuity by dividing by cohort unisex average life expectancy. Whereas the gender gap in life expectancy is the third widest in the EU, usage of the unisex average is significantly beneficial to women, especially considering that their lifelong earnings are lower (at the age of 63 – the statutory pension age – female life expectancy in Latvia is 5.1 years longer than the male one (20.4 to 15.3), which is almost 50% larger than the average EU-28 gap of 3.5 years (22.9 to 19.4)).

To a certain extent, a redistribution effect is achieved through minimum pensions for those pensioners whose earnings-based entitlement is lower than the (already very low) minimum amount, which depends on length of service: from EUR 70.43 to those with fewer than 21 years of service to EUR 108.85 to those having more than a 40-year record. In 2016 10 percent of all newly granted pensions were minimum pensions (2015: 11%, 2014: 14%).

On the opposite side of the scale, there are no ceilings for pensions, although the insured amount of the annual wage is capped. The income ceiling for social insurance contributions is approximately six times higher than the average insured wage: in 2017 the yearly limit was set at EUR 52,400. The income ceiling had been suspended between 2009 and 2013 as a revenueboosting measure during the crisis and was reintroduced in 2014. In May 2017, there were c. 1700 persons with pensions above EUR 1500, or 0.4 percent of all pensioners.

Redistribution is also found in the treatment of the pre-reform service record, which allows a relatively high theoretical replacement rate (TRR) for low-earners with a long service record – 59.1 percent gross (79.1% net) TRR in the base case in 2016.

Elderly persons falling short of the required insurance record, i.e. 15 years, are eligible for a social assistance pension, called 'state social security old-age allowance' amounting to EUR 64.03 per month. The allowance is not subject to indexation, its amount is discretionary (decided by the government) and has not been revised for 12 years already, since 2006. Starting from 2017, the eligibility age for the old-age allowance was equalised with the statutory pensionable age. Until then, to receive this allowance, it was 5 years above the pensionable age. This caused a rapid increase in the number of recipients of this allowance: 534 in 2014; 515 in 2015; 534 in 2016; and 1079 by October 2017. The allowance amount is planned to be increased in 2019 in order to make it equal to 20 percent of the median equivalised income (the preliminary figure is set at EUR 94), but this line is still two times lower than the AROP threshold.

3.2. Retirement conditions for the self-employed and for people in non-standard employment

In Latvia, the scope of social protection coverage for non-standard contractual workers and for the self-employed depends mainly not on the type of their contract, but on their insured income. The self-employed with insured income equal to or above the minimum wage are insured against most social risks, including old age. The self-employed with insured income below the minimum wage are insured but pay only 5 percent contributions to the NDC pension insurance (2018). Old-age pensions are included into state social insurance for all categories of employees with no exclusions and persons may not opt out of the compulsory scheme. About one third of all employed people (in all types of employment and tax regimes) pay social insurance contributions from amounts below the minimum wage. Whereas the individual's pension is linearly proportional to lifetime contributions, their accumulated pension capital is very low which will result in very low pensions in due course. However, this result would not be seen on an individual level in the near future, since those who retire today and in the next 3-5 years as a rule have a sufficient pre-reform service record.

This is also the case for part-time employees: they are accumulating relatively low pension capital on their notional accounts, and given the absence of any basic pension component and a very low statutory minimum pension level, their old-age pension benefits will be very low in future.

3.3. Future adequacy and challenges

The projected TRRs place Latvia among the countries with the lowest replacement rates in 40 years from today: the gross replacement rate for the base scenario with a 40-year uninterrupted working career is expected to reduce by 6.4 p.p. The reduction for low-wage earners is at the same time much more substantial – by 19.2 p.p. – than for high-wage earners – by 9.1 p.p. Indexation rules would not save pension benefits from devaluing: in 10 years after retirement the base case net TRR falls by 5.7 p.p.

Demographic projections return dangerously high old-age dependency ratios: while today the old-age dependency ratio in Latvia is just slightly above the EU average, 32.3 percent compared with 32.0 percent, after 40 years it is anticipated to more than double to 72.9 percent (which is the second highest figure in the EU-28) and would be far ahead of the average EU level of 56.6 percent.

The Latvian pension formula automatically links the amount of the assigned pensions to demographic changes: with growing life expectancy, persons of the same age and with the same amount of accumulated pension capital who retire later receive lower monthly pensions. Aside from that, the notional pension capital is annually valorised based on the national wage bill growth, meaning it is affected by the size of the labour force, i.e. fewer working people means lower valorisation. Pension entitlements are thus affected by demographic changes twice: through valorisation of pension rights during accrual and through benefit calculation upon claiming a pension. The size of the labour force is also influencing indexation of pensions in payment.

The effect of the increases in the qualifying period (15 years from 2014 and 20 years from 2025) should be closely monitored. Taking into account the turbulence in the labour market in the 1990s after the collapse of the Soviet-type economy and the persistently high shadow economy afterwards, coverage might become an issue, as the incidence of cases with an insufficient contribution record will certainly grow. Thus, the base case with a 40-year uninterrupted career seems to be unattainable for most of the population.

4. Main opportunities for addressing pension-related challenges

The NDC pension system has few intra-cohort redistribution mechanisms, against the background of high income inequality. The poverty-prevention capacity of the pension system could be improved either by introducing a flat non-contributory component into the pension formula ('basic pension') or by increasing the minimum pension.

Although Latvian authorities had recognised the need for minimum pension provision improvement, the implementation of most measures is still pending. The action plan on improvement in minimum income support for 2018-2020, submitted to the government in April 2017, envisages *inter alia* adjusting pension indexation for old-age persons with a long insurance period in 2018 and increasing the minimum old-age pension in 2019. The plan has not yet been approved in its entirety, although several policy measures have been put in place (see Section 2). However, it is already clear that the planned measures would be insufficient to substantially reduce AROPE rates among the elderly. There are steps in the right direction, such as the anticipated increase in the minimum pension and state social security old-age allowance amounts, as well as the income tax exemption increase scheduled for 2018, a pension increase for the oldest pensioners and revised indexation rules beneficial to pensioners with longer service records. However, the generosity and the amplitude of these steps are very limited and would not bring the poorest pensioners above the poverty threshold.

The Latvian government also in spring 2017 commissioned OECD pension experts to carry out a comprehensive assessment of the Latvian pension system and elaborate recommendations for its improvement. Earlier in 2016, the OECD raised concerns about the future social sustainability and adequacy of Latvian pensions, seeing the major risks in significant income gaps, low projected replacement rates, high operational costs in pillar II and pillar III privately managed pension funds, and the poor financial literacy of population. They suggest strengthening redistributive elements in the system, shortening minimum contribution periods and increasing minimum pension benefit amounts.[162]

[162] OECD (2016). *OECD Reviews of Labour Market and Social Policies: Latvia 2016*, OECD Publishing, Paris. http://www.oecd.org/latvia/oecd-reviews-of-labour-market-and-social-policies-latvia-2016-9789264250505-en.htm.

In the existing Latvian pension scheme, the risks of the contemporary globalised economy have been transferred onto taxpayers, minimising the responsibilities of the state and pension fund managers. Social protection services rendered at local (municipal) level are becoming more important in this context, so effective social safety nets and targeted social benefits and services for the elderly need to be implemented to offset the shortages of the mandatory public pension scheme.

5. Background statistics – Latvia

1. Relative incomes of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.63	0.67	0.61	0.1	0.07	0.1
Income quintile share ratio (S80/S20), 65+	4.6	4.9	4.5	-1	-0.4	-1.1
Aggregate replacement ratio (ARR)	0.42	0.40	0.43	0.12	0.15	0.09

2. Poverty and material deprivation

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+ (%)	43.1	33.5	47.8	-15.7	-18.6	-14.3
At-risk-of-poverty (AROP), 65+ (%)	38.1	28.4	42.9	-13.9	-16.9	-12.3
Severe material deprivation (SMD), 65+ (%)	14.9	11.6	16.5	-13.8	-11.7	-14.7
At-risk-of-poverty or social exclusion (AROPE), 75+ (%)	49.1	37.1	53.7	-18.4	-28.5	-14.4
At-risk-of-poverty (AROP), 75+ (%)	44.0	31.4	48.9	-16.2	-27.9	-11.6
Severe material deprivation (SMD), 75+ (%)	15.6	11.5	17.2	-15.9	-15.8	-15.8
Relative poverty gap, 65+ (%)	20.4	18.9	20.5	-5.9	-0.5	-8.6
At-risk-of-poverty (AROP), 65+: 50% threshold (%)	22.9	15.6	26.4	-14.3	-11.8	-15.5
At-risk-of-poverty (AROP), 65+: 70% threshold (%)	51.4	44.5	54.7	-7.2	-7.6	-7.1
				Change 2014-2016		
Material and social deprivation, age 65+ (%)	29.8	24.0	32.6	-10.7	-10.4	-10.9

3. Gender differences

Indicator	2016	Change 2008-2016
	Total	Total
Gender gap in pension income (65-79) (%)	15.43	-0.8*
Gender gap in non-coverage (W-M in p.p.) (65-79)	-0.6	0.7*

4. Housing and health situation of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Population 65+ living in overcrowded households (%)	26.4	20.1	29.5	-13.7	-12.9	-14.0
Tenure status among people 65+: share of owners (%)	86.3	89.0	85.0	-0.9	0.6	-1.6
Housing cost overburden, 65+ (%)	9.5	5.2	11.6	-6.9	-4.5	-8.1
Self-reported unmet need for medical care 65+ (%)	12.6	10.3	13.7	-2.8	-1.7	-3.3
Healthy life years at age 65 (years) **		4.1	4.0		-0.7	-0.9

5. Pension duration

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Pension payment duration (2012) (years)		16.0	23.5			
Retirement duration (AWG) (years)		17.5	20.7		19.7	23.7

Data source: (1) (2) (3) (4) Eurostat, Sept-Oct 2017 (5) European Commission

*Notes: * - there were breaks in time series (2008 data); ** - 2015 data.*

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net (%)				Gross (%)			
		2016		*2056*		*2016*		*2056*	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Variant: old base case: 40 years up to 65	67.2		51.1		52.0		39.9	
	New base case: 40 years up to the SPA	61.0		51.1		46.3		39.9	
	Increased SPA: from age 25 to SPA	58.0		51.1		43.5		39.9	
	AWG career length case	61.5	62.5	55.2	53.1	46.7		43.5	41.7
	Longer career: 42 years to SPA			53.1				41.7	
	Shorter career: 38 years to SPA			49.0				38.1	
	Deferred exit: 42 years to SPA +2			56.6				44.8	
	Earlier exit: 38 years to SPA -2			49.0				38.1	
	Career break – unemployment: 3 years			48.5				37.9	
	Career break due to childcare: 3 years			49.5				38.6	
	Career break caring for family dependant: 3 years			47.2				36.9	
	Short career (20-year career)			29.4				19.4	
	Work 35 years, disabled 5 years prior to SPA			51.1				39.9	
	Early entry in the LM: from age 20 to SPA			56.9				44.4	
	Index: 10 years after retirement @ SPA			45.4				35.4	
	Extended part-time period for childcare			45.1				35.2	
	Pension rights of surviving spouses								
Low (66%)	Variant: old base case: 40 years up to 65	86.9		54.0		66.4		39.9	
	New base case: 40 years up to the SPA	79.1		54.0		59.1		39.9	
	AWG career length case	79.8	81.3	58.1	56.1	59.7	61.1	43.5	41.7
	Career break – unemployment: 3 years			51.3				37.9	
	Career break due to childcare: 3 years			52.3				38.6	
	Short career (20-year career)			26.3				19.4	
High	New base case: 40 years up to the SPA	47.3		33.8		38.0		28.9	
	Average replacement rate across retirees								

7. Sustainability and context

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65 (years)	17.0	14.2	18.9	22.0	19.9	24.0
Old-age dependency ratio (20-64) (%)	32.3	21.8	42.2	72.9	60.5	85.4
Economic old-age dependency ratio (15-64) (%)	40.7	26.2	54.9	84.5	69.4	99.8
Employment rate, age group 55-64 (%)	61.4	61.3	61.4	64.7		
Pension expenditure as % of GDP (ESSPROS)	7.3					

Data source: (6) Member State and OECD; (7) European Commission, DG ECFIN

*Notes: * - 2015*

Lithuania (LT)

Highlights

- The Lithuanian pension system is not effective enough at protecting the elderly population against poverty and social exclusion. The at-risk-of-poverty or social exclusion (AROPE) rate for older people is among the highest in the European Union.
- The indexation of pension benefits on the basis of the sum of wages and the increased contributions period for the full pension from 2018 could have a negative impact on pension adequacy because of the decreasing number of employees and will negatively affect those with shorter careers.
- Recent reforms are likely to positively influence long-term sustainability but do not solve the problem of low current and future pension adequacy.
- The government should strengthen financing of both statutory pension schemes. A possible way forward would be to locate 'general' (basic) components of social insurance pensions in the state budget, to involve employees and employers in financing funded pension schemes, instead relying on contributions from public funds and channelling these contributions to social insurance pension.

1. General description of the national pension system

Lithuania's old-age pension system consists of five components. Their modes of financing and relative importance in the overall pension package vary greatly.

There are three types of public unfunded defined-benefit (DB) pension schemes: statutory pensions (hereafter named as social insurance pensions or the first-pillar pension scheme), social pensions, and state pensions.

The social insurance pensions scheme is the most important in terms of coverage and provision of income in old age. The system is financed by employers, employees and contributions of the self-employed on a pay-as-you-go (PAYG) basis. It is designed to replace part of work income when an insured person retires (or becomes disabled or dies). The pension benefit consists of two components. First, the 'general' (basic) component amount is calculated only on the basis of the contributory period. The 'individual' (supplementary) component is earnings-related. Working pensioners combine a social insurance pension with income from work without any deductions. There are no exceptions in the pension benefits formula or in contribution periods for those workers who were involved in arduous jobs. In 2017, the retirement age was 63.5 years for men and 62 years for women. The contribution period for a full pension is 30 years for men and women.[163] Early retirement social insurance pension is paid to persons who have completed the contribution period for a full pension and are within 5 years of retirement age. The rate of payment is the old-age pension benefit, minus 0.4 percent for each month prior to the pension age in which they receive this early old-age pension. The reduced pension amount is paid for the full period of retirement.

State pensions are public unfunded supplements to the social insurance pension scheme. They are granted mainly to two rather large groups of the population. The first group includes post-war anti-Soviet resistance fighters and people who have suffered from the former Soviet regime. The second group are military and police officers, judges, scientists, artists, and some

[163] Law Amending the Law of the Republic of Lithuania on State Social Insurance Pensions No I-549, adopted on 29 June 2016. Available online at: https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/b79c4442bd4a11e6a3e9de0fc8d85cd8?jfwid=-ji9gt565y.

other smaller professional groups. As they are covered by the social insurance pension scheme, state pensions provide supplementary income protection.

The social assistance pension is designed as a minimum-income pension for those not protected by social insurance pension schemes. Social assistance pensions are paid to the elderly or disabled persons who were not able to acquire social insurance rights because of an insufficient contribution record or their social insurance rights are below the social assistance pension level. Most receivers of this pension are disabled people from childhood. The social assistance pension is not means-tested but therefore pension income-tested.

There are two types of funded defined-contribution (DC) pension schemes in Lithuania: the statutory funded pension scheme and the supplementary personal pension scheme.

The statutory funded pension scheme (named as the second-pillar pension scheme in Lithuania) is a fully funded DC scheme.[164] The statutory funded pension scheme is administered by private fund managers. It is financed in two modes depending on the choice of participants: first, only by parts of the obligatory pension insurance contributions (2% of the participant's wage); second, by these contributions and extra voluntary contributions of the participant (2% of the participant's wage) and a state budget subsidy (2% of the country's average wage). Participants can join the scheme voluntarily, but there is no way to exit the scheme until retirement age. About 800,000 out of 1,350,000 of employees are transferring part of social insurance contributions to the statutory funded pension scheme.[165] As the scheme will mature only in two or three decades, it does not play any role in the income protection of the current old-age population.

The personal pension scheme (named as the third-pillar pension scheme in Lithuania) is a fully funded DC scheme. It is financed by individual voluntary contributions, which are tax-deductible. Access to this scheme does not depend on the type of employment, nonetheless some employers are involved in making contributions to personal pension schemes as these contributions are treated as costs and are deducted from taxable profits. It is the smallest component in the overall pension package. The coverage is only about 4 percent of the working population.[166]

There is no occupational pension scheme in Lithuania, despite the fact that the Law on Occupational Pensions was adopted in 2006 (No. X-745) in order to implement Directive 2003/41/EC on the activities and supervision of institutions for occupational retirement provisions.

2. Reform trends

The social insurance pension scheme was not reformed until the beginning of 2018, with the exception of the continued raising of the statutory retirement age. Until 2012, the statutory retirement age was 62.5 years for men and 60 years for women. From January 2012, it started to increase by 2 months per year for men and by 4 months per year for women, aiming to achieve 65 years for both men and women in 2026. In 2017, the retirement age reached 63.5 year for men and 62 years for women.

[164] In Lithuania, the notional 'second-pillar' pension scheme is a privately managed funded pension scheme partly financed from social insurance contributions, but not occupational pensions as it is usually called in most EU and OECD countries. Occupational pensions do not exist in Lithuania, despite the fact that a special Law on Funded Occupational Pensions was adopted in 2006 (No. X-745).

[165] Data provided by Social Insurance Fund Administration (SODRA).

[166] Bank of Lithuania (2017). *Lietuvos II ir III pakopos pensijų fondų bei KIS rinkos apžvalga. 2017 m. I pusmetis* (*The Review of the Second-Pillar and Third-Pillar Pension Funds*). Available online at: https://www.lb.lt/lt/leidiniai/lietuvos-ii-ir-iii-pakopos-pensiju-fondu-bei-kis-rinkos-apzvalga-2017-m-i-pusm-1.

Several elements of the social insurance pension scheme changed from 1 January 2018 with an implementation of the new law on social insurance pensions of the Republic of Lithuania: an increase in the length of insurance qualifying for a full pension, and an introduction of indexation rules and modifying the pension amount calculation formula for old-age and work-incapacity pensions.[167]

The length of the insurance period required for entitlements to the 'full' basic component of old-age pensions will increase from the current 30 years to 35 years by 2027. The implementation of this increase will be gradual, by 6 months per year.[168]

Pension benefit indexation rules were introduced and start in 2018. Indexation is based on the average change of the sum of the wages in the economy for the past 3 years, the current year and 3 forecast years. Pension benefit growth is thus now directly linked to the sum of contributions paid, hence accounting for the projected workforce decline.

The calculation of work-incapacity pensions was modified. Before the reform, pension benefits were calculated for three groups depending on the level of incapacity. Now, the pension benefit is related to the level of lost working capacity more gradually, i.e. according to every five percent interval of incapacity. That will ensure a fairer income compensation and will reduce incentives to seek recognition of lost capacity among one of the former three groups.

The reform during 2018 includes increasing transparency through a simplified pension formula. The new pension formula is changing the calculation of the earnings-related part (named as an individual pension component in the new Law).

A pension points system was introduced. The new system defines pension points as the ratio of a person's past social insurance contributions and the average contributions paid into the economy. This should lead to a more transparent accrual of entitlements in the future. The value of entitlements earned in the past remains unaffected. The Bank of Lithuania has proposed to go further and to introduce a notional DC system.[169] However, no support has yet been expressed from the government.

There was consideration during the pension reform discussions to shifting the financing of the basic pension component (it is named as the general part of the pension in the new law) from the social insurance fund to the state budget. The general part of the pension depends on length of service, but is not directly related to the size of contributions paid. It is reasonable not to finance it from contributions but from general revenue.

Since pension indexation rules were introduced and total contributions currently exceed expenditures, Lithuania is trying to build up a pension reserve fund to prepare for future economic shocks. A social insurance reserve fund was established in 2018.[170]

The social insurance fund has accumulated debt mainly due to the economic crisis and the generous increase of pensions and especially maternity benefits before the crisis. Interest was paid on that debt yearly, reducing the ability to finance pensions. It was decided to transfer this debt of the social insurance fund to the state budget in 2018.

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[167] Law Amending the Law of the Republic of Lithuania on State Social Insurance Pensions No I-549, adopted on 29 June 2016. Available online at: https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/b79c4442bd4a11e6a3e9de0fc8d85cd8?jfwid=-ji9gt565y.

[168] Law Amending the Law of the Republic of Lithuania on State Social Insurance Pensions No I-549, adopted on 29 June 2016. Available online at: https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/b79c4442bd4a11e6a3e9de0fc8d85cd8?jfwid=-ji9gt565y.

[169] Bank of Lithuania (2017). *Pensijų sistema Lietuvoje: Iššūkiai ir galimos politikos priemonės* (*Pension System in Lithuania: Challenges and Available Policy Measures*). Available online at: https://www.lb.lt/lt/leidiniai/pensiju-sistema-lietuvoje-issukiai-ir-galimos-politikos-priemones.

[170] Government of Lithuania (2017). *Stability Programme of Lithuania for 2017*. Available online at: https://ec.europa.eu/info/sites/info/files/2017-european-semester-stability-programme-lithuania-en.pdf.

The social assistance pension will be increased by 20 percent from 1 January 2018 after a 10-year period of stagnation. However, there are no rules of indexation and it is increased on an ad hoc basis.

The statutory funded pension scheme has experienced some changes since 2012. Because of heavy financial burdens on the social insurance pension system during the crisis, the contribution rate to be transferred from PAYG into the statutory funded system was reduced gradually (from 5.5% in 2007 to 1.5% in 2012). In 2014, it was decided to finance the second pillar from three sources: part of a person's obligatory social insurance contributions, a personal contribution, and state subsidies. During the transition period, there were four options for participation.

First, a person has a right not to join the statutory funded pension scheme and to rely only on the social insurance pension scheme (that option was before the reform as well).

Second, participants who joined the system before 2013 were allowed to halt their participation in the second pillar. Their accumulated accounts will be managed by pension fund management companies until their retirement age.

Third, if they have not decided to halt participation, they continue participating in the second pillar with two percentage points (p.p.) of contributions transferred from the statutory PAYG scheme, but without additional personal contributions and without a state subsidy. The fund accumulates according to the two-percent scheme.

Fourth, the second-pillar participants who use two percentage points of contributions transferred from statutory PAYG scheme were allowed to pay extra contributions from their own pocket and to receive a subsidy from the state budget as a percentage of the average wage in the country. They accumulate according to the two percent + two percent + two percent scheme. The Law on Pension System Reform states that from 2020 the part of social insurance contribution will increase to 3.5 percent (3.5%+2%+2%).

Those who decide to join the system after 1 January 2013 have only one option: participation with one's own contribution and the subsidy from the state budget. People may not conclude contracts with the pension fund and remain in the state social insurance system as well.

About 1,200,000 (89%) out of 1,350,000 employees insured for the statutory (social insurance) pension have signed pension accumulation agreements; 400,000 of them do not accumulate (are inactive) because they are not working or have emigrated. More than 400,000 participate according to the two-percent scheme and the same number according to the two percent + two percent + two percent scheme. About 25,000 have chosen to terminate pension accumulation in the private pension funds.[171]

Since the beginning of 2017, no contribution fee is applied to the participants of the statutory funded system. It has been gradually decreasing since 2013 (2013, 2%; 2014, 1.5%; 2015, 1%; 2016, 0.5%).

On 1 January 2017, limits on tax deduction for contributions to the personal pension scheme were set up. The maximum non-taxable income was reduced from 25 percent of the participant's income without limits in absolute terms, to EUR 2000 annually.

[171] State Social Insurance Fund. Available online: http://atvira.sodra.lt/en-eur/.

3. Assessment of adequacy

3.1. Current adequacy

3.1.1. General assessment of current adequacy

Income poverty of elderly people (65+) in Lithuania is five p.p. higher than the national average according to the at-risk-of-poverty (AROP) rate (27.7% and 21.9%, respectively).[172] It is higher than the EU average for elderly people by 14 p.p. The AROP rate of older pensioners (75+) is a little higher than that of all pensioners (65+). The difference decreased substantially during the period of 2008-2016, as the AROP rate decreased by 2.5 p.p. for those aged 65+ and even by 6.5 p.p. for those aged 75 and over. The relative poverty gap for people aged 65 and over increased by 3 p.p.

The poverty rate of older people is closely linked to the AROP threshold that is applied for poverty rate assessment. The application of the upper or lower AROP thresholds results in a differentiation in the poverty rate of 2.7 times (41.5% for AROP on the 70% threshold and 15.2% for AROP on the 50% threshold). That is because many pensioners receive pension amounts that are close to the AROP threshold, equal to 60 percent of the median household equivalised income. In 2016, the AROP threshold for a single person was EUR 282 and the average old-age social insurance pension was EUR 255.

In Lithuania, the AROPE rate of older people (65+) was 37.4 percent in 2016 and was extremely high for older (75+) women (44.1%). Material and social deprivation among people aged 65 and over remains high and without substantial changes since 2008 (30% for men and 37.4% for women in 2016).

The aggregate replacement ratio (median individual pensions of 65-74-year-olds relative to median individual earnings of 50-59-year-olds) was 0.45, while the EU average was 0.55 in 2016. It was stable during 2008-2016 because of a drop in wages and a lesser reduction of pensions in 2010. However, in 2016, it was the same as in pre-crisis years.

Looking from the EU average perspective, the gender gap in pensions in Lithuania is not large: in 2016, it was 17.49 percent in Lithuania and 37.22 percent across the EU for pensioners 65-79 years old.

The increase of the retirement age allowed the government to reduce the number of old-age pensioners from 599,600 in 2014 to 594,400 in 2016.[173] Because of the large difference in life expectancy between women and men, there was a wide gender gap in pension payment (16.2 and 24.4 years) and retirement duration (15.4 and 22.8 years) in 2016.

Joining the statutory funded system by a substantial number of current employees reduces the part of contributions going to the statutory social insurance scheme and its capacity to pay pensions for current pensioners, who receive rather low pension benefits. There is no sustainable resource for financing the statutory funded scheme. Moreover, future statutory social insurance pension benefits for statutory funded system participants also will be reduced, while the reductions forecast are rather modest even without this reduction. At the same time, a large share of statutory funded system participants cannot accumulate significant amounts, as contribution rates are only between two percent and six percent of wages.

[172] The at-risk-of-poverty rate is defined as the percentage of the population with an income after social transfers below the at-risk-of-poverty threshold (60% of the median household equivalised income).
[173] Statistics Lithuania. Recipients of state social insurance old age, disability and work incapacity pensions at the end of the year. Available online at: https://osp.stat.gov.lt/statistiniu-rodikliu-analize#/.

3.1.2. Redistributive elements of public pension schemes

The Lithuanian pension system is the most powerful instrument of income redistribution in Lithuanian society. It reduces the market income Gini index by 10 p.p.[174] The Lithuanian pension system redistributes income between the elderly, and the income inequality of older people (aged 65 and over) is far below the income inequality of people aged below 65 years old (S80/S20 is 4.4 and 7.1 respectively).

Two elements redistribute income in the social insurance pension scheme. First, the flat-rate general pension component does not depend on the previous income of a pensioner. Its amount varies, but usually it consists of more than half that of a full average pension. Second, the earnings-related component has a ceiling while contributions are collected without a ceiling.

Pensioners entailed to two pensions (usually social insurance and state pension) are allowed to receive the sum of both pension benefits not higher than that 150 percent of the average wage.

The statutory funded pension scheme also redistributes income. However, redistribution is horizontal. It is subsidised from the state budget, i.e. all taxpayers including those not participating in the pension scheme for the benefit of participants, without any regard to their income level.

The social assistance pension serves as a minimum-income floor in retirement or disability. However, its role in protection against poverty is insufficient because of its small amount. In 2016, the social assistance pension in old age was EUR 101, while the AROP threshold for a single person was EUR 282.

As was mentioned, indexation rules are being introduced in 2018 for social insurance pensions. However, indexation is linked not to prices or wage growth, but to the sum of contributions paid into the pension scheme. A sharp decline in the number of contributors may affect indexation negatively. State and social assistance pensions are not indexed; they are increased on an ad hoc principle. A statutory funded scheme provides annuities via life insurance companies without any indexation.

The median income in households of elderly people on average is 30 percent lower compared with the income of households of the population among those actively employed in Lithuania. The median relative income of the elderly is lower by 22 p.p. compared with the elderly of the EU on average.

However, the relative median income ratio for women aged 65+ is only 67 percent, i.e. 10 p.p. points below that of men's in 2016. It is not surprising that elderly women are much more exposed to poverty and social exclusion than elderly men (43-44% of women aged 65+ and 75+ are at risk of poverty or social exclusion while only 25-26% of men of these ages are poor or socially excluded). That is a reflection of lower wages and the earlier retirement age of females. Mothers on maternity leave for up to three years build up credits for pensions as they are insured by the state. Contributions from the state budget are paid to social insurance pension scheme on behalf of those mothers.

3.2. Retirement conditions for the self-employed and for people in non-standard employment

According to the Law on State Social Insurance, self-employed individuals are grouped into eight categories: persons holding business licences; individual business owners; general partnership members; limited partnership members; persons engaged in other individual

[174] Navicke, J. (31 May 2017). *Factors of the income inequality in the Baltics: income, policy, demography*. EUROMOD Working Paper Series. Series Number: EM11/17.

activities; farmers and their partners; family participants; and members of small partnerships. The most numerous groups among the insured self-employed are farmers and their partners, persons holding business licences, and individual business owners.

Self-employed and non-standard workers are treated equally to standard workers in statutory and other pensions schemes. They are all subject to identical coverage and entitlement conditions without any opt-out or exemptions. Only self-employed persons engaged in individual activities under business certificates were not covered by earnings related to the statutory pension component. However, they became fully integrated into the scheme at the beginning of 2017.

The levels of benefit vary, however, in relation to the previous income of the recipient. To the extent that non-standard workers earn lower wages, they also receive lower pension benefits. Income protection of the self-employed in retirement depends on their formal income during their working life. Farmers, owners of individual enterprises, members of small partnerships, partners of general partnerships, persons engaged in individual activities under a business certificate shall pay contributions from declared income used for individual consumption, but not lower than the minimum wage. Other self-employed people shall pay 50 percent of taxable income (calculated for personal income tax) or 35 percent of all income from self-employment activity with a ceiling.

Unfortunately, there is no effective accounting and control system for income from self-employment. The self-employed tend to declare income not higher than the minimum wage as it is the minimum required basis for social insurance contributions. The contributions from low declared income lead to low social insurance pension benefits. On the other hand, the social insurance pension scheme redistributes in their favour thanks to the basic flat-rate pension component.

3.3. Future adequacy and challenges

Two main current changes in social insurance pension legislation create challenges for the adequacy of future pension benefits: newly introduced pension benefit indexation and the increase of the insurance period for a full pension.

Pension benefit indexation is based on the average change of the sum of the wages in the economy. This ensures the financial sustainability of the pension system: however, pension benefit adequacy may be under threat in the perspective of the working population’s decrease due to ongoing ageing. The pension level will consequently rise more slowly than average wages in the long run.

The increase of the insurance period from 30 to 35 years for a full pension is related to the raising of the statutory retirement age. However, it reduces the basic (‘general’) pension component for those having a shorter work history. Under the new rules, the basic component for persons with the required 15 years minimum contribution history will decrease by 14 percent in 2027.

Nevertheless, fundamental challenges for future pension adequacy arise from demographic developments. Lithuania will be one of the fastest ageing countries because of the highest emigration in the EU and a rather low fertility rate. Because of all these changes, the demographic old-age dependency ratio (20-64) is projected to increase in Lithuania from 31.3 percent to 68.4 percent over the projection period from 2016 up to 2056.

The projection shows a substantial increase in the retirement duration for men (from 15.4 years in 2016 to 25.4 years in 2056).

In Lithuania, the net theoretical replacement rates (TRRs) are projected to stay almost stable, from 49.6 percent for men and from 49.5 percent for women in 2016 to 49.1 percent for both genders in 2056. This is determined by the statutory retirement age increase to age 65 for men and women and the additional replacement rate from the statutory funded scheme.

Early retirement will reduce TRRs for average income earners by 8 p.p. However, there is an accrual of pension rights in non-contributory periods for those with career breaks due unemployment or maternity. Thanks to this legal provision a drop in the net TRRs is no more than three p.p. for employees with career breaks. TRRs for employees with short careers (20 years), in contrast, will be only half of TRRs for full-career employees. Low-wage earners will enjoy only by 4-6 p.p. higher perspective TRRs for most cases in comparison with average-wage earners.

Net TRRs are higher by 12 p.p. when compared with gross prospective TRRs in Lithuania, and indicate a much more favourable income tax system for pension recipients as compared with wage earners.

4. Main opportunities for addressing pension-related challenges

The social insurance pension scheme is the main source of income for the elderly in Lithuania. Formally, it is rather well designed: all employees and the self-employed are covered; the retirement age is increasing faster for females and therefore will reduce the gender gap for benefits; the pension formula ensures redistribution and does not allow high inequality; and newly introduced indexation will safeguard the fiscal sustainability of the system. The statutory funded scheme has not matured yet, but has a wide coverage rate.

Current and future pension-related challenges arise from insufficient financing of the schemes. Lithuania has the economic capacity to increase pension financing, as currently it allocates almost half as many resources to old-age social security pensions as the EU-28 average, accordingly 5.4 percent and 9.8 percent of GDP.

As the social insurance contribution rate is rather high already, the radical reduction of contribution evasion throughout administrative measures and structural reform of the pension scheme's financing would be a solution towards a more adequate pension benefit. A wider tax base than only payroll may be created by transferring the 'general' (basic) flat-rate social insurance component to the state budget. A strict link between contributions and the amount of the 'individual' (earnings-related) benefit component would reinforce incentives to contribute.

It would be reasonable to strengthen financially both statutory schemes, e.g. to stop financing the statutory funded scheme from the contributions of the social insurance scheme as its financing is becoming even more challenging in the face of rapid ageing. On the other hand, financing of the statutory funded system may be strengthened via an increase of private contributions of employees and employers.

The statutory funded pension scheme has to be reshaped by introducing an institute of trustees for prudent investment, and ensuring competition between asset managers and pension benefit providers with the aim of reducing administration fees.

State pensions duplicate the social insurance pensions for several groups. Resources used for these pensions could be channelled to finance the (as of now) very small social assistance pension. Indexation rules of the latter are needed as well.

Data on self-employment and non-standard employment in Lithuania are very scarce and fragmented. Further research is needed in order to develop coherent concepts of the forms of self-employment and non-standard employment, and to assess the level of their distribution in the labour market, income and living standards and the effects of social guarantees on the dynamics of self-employment.

5. Background statistics – Lithuania

1. Relative incomes of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.71	0.77	0.67	0.01	-0.01	0.01
Income quintile share ratio (S80/S20), 65+	4.4	4.3	4.2	0.3	0.3	0.2
Aggregate replacement ratio (ARR)	0.45	0.47	0.44	0.02	0.02	-0.02

2. Poverty and material deprivation

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+ (%)	37.4	26.2	43.1	-2.5	-1.3	-3.2
At-risk-of-poverty (AROP), 65+ (%)	27.7	16.7	33.2	-3.3	-1.5	-4.4
Severe material deprivation (SMD), 65+ (%)	17.3	13.7	19.0	0.2	0.2	0.0
At-risk-of-poverty or social exclusion (AROPE), 75+ (%)	38.7	25.5	44.1	-5.4	-4.6	-6.3
At-risk-of-poverty (AROP), 75+ (%)	28.1	14.4	33.6	-6.5	-4.7	-8.0
Severe material deprivation (SMD), 75+ (%)	17.0	13.0	18.6	-1.8	-2.1	-1.9
Relative poverty gap, 65+ (%)	18.9	14.6	19.1	3.0	2.1	2.5
At-risk-of-poverty (AROP), 65+: 50% threshold (%)	15.2	8.0	18.8	0.7	1.1	0.4
At-risk-of-poverty (AROP), 65+: 70% threshold (%)	41.5	28.1	48.2	-2.7	-3.5	-2.5
				Change 2014-2016		
Material and social deprivation, age 65+ (%)	34.9	30.0	37.4	-1.8	-2.5	-1.5

3. Gender differences

Indicator	2016	Change 2008-2016
	Total	Total
Gender gap in pension income (65-79) (%)	17.49	0.35
Gender gap in non-coverage (W-M in p.p.) (65-79)	0	-0.1

4. Housing and health situation of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Population 65+ living in overcrowded households (%)	9.5	7.2	10.6	-15.8	-11.6	-18.1
Tenure status among people 65+: share of owners (%)	96.0	96.6	95.8	-1.4	-1.6	-1.2
Housing cost overburden, 65+ (%)	9.8	6.6	11.5	5.7	4.6	6.3
Self-reported unmet need for medical care 65+ (%)	4.5	2.9	5.3	-5.4	-3.7	-6.2
Healthy life years at age 65 (years) *		5.0	5.5		-0.9	-1.1

5. Pension duration

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Pension payment duration (2012) (years)		16.2	24.4			
Retirement duration (AWG) (years)		15.4	22.8		20.8	25.4

Data source: (1) (2) (3) (4) Eurostat, Sept-Oct 2017 (5) European Commission

*Notes: * - 2015 data.*

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net (%)				Gross (%)			
		2016		*2056*		*2016*		*2056*	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Variant: old base case: 40 years up to 65	56.1	62.0	49.1		42.2	46.7	37.2	
	New base case: 40 years up to the SPA	49.6	49.5	49.1		37.4	37.3	37.2	
	Increased SPA: from age 25 to SPA	47.8	46.0	49.1		36.1	34.7	37.2	
	AWG career length case	52.9	49.1	50.9	48.2	39.9	37.0	38.6	36.5
	Longer career: 42 years to SPA			48.8				37.1	
	Shorter career: 38 years to SPA			45.4				34.5	
	Deferred exit: 42 years to SPA +2			53.9				41.0	
	Earlier exit: 38 years to SPA -2			40.7				30.9	
	Career break – unemployment: 3 years			46.0				34.9	
	Career break due to childcare: 3 years			47.5				35.9	
	Career break caring for family dependant: 3 years			46.9				35.6	
	Short career (20-year career)			24.0				18.2	
	Work 35 years, disabled 5 years prior to SPA			54.0				41.6	
	Early entry in the LM: from age 20 to SPA			54.7				41.4	
	Index: 10 years after retirement @ SPA			43.7				33.2	
	Extended part-time period for childcare			44.6				33.8	
	Pension rights of surviving spouses				2.1				1.6
Low (66%)	Variant: old base case: 40 years up to 65	70.3	77.9	54.6		54.9	60.8	44.1	
	New base case: 40 years up to the SPA	62.2	62.1	57.1		48.5		46.1	
	AWG career length case	66.6	61.8	59.0	55.7	51.9	48.3	47.5	45.1
	Career break – unemployment: 3 years			53.5				43.1	
	Career break due to childcare: 3 years			55.3				44.6	
	Short career (20-year career)			27.9				22.6	
High	New base case: 40 years up to the SPA	32.8	32.7	31.9		24.2		23.6	
	Average replacement rate across retirees	:				:			

7. Sustainability and context

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65 (years)	17.1	14.1	19.2	22.2	20.1	24.2
Old-age dependency ratio (20-64) (%)	31.3	21.8	40.0	68.4	55.4	81.4
Economic old-age dependency ratio (15-64) (%)	38.8	26.0	51.2	83.7	67.3	100.0
Employment rate, age group 55-64 (%)	64.6	66.8	62.8	64.7		
Pension expenditure as % of GDP (ESSPROS)	7.0					
AWG projections	2016			2055		
Coverage ratio (% of pop aged 65+)	:			:		

Data source: (6) Member State and OECD; (7) European Commission, DG ECFIN

*Notes: * - 2015*

Luxembourg (LU)

Highlights

- The pension system of Luxembourg is financially sound and surpluses continue to increase the pension reserves, which should legally be equal to at least 1.5 times yearly spending. In 2016 the accumulated reserve amounted already to 4.5 times the yearly pension expenditure, which is equivalent to 33 percent of GDP.
- The theoretical net replacement rate is very high, at 97.5 percent for an average-earner retired after 40 years of contributions at age 65. The second-pillar fund remains low compared with other EU countries, even though its accumulated reserves increased from 1.9 percent in 2011 to 2.9 percent of GDP in 2016.
- Luxembourg has one of the lowest at-risk-of-poverty (AROP) rates in the EU for the population aged 65+. In 2016, this rate was 9 percent, much lower than the EU-28 average of 14.7 percent. The gender gap has been larger than the EU average, but decreased in the period 2008-2016.
- In 2016, the employment rate of workers aged 55-64 years in Luxembourg was only 39.6 percent compared with 55.2 percent at EU level. This low employment rate for older workers results from a gap between the effective retirement age of 61 and the legal retirement age of 65 years.

1. General description of the national pension system

In Luxembourg the mandatory public pension system is divided into two different types of schemes: (a) the general scheme for employees and the self-employed in the private sector; and (b) special schemes for civil servants and other public sector employees.[175] Both systems are organised as mandatory pay-as-you-go (PAYG) schemes and jointly cover the whole economically active population. Despite harmonisation of contributions and benefit determinants with the general scheme, the civil servants' scheme is still kept separate. Financing of the public pension is based on a contribution rate that is kept fixed for a period of 10 years with a mandatory mid-term evaluation foreseen after 5 years. For the current period (2013-2022) the total contribution rate is 24 percent of gross salary, paid in equal shares of eight percent by employers, employees and the state.

For the general scheme, the law requires a minimum reserve of 1.5 times the yearly pension expenditure. As of the end of 2016 the accumulated reserve amounted to 4.5 times[176] the yearly pension expenditure. It is still growing and amounted to 33 percent of GDP in 2016.

The legal retirement age is 65 *(pension de vieillesse)*. For a pension at the legal retirement age of 65, a minimum of 10 years of contributory periods[177] has to be fulfilled. However, early retirement *(pension de vieillesse anticipée)* is possible. A person is entitled to an early old-age pension at the age of 60 if they can show 480 months of contributory and additional non-contributory periods, of which at least 120 months must be contributory. Moreover, at the age of 57 early retirement is possible if the person reaches a period of 480 months of compulsory insurance. There is no deferred pension.

The old-age pension consists of two parts: a lump-sum depending on the length of career *(majorations forfaitaires)* and an income-related component *(majorations proportionelles)*. The

[175] See also http://www.mss.public.lu/publications/droit_securite_sociale/droit2017/droit_2017.pdf.
[176] IGSS, 2017, p. 153.
[177] Contributory periods = compulsory insurance, continuous insurance, optional insurance and retroactive purchase periods.

lump-sum for people with a full career (40 years) is determined as a percentage of the social minimum income.[178] In 2017 the lump-sum amounted to EUR 473.71 per month for 40 years of insurance. For pensioners with shorter careers, the lump-sum is reduced by 1/40th for each missing year below 40. This lump-sum is topped up with an end-of-year allowance *(allocation de fin d'année)*. For 2017, this allowance equalled EUR 756.84 in the case of a complete career of 40 years.

The second part is an earnings-related pension, calculated at an accrual rate of 1.819 percent of total earnings (value for 2017; to be gradually reduced to reach 1.6% in 2052). For people whose sum of pension age and career years exceeds a specific threshold (93 in 2017), the rate is increased by 0.012 (value for 2017; to be increased to 0.015 by 2052) percentage points (p.p.) for each additional year above the threshold *(majorations échelonnées)*. The maximum accrual rate is equal to 2.05 percent per year.

Pension benefits are indexed to both the consumer price index (CPI) and (real) wage evolution. On the one hand, pensions, just as wages in general, are indexed to price evolution in a non-periodic way each time the CPI increases by more than 2.5 percent. On the other hand, they are readjusted annually to the average wage evolution. However, full readjustment is conditional on the overall sustainability of the pension system and can be partly or fully reduced by a special law in adverse situations.

The pension system guarantees a minimum pension of 90 percent of the social minimum income in the case of a full 40-year career. In 2017 this minimum pension amounted to EUR 1771.75 per month. The pension cannot exceed five-sixths of five times the social minimum income, which was EUR 8202.55 per month in 2017.

Unemployment benefits are subject to pension contributions and thus qualify as compulsory insurance periods. Insurance periods of 24 months per child, so-called baby years,[179] are granted to either one of the parents or shared between both, and qualify as contributory compulsory insurance periods. Furthermore, up to the age of six, additional (non-contributory) insurance periods may be granted to one of the parents.

Besides the general pension scheme, parents who have devoted themselves to bringing up their children, and who cannot benefit from baby years or childrearing periods, may be granted a so-called mother's rent (*mammerent*) of EUR 86.54 per month per child after the age 65.

Luxembourg has three types of pre-retirement schemes, listed in the labour law.[180] The third one is applicable in the context of hazardous or arduous jobs.

1. Progressive pre-retirement (*préretraite progressive*): this scheme applies to full-time employees. The employer agrees to transform the job from full to part time and to pay pre-retirement benefits (reimbursed by the state). It is limited to employees of a company made eligible for progressive pre-retirement.
2. Adjustment pre-retirement (*préretraite ajustement*): this scheme is a social measure, limited to employers who are affected by a business closure or to avoid job losses after a restructuring or after transformation following technological changes. This mechanism is justified by the economic situation of the company.
3. Pre-retirement of shift and night workers (*préretraite des travailleurs postés et des travailleurs de nuit*): this pre-retirement scheme is important within the policy specifically targeted at workers in hazardous jobs. This scheme applies to employees

[178] The lump-sum will gradually increase between 2013 and 2052 from 23.5 percent to 28 percent of the minimum reference income. This reinforces the basic pension character of the system.
[179] May be prorogued to 48 months when there are at least two additional children.
[180] De Coninck and Pacolet, 2016.

from both the private and public sectors. It applies to employees aged at least 57, who have been working in shifts for 20 years or have worked 20 years on a fixed night shift. The pre-retirement benefit is equal to 85 percent of past earnings in the first year, 80 percent in the second year, and 75 percent in the third. The earnings reference is the salary in the preceding 3 months.

The current situation of the general pension scheme with high reserves results from continuous economic growth in the last decades and a relatively young active population (particularly driven by the large influx of cross-border workers). Occupational and individual pension schemes play a growing, yet marginal, role in the pension system. In 2012 they represented 6.75 percent and 1.54 percent of all pension payments respectively. In 2011 the assets in occupational pension funds represented about 1.9 percent of GDP; in 2016 it was still only 2.9 percent of GDP.[181] Around 5 percent of the working-age population in Luxembourg is covered by an occupational pension scheme.

A major atypical dimension of the labour market in Luxembourg is the importance of cross-border and migrant workers. Cross-border work represents 45 percent of total employment in Luxembourg. On top of that, 55 percent of current pensioners have accumulated pension insurance periods in other countries.

Regulation (EC) No 883/2004 on the coordination of social security systems sets specific rules in the field of old-age, survivors' and disability pensions of persons who have been subject to the legislation of two or more Member States. Indeed, the total pension consists of a number of 'partial' pensions, each based on the period of insurance completed in the Member State concerned. This also applies to European Economic Area countries, Switzerland and agreement countries. In these cases, beneficiaries will only receive partial pensions from Luxembourg.

In 2016, the general pension scheme of Luxembourg paid an amount of EUR 997.6 million to some 79,000 pensioners residing in another EU Member State,[182] be they former cross-border workers or formerly resident workers that moved out of the country. This accounts for 46 percent of the total number of persons receiving a pension from the scheme.

However, the total amount paid to pensioners residing in another EU Member State amounts to only 25 percent of total pension spending by the Luxembourg general pension scheme. This implies that pensioners residing in another Member State receive an average annual amount of EUR 12,626. This average amount is much lower compared with the average annual amount of EUR 31,477 (EUR 2.9 billion to some 92,000 persons) paid to pensioners residing in Luxembourg. It has to be kept in mind that 90 percent of pensioners residing abroad and 25 percent of resident pensioners in Luxembourg only receive a partial pension from Luxembourg. Most of them would be entitled to additional partial pensions paid by one or more other countries where the pensioner was insured. It also explains the rather low level of pension expenditure in Luxembourg (8.3% of GDP compared with an EU average of 12.7% of GDP) despite their generous level.

2. Reform trends

The pension reform introduced as of January 2013 by a law of 21 December 2012 focused on the modification of parameters of the pension formula within a long transition period of 40 years (2013-2052). The content of this reform was discussed in *The Pension Adequacy Report 2015* (PAR 2015).

[181] OECD, 2017a.
[182] http://www.isog.public.lu/islux/assurance-pension/series-statistiques.html.

In 2017, the so-called pre-retirement based on solidarity[183] has been abolished. Under certain conditions, this form of pre-retirement allowed employees to leave the labour market 3 years prior to meeting the eligibility criteria for an early retirement. However, the same law made the admission to other pre-retirement systems (pre-retirement of shift workers and night workers as well as progressive pre-retirement) less stringent.

In order to keep more people at work, the Luxembourg government introduced a law proposal, also referred to as an age pact (*pacte de l'âge*) in April 2014.[184] The law proposal included a package of age measures in each firm, which are oriented to labour demand.

3. Assessment of adequacy

3.1. Current adequacy

3.1.1. General assessment of current adequacy

Luxembourg pensioners are in a very favourable situation given the high replacement rate and the low AROP rate. In 2016, the AROP rate for the population aged 65+ was at 9 percent which is much lower than the EU-28 average of 14.7 percent.[185] Nonetheless, this rate for Luxembourg increased by 3.6 p.p. between 2008 and 2016. In addition, the severe material deprivation indicator remains very low (0.3% compared with the EU-28 average of 5.9%).

The net theoretical replacement rate (TRR) for 2016 amounts to 97.5 percent for an average-earner retiring after 40 years of contributions at age 65.

The difference between the average pension for women and men is 43.06 percent (gender pension gap), but it has declined by 4 p.p. since 2008. The gender gap is higher than the EU-28 average.

A low employment rate for older workers (in 2016, the employment rate of workers aged 55-64 years was 39.6% compared with 55.2% at EU level) can partly be explained by a relatively high gap between the effective retirement age and the legal retirement age of 65 years. The effective age of retirement was 61.2 for men and 61 for women in 2016.[186] The effective age of retirement for men even decreased in 2016 compared with 2014. The pension payment duration amounts to 23.7 years for men and 26.4 years for women. This is higher compared with neighbouring countries Germany and Belgium but lower compared with France.

Compared with the neighbouring countries, the difference in life expectancy at the age of 65 between men (18.9 years) and women (21.8 years) is less pronounced in Luxembourg while the healthy life expectancy for women is substantial lower. This implies that women will be substantially more confronted with unhealthy years (unhealthy life expectancy is at 8.2 years for men and 13.1 years for women). This makes the provision of adequate and affordable health and long-term care services more relevant, especially for the female population. Luxembourg has one of the best developed long-term care insurance systems, oriented especially to home care. However, this did not result in a more-than-average use of either institutional or home care, but the public funding available for this care, especially for home care, is relatively high.[187] This would reveal some selectivity and targeting to those most in need. In 2015 the

[183] Loi du 30 novembre 2017 portant modification de l'alinéa 5 de l'article L. 521-14 et du Titre Vlll du Livre V du Code du travail.
[184] Projet de loi portant modification du Code du Travail et portant introduction d'un paquet de mesures en matière de politique d'âges du 03-04-2014.
[185] Eurostat database – extracted on 29 November 2017 (see Annex I).
[186] OECD, 2017b. On the basis of national figures, the effective age of retirement is 60.9 for men and 61.8 for women. http://www.isog.public.lu/islux/assurance-pension/series-statistiques.html.
[187] Economic Policy Committee, 2016, p. 175.

average spending (some 1.5% of GDP) is equal to the EU-15 average. As of January 2018, the long-term care insurance reform adopted in 2017 was in place.

Private home-ownership, as a fourth pension pillar, is still an important instrument for private savings for the elderly (65+) and an efficient shelter against poverty risks. In 2016 some 91 percent of people 65+ in Luxembourg were an owner, one of the highest levels of home-ownership in the EU (average of 78.1%).

3.1.2. Redistributive elements of public pension schemes

The Luxembourg pension system is a generous pension system. The 2012 pension reform maintained the generous minimum pension provision of 90 percent of the social minimum income for a full pension career, granting a minimum pension of EUR 1771.75 per month (2017). The 2012 pension reform further improved the solidarity component of the system by introducing measures in favour of vulnerable pensioners increasing their chances of getting a minimum pension or an early pension. All of these mechanisms contribute to a low risk of poverty.

The pension for pensioners whose career is interrupted (e.g. due to childcare or care of elderly relatives) for a period of 5 years maximum was improved by a new measure. A voluntary pension contribution, of around EUR 100 per month,[188] makes it possible to include these periods as qualifying periods to fulfil the criteria for a minimum or early pension. For the vulnerable target group, this measure will drastically increase the chance of getting a minimum pension or early pension. It is a step further in improving the individualisation of pension rights.[189] The design of the recognised baby years, to be taken by either one of the parents or shared between them, is also gender-neutral.

3.2. Retirement conditions for the self-employed and for people in non-standard employment

Luxembourg has a comprehensive and financially robust social security system. Both employees and the self-employed are entitled to an old-age pension. It is a compulsory social insurance scheme financed by contributions paid in equal shares of 8 percent by employers and employees. The self-employed pay 16 percent contributions. There is also an 8 percent contribution by the state, so that the total contribution rate is at 24 percent.

An exemption from compulsory insurance is granted to persons who are only engaged occasionally and not habitually in a professional activity, as long as the period of activity is determined in advance. The period of activity should not exceed 3 months in each calendar year. Moreover, old-age insurance does not cover self-employed activities if the income is below one third of the social minimum wage.

Spouses and orphans of both salaried workers and the self-employed are also entitled to a survivor’s pension under the same general regulations. Survivors’ pensions are part of the mandatory pension scheme financed by contributions paid by employers, employees and state (8% each). In order to give a right to a survivor’s pension, the deceased person must have been affiliated for at least 12 months within the 3 years prior to death. No qualifying conditions apply when the death, caused by any kind of accident or occupational disease, occurred during the affiliation.

[188] Before the pension reform this was approximately EUR 300 per month.
[189] Plasman, 2014, p. 106.

3.3. Future adequacy and challenges

Just as in PAR 2015, the calculations of the TRRs for the different earnings levels indicate that TRRs will decline for all groups in the next 40 years. In all scenarios the TRRs remain at a very high level for average and low earnings, while it is lower for the higher-income group with increasing earnings throughout the career. In those calculations, the second pillar is not included, since it is not mandatory and nor does it have a 'wide reaching coverage'. As illustrated above the second pillar is in general to be neglected in Luxembourg, while on the contrary the reserve funds of the mandatory system are substantial.

The old-age dependency ratio of Luxembourg (22.4%) is much lower compared with the EU average (32%) and the neighbouring countries Belgium (30.8%), France (33.2%) and Germany (34.7%). This ratio measures how pensioners are supported by those who are active/employed and are contributing to the system financially.

The 2012 ageing report projections data refer to an increase in gross public pension expenditures of 18.6 percent of GDP by 2060, or an increase of 9.2 p.p. compared with expenditures in 2010 of 9.4 percent of GDP. In the 2015 ageing report projections the increase would be reduced to 4 p.p., to reach 13.4 percent of GDP by 2060. According to a recent study of the EC this difference is completely driven by demographic projections and very limited by policy changes.[190] The Luxembourg government however estimates the impact of the reform at 2.5 to 3.8 p.p. of GDP by 2060. Finally, the OECD refers in its pension outlook of 2014 also to the intention that by 2052, the end of the recently started pension reform, the contributions would gradually increase from 24 percent to 30 percent of the covered wages implying a further reinforcement of the legal pension system.[191] It would then guarantee long-term sustainability.

4. Main opportunities for addressing pension-related challenges

TTRs in 2056 are estimated to be lower than today, but remain at a high level. A lower rate could be an incentive to work longer and to go for a longer career.[192]

During the 2012 pension reform explicit trade-offs between the adequacy and sustainability of the pension system have been made. The pension reform of 2012 stated that the financial situation of the pension system would be analysed every 5 years. In 2016 the Inspectorate General on Social Security (*Inspection Générale de la Sécurité Sociale* – IGSS) – presented its report on the financial situation of the general pension system (*bilan technique du regime général d'assurance pension*).[193] In this study long-term budgetary projections were made with regards to the income and expenses of the pension system, taking into account different scenarios. The report concluded that the different mechanisms which have been put in place as a result of the 2012 pension reform have had a positive effect on the financial situation of the pension system on the short term. However, at the same time, the report also underlined the necessity of not resting on its laurels. The opportunity should be taken to further develop measures to guarantee the viability of the pension system in the longer term.[194]

[190] Carone, e.a., 2016, p. 29.
[191] *OECD Pensions Outlook 2014*, p. 78.
[192] See also: European Commission, 2015.
[193] Inspection Générale de la Sécurité Sociale, 2016.
[194] See also: http://www.gouvernement.lu/6548714/02-bilan-assurance-pension.

5. Background statistics – Luxembourg

1. Relative incomes of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	1.22	1.27	1.20	0.25	0.31	0.23
Income quintile share ratio (S80/S20), 65+	4.6	4.4	4.7	1.6	1.3	1.9
Aggregate replacement ratio (ARR)	0.88	0.87	0.86	0.30	0.33	0.27

2. Poverty and material deprivation

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+ (%)	9.1	6.9	11.0	3.7	2.3	5.0
At-risk-of-poverty (AROP), 65+ (%)	9.0	6.8	10.8	3.6	2.2	4.8
Severe material deprivation (SMD), 65+ (%)	0.3	0.0	0.5	0.3	0.0	0.5
At-risk-of-poverty or social exclusion (AROPE), 75+ (%)	7.7	5.9	9.2	1.2	1.8	0.9
At-risk-of-poverty (AROP), 75+ (%)	7.7	5.9	9.2	1.2	1.8	0.9
Severe material deprivation (SMD), 75+ (%)	0.0	0.0	0.0	0.0	0.0	0.0
Relative poverty gap, 65+ (%)	36.5	33.4	37.2	21.1	18.0	21.8
At-risk-of-poverty (AROP), 65+: 50% threshold (%)	6.7	5.1	8.0	4.5	3.4	5.3
At-risk-of-poverty (AROP), 65+: 70% threshold (%)	12.3	9.2	14.9	-0.8	-3.7	1.6
				Change 2014-2016		
Material and social deprivation, age 65+ (%)	2.2	1.4	2.9	0.4	0.2	0.5

3. Gender differences

Indicator	2016	Change 2008-2016
	Total	Total
Gender gap in pension income (65-79) (%)	43.06	-4.31
Gender gap in non-coverage (W-M in p.p.) (65-79)	6.9	4.1

4. Housing and health situation of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Population 65+ living in overcrowded households (%)	1.7	0.9	2.3	-1.2	-2.0	-0.7
Tenure status among people 65+: share of owners (%)	90.8	93.3	88.7	2.4	0.6	3.5
Housing cost overburden, 65+ (%)	6.9	6.0	7.8	5.8	5.7	6.0
Self-reported unmet need for medical care 65+ (%) *	0.3	0.3	0.3	0.1	0	-0.1
Healthy life years at age 65 (years) *		10.7	8.7		0	-2.9

5. Pension duration

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Pension payment duration (2012) (years)		23.7	26.4			
Retirement duration (AWG) (years)		23.3	27.6		26.9	31.0

Data source: (1) (2) (3) (4) Eurostat, Sept-Oct 2017 (5) European Commission

*Notes: * - 2015 data*

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net (%)				Gross (%)			
		2016		*2056*		*2016*		*2056*	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Variant: old base case: 40 years up to 65	97.5		90.1		88.6		79.2	
	New base case: 40 years up to the SPA[195]	97.5		90.1		88.6		79.2	
	Increased SPA: from age 25 to SPA	97.5		90.1		88.6		79.2	
	AWG career length case	92.2	91.2	81.1	80.1	81.8	80.6	68.7	67.6
	Longer career: 42 years to SPA			92.8				82.5	
	Shorter career: 38 years to SPA			85.3				73.4	
	Deferred exit: 42 years to SPA +2			90.1				80.9	
	Earlier exit: 38 years to SPA -2			84.1				72.0	
	Career break – unemployment: 3 years			85.0				73.1	
	Career break due to childcare: 3 years			90.1				79.2	
	Career break caring for family dependant: 3 years			87.9				76.5	
	Short career (20-year career)			40.7				30.1	
	Work 35 years, disabled 5 years prior to SPA			74.6				61.7	
	Early entry in the LM: from age 20 to SPA			96.6				87.4	
	Index: 10 years after retirement @ SPA			83.0				70.7	
	Extended part-time period for childcare			85.5				73.6	
	Pension rights of surviving spouses				75.6				62.7
Low (66%)	Variant: old base case: 40 years up to 65	102.6		95.0		94.7		86.1	
	New base case: 40 years up to the SPA	102.6		95.0		94.7		86.1	
	AWG career length case	96.7	95.7	85.5	84.4	88.0	86.7	75.6	74.4
	Career break – unemployment: 3 years			89.2				79.6	
	Career break due to childcare: 3 years			95.0				86.1	
	Short career (20-year career)			41.8				33.5	
High	New base case: 40 years up to the SPA	74.8		67.7		63.8		56.1	
	Average replacement rate across retirees								

7. Sustainability and context

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65 (years)	20.5	18.9	21.8	24.2	22.3	26.1
Old-age dependency ratio (20-64) (%)	22.4	19.5	25.4	45.7	43.4	48.0
Economic old-age dependency ratio (15-64) (%)	31.0	24.9	38.5	63.2	57.0	69.8
Employment rate, age group 55-64 (%)	39.6	46.4	32.4	41.3		
Pension expenditure as % of GDP (ESSPROS)	8.3					

Data source: (6) Member State and OECD; (7) European Commission, DG ECFIN

*Notes: * - 2015*

195 SPA set at 65 for Luxembourg.

Hungary (HU)

Highlights

- The effective retirement age is rapidly increasing. The average age of exit from the labour market grew by 6.2 years, on average 4 months a year, for women – and 5.0 years, more than 3 months a year, for men – between 1998 and 2016. The employment rate of people aged 55-64 increased by 12 percentage points between 2013 and 2016.
- Such growth in the exit age was established by developments in education starting in the 1950s. While this trend is fundamental the main drivers of rapid changes in the effective retirement age were primarily the two waves of raising the retirement age (between 1998 and 2009, and between 2014 and 2022) with a significant tightening of early retirement from 2012 onwards. There are further improvements in the highest level of education of cohorts leaving school recently.
- Material deprivation in the population aged 65 and above has decreased since the deepest point of the economic crisis. This is partly due to normalisation after the economic shock but improvements are still significant if compared with the pre-crisis situation (2008).
- In contrast, the at-risk-of-poverty (AROP) ratio, an indicator of social-material deprivation, has been increasing in the population aged 65 and above both since the deepest point of the crisis and especially since 2008.

1. General description of the national pension system

Public pensions are an exceptionally important income source of older people in Hungary. As much as 89 percent of their disposable income is covered by public transfers, which is the highest rate in the OECD. It remains the highest even if public and occupational pensions are combined (the latter being zero in the Hungarian case). In contrast, labour income constitutes less than 9 percent of the elderly income portfolio (the second-lowest rate in the OECD) and capital income a mere 2.5 percent (also among the lowest in the OECD).

The pension system is in practice a single-pillar pay-as-you-go (PAYG) structure complemented by the remnants of the almost completely de-funded, formerly statutory funded (second) pillar, a small supplementary voluntary funded scheme and some smaller long-term saving plans offered by financial institutions.

In June 2017, the pay-as-you-go pillar granted 2.0 million old-age pensions. One third of the recipients, 665,000 people, received a supplementary payment, most often survivors' benefit. An additional 143,000 people are paid a survivor's benefit as their main or exclusive allotment.

In 2017, the pension contribution rate was 25.75 percent of gross wages of which 15.75 percentage points (p.p.) was paid by employers and 10 p.p. by employees. Altogether this makes up to 20.9 percent of the total wage cost, which includes further taxes and contributions both on the employer and the employee side. The rate is subject to annual, non-automatic corrections. In 2016, the rates were 30.75 percent (total pension contributions) and 20.75 percent (employers), respectively. Employees' contributions did not change. The employer rate is being further reduced in 2018 as a consequence of international tax competition. The second pillar receives practically no contributions any longer. New inflows made up to less than 0.3 percent of total assets in the first half of 2017.

The minimal service period for an old-age pension is 15 years although eligibility for a minimum benefit requires 20 service years. Benefits are established by a formula based on length of service and the average indexed net monthly wage earned after 1988. The rate with which the entry pension replaces the calculated net monthly lifetime wage is a function of accepted service years. This scale is non-linear, favouring people with short service periods at the cost of people with medium and long service length.[196] Service years include non-contributory periods (university studies before 1998, mandatory military service) and periods when the government paid contributions on behalf of the insured person (maternity leave, several childcaring periods, years in lower vocational school). Pensions are tax-exempt since they are calculated from net wages.

In 2017, the standard pensionable age is 63.5 years for both genders. This will gradually grow to 65 by increasing the age limit by half a year for each consecutive cohort. The transition period started in 2014 for the birth cohort of 1952 and it will end in 2022 for the birth cohort of 1957.

Pensions in payment are indexed by prices in a forward-looking manner. In January, benefits are raised by the inflation rate set in the annual government budget. If the actual rate calculated from a special pensioners' consumer basket is higher, pensions are retroactively adjusted in November. Adjustment is asymmetric in that benefits are not to be returned if inflation proves lower than planned. In years when the economy grows by more than 3.5 percent and the balance of the government budget is within the limits set by parliament, pensioners receive an extra premium, the amount of which depends on their regular benefit and the growth rate. 2017 was the first year such a premium has been paid.

Early exit routes were narrowed in 2012. Since then 'benefits for persons with changed working capacity' (disability benefit and rehabilitation benefit) are paid from the Health Insurance Fund (HIF) and most early-retirement benefits (many of them in a phasing-out period) are paid from the National Fund for Family and Social Policy, (*Nemzeti Család és Szociálpolitikai Alap*). An important early exit route based on a combined eligibility rule of age and contributory period (*előrehozott nyugdíj*) was closed altogether. The only notable exception is the special early-retirement programme for women who have collected 40 years of eligibility (informally called the women-40 programme), which remained the responsibility of the Pension Insurance Fund (PIF). The number of its recipients (153,000 in June 2017) is included in the above figure of old-age pensions.

Participation in the women-40 programme reflects markedly different labour market careers. In 2015, 72 percent of new female recipients of old-age pensions retired in the women-40 channel. They were younger than the minority retiring in the standard way (on average 58.7 years against 62.9 years); they had a longer service period (41.0 years against 31.0 years) and they had 40 percent higher entry benefits (HUF 120,000, about EUR 385 a month against HUF 85,200, about EUR 275).

The measures to extend working lives resulted in rapid growth in the effective retirement age (the average age of exit from the labour market). It increased by 6.2 years, on average 4 months a year, for women – and 5.0 years, more than 3 months a year, for men – between 1998 and 2016. The gender gap in the age of leaving the labour market decreased from 2.2 years in 1998 (when the standard pensionable age was still 60 years and 55 years, respectively, for the two genders) to a mere 0.4 years in 2011. Since then the women-40 programme widened the gap once again. The process is also reflected in longer working lives. In 2009, before the crisis, the average estimated working life was 5.6 years shorter in Hungary than in the EU-28 (28.8 and 34.4 years, respectively). This gap diminished to 2.4 years (33.2 and 35.6 years, respectively) by 2016.

[196] The average value of a service year is gradually decreasing with the rise of service years.

Pension benefits and labour income from the public sector cannot be combined so the pension payment is suspended for workers taking up a job in the public sector after retirement. In the private sector parallel income streams of pension benefits and labour income are allowed. This option is unconstrained if the pensioner has reached the retirement age but it is subject to suspension of the pension for the months of the calendar year after their earnings exceed the limit equivalent of 18 months of minimal wage if the beneficiary receives one of the early-retirement benefits (already in a phasing-out period; see the section below on working longer) or participates in the women-40 programme.

The special treatment of workers in arduous and hazardous jobs ceased to exist at the end of 2014. No further eligibilities for early retirement (*korkedvezmény*) can be accumulated since then but those eligibilities collected before this date can still be converted to a preferential retirement age. The special 13 percent contribution levied on employers, which financed this exit route, also ceased to exist.

However, some entitlements were restored in some limited way. Miners who worked underground are still eligible for early retirement with certain conditions and the dancer’s pension was also restored, but was limited to certain tightened groups of dancers.

Hungary’s experiment with mandatory pre-funding ended in 2011 with the almost complete de-funding of the funded pillar. By the end of June 2017, the remaining former statutory funds held accounts worth HUF 244 billion (about EUR 790 million). Since statutory funds collected contributions redirected from the PAYG pillar this amount is foregone contribution revenue for the public pension system and its yields. Alternative ways of pre-funding for retirement collect after-tax revenues, although a significant part of their reserves is supported by options for tax deduction. Voluntary supplementary pension funds represent the most developed form of this sector. They opened in 1994 and although they could attract 1.14 million members by June 2017, resulting in a coverage rate of 18.4 percent, the value of assets per member is only HUF 1.2 million, about EUR 3700. The pension pre-funding account (*nyugdíj előtakarékossági számla*, NYESZ by its Hungarian acronym) was legislated for in 2005. It is a special-purpose securities account, which offers more freedom to the client in terms of depositing and portfolio decisions than the voluntary funds. It is supported by the same 20 percent tax deduction, although its upper ceiling is lower, HUF 100,000-130,000 (EUR 320-420), depending on the expected year of retirement. By the end of 2013 it had attracted only 160,000 clients and its clientele decreased below 150,000 by the end of 2015. Special pension-purpose life insurances can be sold since 2014. By June 2017 insurance companies had opened about 218,000 such contracts that are subject to tax deductions. As in all other forms, the annuitisation of the accumulating assets is not yet fully developed.

2. Reform trends

The pension system went through frequent and sometimes dramatic changes between 1992 and 2012. Against this background the last years were calm in this field. Recent reforms are mostly transitional steps set out by previous legislation such as the increase in the retirement age and the phasing-out of below-retirement-age benefits.

In addition, the pension administration went through a major reorganisation in 2016-2017. Old-age pensions and survivors’ benefits are paid by the PIF, whereas disability pensions, childcare allowances and sickness benefits (including benefits for accidents) are paid from the HIF. The administration of cash benefits of the two funds was merged in the beginning of 2017 under the auspices of the Central Administration of National Pension Insurance (*Országos Nyugdíjbiztosítási Főigazgatóság*, ONYF). The administrative agency of the HIF (*Országos Egészségbiztosítási Pénztár*, OEP) ceased to exist. The in-kind units of OEP were incorporated into the Ministry of Human Capacities. The reform did not stop here: the extended ONYF was integrated into the Hungarian State Treasury in November 2017. The State Treasury is supervised by the Ministry for National Economy but it is not part of the Ministry. It is a separate unit having an independent legal entity, separate operation and financial management. It deals with the daily management of public cash-flow. The entire integration is supervised by the Ministry for National Economy and Ministry of Human Capacities as well; the person responsible for conducting the process and the new president of the extended Hungarian State Treasury is the former general director of ONYF.

3. Assessment of adequacy

3.1. Current adequacy

3.1.1. General assessment of current adequacy

Despite the improvements of the last years, Hungarian elderly people are poor in European comparison in terms of severe material deprivation. In 2016, 7.5 percent of men and 11.8 percent of women were affected by this measure of poverty among the 65+ age group. These figures are down from 13.7 percent and 21.4 percent in 2012 respectively among men and women. The drop is significant even compared with pre-crisis levels (respectively 11.8% and 15.9%). In relative terms older people are doing better than in most other Member States. The risk of poverty (as measured by AROP, an indicator of social-material deprivation) affects 7.3 percent of women and 5.9 percent of men among the 65+ age group. The value of the relative median income ratio (persons aged 65 years and older compared with persons aged less than 65 years) is well above 1 for men, meaning that elderly men in fact have a higher median income than those younger than 65 years. Among women the figure is slightly below parity. Even in single households, which in general are more exposed to poverty, the ratio is above 1 for men, and it is 0.98 for women.

The dynamics of the two aspects of deprivation, material and social-material, took a twist over the last years. They decreased hand in hand between 2006 and 2009 before the crisis reached the pension system. They grew together in the crisis years (2010-2012). However, since 2013 they have been moving in the opposite direction. Whereas material deprivation decreased significantly (see above), the above AROP figures are up from 5.2 percent for women and 2.7 percent for men in 2008.

As mentioned above, pensions are an exceptionally important source of income for older people. The risk of poverty can be relatively low among them because of the relatively high income-replacement capacity of benefits. The aggregate replacement ratio is 0.71 for men and 0.66 for women (2016), respectively 10 p.p. and 11 p.p. above the EU-28 average. By the estimation of the ageing working group men are expected to live in retirement for 17.5 years; women for 22.8 years.

Over 90 percent of the older population live in their own house adding the imputed rent to their resource portfolio, although 17 percent of these households are considered overcrowded (well above the European average).

Hungarian figures reveal a comparatively modest gender gap in relative poverty but a wider, although rapidly decreasing, difference in material deprivation. In 2016, the gap between the average pensions of men and women (the gender pension gap) was 15.25 percent for the population aged 65-79 years old. This is one of the narrowest among Member States and more than 20 p.p. lower than the EU-28 average.

The gap is produced by a combination of gender differences in coverage rate, contributory period, average wages over the active section of the lifecycle, and the length of the beneficiary period. In the Hungarian case, the gender gap is negligible in coverage and it is relatively low in wages (the unadjusted pay gap was 15.1% in 2014 and 14.0% in 2015). However, the overall earnings gap, which includes employment effects in addition to the effect of wage differentials, was more than twice as large, 32.0 percent in 2014.[197]

The gap might further increase over time. First, the difference in entry benefits is growing. Old-age pensions established in 2015 were 11 percent higher for men compared with women (HUF 122,209, about EUR 395 a month compared with HUF 110,111, about EUR 355).[198] In 2014 it was still 8.2 percent and in 2013 only 6.4 percent. Second, in the case of price indexation, pensions in payment diverge from entry pensions with the length of the pensioner career. Whereas entry pensions bring along increases in real wages, pensions in payment grow only with the price index. Due to mortality differences between the genders this affects women more than men. This, combined with the women-40 option of early exit for women, which will enlarge the gender gap in retirement age, has the potential of increasing the gender pension gap in the long run.

3.1.2. Redistributive elements of public pension schemes

The benefit formula is based on the combination of service years and net wages as proxies of the contribution history. It contains components that aim at diminishing the effects of the employment career and earnings on benefits – indirectly to loosen the connection between contributions and benefits in favour of people with a short service period. The formula is not linear: 15 service years give eligibility equivalent to 43 percent of average lifetime net wages – that is, one service year is worth nearly three p.p. Between 15 and 25 service years the value of an additional service year is two p.p. Between 26 and 36 service years the increase is only one p.p. a year, which grows to one and a half p.p. between 37 and 40 years of service. Above 40 years every additional year is again worth two p.p.

Despite such redistribution on the benefit side and the cross-sectional progressivity of the general tax system, health inequalities and inequalities in life expectancy most likely make the general social protection system, and within that the pension system, less redistributive if entire lifetimes are taken into account. In the 65+ age group fewer than 10 percent of respondents having lower secondary education at most (ISCED 0-2) report good or very good health (the two genders combined); among those having tertiary education (ISCED 5+) the rate is above 30 percent. Health deteriorates with age. Among people with low education only 64 percent of the 35-44-year-old age group report good or very good health; among the highly educated the rate declines to about the same level (61%) later, at the age of 55-64. A similar 20-year advantage appears on the other end of the scale of self-reported health. About one third (34.5%) of respondents report bad or very bad health in the 55-64 age bracket in the low-education group; among people with tertiary degree this rate (33.5%) is reached only at the age of 75-84.

Such health inequalities result in education-related life expectancies. Life expectancy at birth for men with low education is 11.7 years or 18 percent shorter than that of men of the highly educated group. The corresponding figure among women is 6.7 years (9%). At the average age of leaving the labour market (61.0 years for men and 60.2 years for women in 2015) the education gap is still 5.8 years (43%) among men and 2.9 years (14%) among women.

The indexation of established benefits is based on the expected price index of the pensioners' consumer basket. In principle, a price index creates a gap between actual benefits and real wages over the retirement career and the gap gets wider the longer the retirement period. Such an effect is strongly gendered in that women are overrepresented among long-term pensioners.

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[197] Eurostat.

[198] Figures are collected from the 2015 Statistical Yearbook of the Central Administration of the National Pension Insurance (p 63). For comparison, the AROP threshold (set at 60% of median equivalised income) for a single household was EUR 228 a month in 2015.

However, as a kind of unintended compensation there has been a regular overestimation of the expected inflation in the last years, resulting in benefit growth in real terms (3.6% in 2013, 3.0% in 2014, 1.4% in 2015 and 1.0% in 2016). The cumulative effect, 9.3 percent of real growth in benefits, is more than an extra month of benefit, which was in fact introduced gradually between 2003 and 2006 but withdrawn in 2009. Yet, despite the similarities the effects of the recent overshooting are more limited as they apply only to current pensioners whereas the 13th month benefit in principle was a promise to future pensioners, too.

3.2. Retirement conditions for the self-employed and for people in non-standard employment

Workers in all legal categories of self-employment and non-standard labour contracts (part-time employees, employees with fixed-term contracts, temporary agency workers, casual and seasonal workers, apprentices) are covered by both old-age and survivors' pension insurance. The same rules apply to these groups as to people with a standard labour contract. However, there are some special rules for calculating the amount of pension benefit.

Self-employment and non-standard labour contracts are frequently combined with legal but tax-avoiding practices and tax-evading informal payments. Research shows the particular salience of the minimal wage and the guaranteed wage minimum (the minimal wage of workers employed in a position requiring at least secondary level of education) in the wage distribution (Benedek, Elek and Köllő, 2013).[199]

3.3. Future adequacy and challenges

Entry pensions are relatively high compared with last wages. A hypothetical worker earning the average wage throughout an uninterrupted career of 40 years and retiring at the standard pensionable age receives more than 85 percent of their last wage in net terms. This reflects a minor drop especially if the costs of having a paid job and the value of household labour after retirement are also taken into account. Adding the utility of leisure to this, such high net replacement rates imply a strong retirement incentive.

The projections also reveal that the benefit formula is broadly insensitive to a regular child-related career break. Carers, mostly women, can expect the same theoretical replacement rates (TRRs) in 2056, irrespective of their spending 3 years or no time at all at home with small children. Even if this break is extended with a 10-year-long period of part-time work the net TRR would decrease to 74.1 percent, a relatively high level.

A stable pension budget is projected in relation to GDP in the long run (11.5% in 2013 compared with 11.4% in 2060).[200] This is a result of a strong demographic push, which by itself would nearly increase the pension budget relative to GDP by about two thirds, and various labour market and pension system variables, which mitigate the impact of ageing. Importantly,

[199] Indirect evidence that these legally binding wages are completed with other forms of payment is the inelasticity of employment, activity and the size of the moonlight economy to drastic changes in the regulation of minimal wages. As a kind of natural experiment, the amount of the minimal wage nearly doubled in two steps between 2000 and 2002 (from HUF 25,500 to HUF 50,000, that is from 29% of the average wage to 43%). Generally, such a shock is expected to negatively affect economic activity and employment as well as to increase unemployment and informality. However, as labour market data show and research on the extent of the undeclared economy confirms (see Elek *et al.*, 2009; Benedek et al., 2013) no such consequences arose. Even such a radical shift induced just marginal effects, if at all, on employment, activity and moonlighting. Instead, the proportion of the taxed to the tax-avoiding or tax-evading income changed. In fact, intervention to the minimal wage and the guaranteed wage minimum became a policy tool of increasing the coverage of wages. In 2017 the minimal wage was raised by 15%, which will be followed by another 8% in 2018. The corresponding rates for the guaranteed wage minimum are, respectively 25% and 12%. The widespread expectation is that the effects on employment and activity as well as the informal economy will remain negligible but tax evasion and tax avoidance will be diminished.
Elek, P., Scharle, Á., Szabó, B., Szabó, P. A. (2009). *Evasion and avoidance of labour related taxes*. Közpénzügyi Füzetek, 23.
Benedek, D., Elek, P., Köllő, J. (2013). *Tax avoidance, tax evasion, black and grey employment*. In: *The Hungarian Labour Market, Review and Analysis 2013* (eds. Fazekas K., Benczúr P., Telegdy Á.), p. 161-184. Institute of Economics, Hungarian Academy of Sciences.
[200] The 2015 Ageing Report (European Commission 2015).

the coverage ratio[201] will partly counterbalance the ageing effect due to the increase in retirement age. Also, the price index replacing the previous half-price-half-wage index makes the benefit ratio add to fiscal sustainability. The two components have different effects on adequacy, nevertheless. The improvement in coverage ratio is adequacy-neutral or even raises benefits due to longer contributory periods. In contrast, changing the index rule will further detach pensions and wages in long pensioner careers. The population particularly at risk in this respect are older women living alone.

4. Main opportunities for addressing pension-related challenges

Accumulation of reserves. Demographic pressure on the Hungarian pension system has been increasing as the baby-boomers of the mid-1950s are retiring, and it will increase again in the early 2040s when their children, another relatively large generation born in the mid-1970s, will reach the pensionable age. As for the first wave of ageing, the system adjusted step by step in the last 20 years mostly by offering worse conditions for the baby-boomers in the form of a significantly higher retirement age, lower entry pensions and a less favourable indexation of pensions in payment. Nevertheless, this wave was easier to deal with because of a second demographic wave, the children of the baby-boomers who formed a human capital fund for the retirement of their parents. However, the completed fertility of this second large generation will most likely be well below a level that would safely provide for their old-age income. In order to be better prepared, they need to accumulate reserves (funds in physical capital) and investment in the human capital of their children (education and health) as well as their own (retraining and health). This would expand their labour market career (by making them healthier and better trained), increase their PAYG pensions (through higher contributions paid by their fewer children), and complete their benefits (by dissaving their accumulated assets).

Currently, there are no coherent public policies in effect or even under debate in this issue. Only actors in the financial markets seem to be aware of this challenge and see it as an opportunity.

Increasing exit age. Improvements in mortality in higher active ages were almost fully absorbed by the labour market. The average exit age increased rapidly without any sign of mass unemployment among older workers. A closer look reveals that people reaching retirement age are different from those who were in the same age two decades ago. In 1997, 8 percent of the 55-64-year-old cohort held a tertiary degree and another 20 percent had a secondary degree. By 2016, these rates had grown to 17 percent and 61 percent, respectively. It is reasonable to argue that improvements in the exit age during the two decades between the mid-1990s and the 2010s were established by major developments in education that started around 1955. Between this year and 1975 the rate of those who never finished even the primary school among the then-20-24-year-olds dropped from 14 percent to 2 percent, whereas the rate of people collecting a secondary degree grew from 2 percent to 35 percent in the same age group over the same period.

Furthermore, the process has not stopped there. In 2016, more than half of the 25-34-year-old and 35-44-year-old age groups had a secondary degree as their highest educational attainment and nearly one third held a tertiary degree. The 55-64-year-olds of the 2040s will be better educated than people of the same age today.

[201] The decomposition equation applied by the ageing working group is the following:
pension expenditures/GDP = dependency ratio (= population 65+/population 20-64) x coverage ratio (= pensioners/population 65+) x employment effect (= population 20-64/working people 20-64) x benefit ratio (= average pension/(GDP/hours worked 20-74)) x labour intensity (= working people 20-64/hours worked 20-64) x residual (hours worked 20-64/hours worked 20-74).

5. Background statistics – Hungary

1. Relative incomes of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	1.01	1.05	0.98	0.01	-0.02	0
Income quintile share ratio (S80/S20), 65+	3.1	3.3	3.0	0.5	0.6	0.5
Aggregate replacement ratio (ARR)	0.67	0.71	0.66	0.06	0.1	0.05

2. Poverty and material deprivation

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+ (%)	15.1	11.8	17.0	-2.4	-2	-2.5
At-risk-of-poverty (AROP), 65+ (%)	6.8	5.9	7.3	2.5	3.2	2.1
Severe material deprivation (SMD), 65+ (%)	10.2	7.5	11.8	-4.2	-4.3	-4.1
At-risk-of-poverty or social exclusion (AROPE), 75+ (%)	13.0	9.4	15.0	-4.9	-3.5	-5.2
At-risk-of-poverty (AROP), 75+ (%)	5.1	4.8	5.3	1.2	3.2	0.3
Severe material deprivation (SMD), 75+ (%)	9.1	5.9	10.9	-5.5	-5.6	-5.1
Relative poverty gap, 65+ (%)	14.3	14.9	14.3	4.1	4.7	4.1
At-risk-of-poverty (AROP), 65+: 50% threshold (%)	3.0	2.8	3.2	1.5	2.1	1.3
At-risk-of-poverty (AROP), 65+: 70% threshold (%)	13.6	10.4	15.5	3.1	3.0	3.3
				Change 2014-2016		
Material and social deprivation, age 65+ (%)	22.7	16.7	26.4	-9.8	-8.9	-10.0

3. Gender differences

Indicator	2016	Change 2008-2016
	Total	Total
Gender gap in pension income (65-79) (%)	15.25	1.30
Gender gap in non-coverage (W-M in p.p.) (65-79)	0.1	-0.7

4. Housing and health situation of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Population 65+ living in overcrowded households (%)	17.0	12.2	19.9	-7.5	-7.2	-7.5
Tenure status among people 65+: share of owners (%)	91.7	92.8	91.1	2.3	0.6	3.2
Housing cost overburden, 65+ (%)	6.4	3.6	8.0	-2.7	-2.1	-3.1
Self-reported unmet need for medical care 65+ (%)	2.5	1.9	2.8	-1.5	-1.0	-1.8
Healthy life years at age 65 (years) *		5.9	5.9		0.3	-0.5

5. Pension duration

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Pension payment duration (2012) (years)		17.5	24.6			
Retirement duration (AWG) (years)		17.5	22.8		20.0	24.0

Data source: (1) (2) (3) (4) Eurostat, Sept-Oct 2017 (5) European Commission

*Notes: * - 2015 data.*

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net (%) 2016 Men	Net (%) 2016 Women	Net (%) 2056 Men	Net (%) 2056 Women	Gross (%) 2016 Men	Gross (%) 2016 Women	Gross (%) 2056 Men	Gross (%) 2056 Women
Average Earnings	Variant: old base case: 40 years up to 65	101.0		81.7		66.2		54.3	
Average Earnings	New base case: 40 years up to the SPA	85.6		81.7		56.1		54.3	
Average Earnings	Increased SPA: from age 25 to SPA	82.4		81.7		54		54.3	
Average Earnings	AWG career length case	85.6	79.2	88.8	81.7	56.1	51.9	59.1	54.3
Average Earnings	Longer career: 42 years to SPA			85.6				56.9	
Average Earnings	Shorter career: 38 years to SPA			78.6				52.3	
Average Earnings	Deferred exit: 42 years to SPA +2			95.8				63.7	
Average Earnings	Earlier exit: 38 years to SPA -2			:				:	
Average Earnings	Career break – unemployment: 3 years			77.6				51.6	
Average Earnings	Career break due to childcare: 3 years			81.7				54.3	
Average Earnings	Career break caring for family dependant: 3 years			81.7				54.3	
Average Earnings	Short career (20-year career)			54.1				36.0	
Average Earnings	*Work 35 years, disabled 5 years prior to SPA*			74.5				49.5	
Average Earnings	Early entry in the LM: from age 20 to SPA			91.9				61.1	
Average Earnings	Index: 10 years after retirement @ SPA			68.7				45.7	
Average Earnings	Extended part-time period for childcare			74.1				49.3	
Average Earnings	Pension rights of surviving spouses				49.0				32.6
Low (66%)	Variant: old base case: 40 years up to 65	107.2		81.7		70.2		54.3	
Low (66%)	New base case: 40 years up to the SPA	90.9		81.7		59.5		54.3	
Low (66%)	AWG career length case	90.9	84.1	88.8	81.6	59.5	55.1	59.1	54.3
Low (66%)	Career break – unemployment: 3 years			78.4				52.2	
Low (66%)	Career break due to childcare: 3 years			81.7				54.3	
Low (66%)	Short career (20-year career)			54.1				36.0	
High	New base case: 40 years up to the SPA	60.9		61.2		39.9		40.7	
	Average replacement rate across retirees	:				:			

7. Sustainability and context

Indicator	2016 Total	2016 Men	2016 Women	Projections for 2056 Total	Projections for 2056 Men	Projections for 2056 Women
Life expectancy at 65 (years)	16.6	14.5	18.2	22.1	20.3	23.8
Old-age dependency ratio (20-64) (%)	29.4	22.3	36.4	56.1	48.5	64.0
Economic old-age dependency ratio (15-64) (%)	40.4	27.5	55.8	67.4	54.4	82.5
Employment rate, age group 55-64 (%)	49.8	59.7	41.5	77.7		
Pension expenditure as % of GDP (ESSPROS)	10.2*					
AWG projections	2016			2055		
Coverage ratio (% of pop aged 65+)						

Data source: (6) Member State and OECD; (7) European Commission, DG ECFIN

*Notes: * - 2015*

Malta (MT)

Highlights

- The Maltese pension system has a significant redistributive function, and contributes to the protection of the elderly against absolute poverty.
- The reforms in the Maltese pension system, the most important of which were introduced in 2014, have made the system more sustainable, but adequacy remains a challenge.
- The increase in the official retirement age has further accentuated inter-group differences as those retiring later will be receiving significantly higher pensions than those who continued to work after retiring age when this was 61, even though they had continued to pay social security contributions.
- The government needs to seek to ensure that pensions are upgraded to make them adequate, in reflection of the relatively fast rate of economic growth and the attendant fast-increasing living costs in Malta.

1. General description of the national pension system

Statutory pension scheme

Malta's statutory pension is divided into two streams: the contributory scheme, and the non-contributory scheme. The contributory scheme is based on weekly payments ('contributions'[202]) during a person's working life. The non-contributory scheme is based on a means-test and is meant to cover those who are not covered by the contributory scheme.

The contributory scheme is obligatory to the extent that all employees, self-occupied and self-employed persons acquire social insurance rights through the payment of a weekly contribution as laid down by the Social Security Act. Contributions are payable by all gainfully occupied persons between the age of 16 and their pension age. The scheme provides for different types of contributions to reflect the different types of persons in employment. Employed persons pay class one contributions, while the self-employed ('self-occupied') pay class two contributions. Class one contributions are shared by the employee, the employer and the state whilst class two contributions are shared only by the self-employed('self-occupied') and the state (since there is no employer in this case).

Contributory retirement pensions can be divided into two schemes, flat-rate pensions and two-thirds pensions. Flat-rate pensions are awarded to pensioners who also receive a service pension and to pensioners who have a low pensionable income. Two-thirds pensions are awarded to all other pensioners.

A full retirement pension[203] requires a yearly average of at least 50 contributions from 1956 or from age 19 (whichever occurs later) and/or from age 18 if born after 1958 up to the last full year prior to the year of retirement.

With effect from January 2014, the pension age has increased gradually from 61 to 65 for both men and women. All those born after 1961 will reach statutory pension age at 65. Incentives have been recently introduced to attract persons employed in the private sector to postpone their retirement for a maximum of 4 years in return for a percentage increase in their pensions.

[202] The term 'contributions' is the term consistently used in this report since this is the term used in Maltese law. The term is used to indicate that the scheme is, at least partly, funded by those covered by it, in contrast to other schemes, known as non-contributory, which are not even partly covered by the persons entitled to benefit from them.
[203] In Malta if a person qualifies for a pension but continues to work, his pension is still referred to as a retirement pension.

Contributory pensions are also extended to persons with an invalidity who would have paid a minimum of 250 contributions and are suffering from a medical condition which renders them permanently incapable of any full-time and/or any part-time employment. The applicable pension rates are based on the yearly average of contributions paid and/or credited and the civil status of the claimant. These pensions are known as 'invalidity pensions'.

Contributory pensions are also paid to widows who lost their spouse as long as these would have paid at least 156 contributions. A widow's pension is also payable in full without any deductions if a widow is carrying out a full-time gainful occupation. If a widow remarries, a flat-rate widow's pension will continue to be paid.

Contributory pensions are commonly referred to as 'two-thirds' pensions, but this is a gross misnomer since two-third pensions were originally capped at MTL 6000 (EUR 13,980) per annum, and have since been increased annually only through the COLA (the cost of living allowance) mechanism. An exception will be made for the year 2018 since apart from the usual COLA increase, an additional annual increase of EUR 104 will be awarded to all contributory pensioners and also to non-contributory pensioners.

On the other hand, if they satisfy a capital and income means-test, unemployed persons who are residents in Malta, are over 60, and do not qualify for a contributory retirement pension because they do not have the minimum number of contributions paid or credited, may be entitled to a non-contributory old-age pension. The non-contributory scheme has made possible the allocation of more than one benefit at the same time, thus providing simultaneous coverage cases to specific groups of persons requiring additional coverage.

It is possible for a person to continue working when the statutory retirement age is reached. Up to 2016, all the income received is taxable at normal income tax rates. As from 2017, part of the income derived from a retirement pension started to be tax-free.

The coverage rate of the statutory pensions in Malta is 100 percent. All persons who are formally enrolled in the labour force are covered by the so-called first-pillar pensions.

Statutory funded pensions

Malta does not have any statutory funded schemes. All the contributions paid by Maltese workers are assumed in the consolidated fund, which incorporates all income to government, from which pensions are paid. Today there does not exist any comprehensive system of occupational pensions, nor is there any data collection on the secondary pension pillar.

Supplementary pension schemes (referred to as the third-pillar pension in Malta[204])

Supplementary pension schemes do exist in Malta but these are completely optional. The banking system has been promoting various schemes over the last two decades or so. The supplementary pensions schemes that existed prior to the introduction of the two-thirds pension in the 1970s were actually suppressed, and persons who were forced to withdraw from them and are now pensioners, such as all university staff, are now feeling the negative results of those decisions because of the significant gap between the salaries prior to retirement and the pension they receive.[205] The same happened to other groups who also contributed to schemes

[204] The Maltese government has been against the introduction of second-pillar pensions which are understood as 'the second-pillar scheme, which has been championed by the opposition, (and which) would require employers to place a percentage of their employees' monthly income into personal pension accounts'. Lately the government indicated that it will be promoting these as voluntary. See http://www.maltatoday.com.mt/news/national/63567/government_plans_voluntary_second_pillar_pension_scheme. See http://www.maltatoday.com.mt/news/national/63567/government_plans_voluntary_second_pillar_pension_scheme#.Wia-RkqnE2w.

[205] University staff used to pay 15 percent of their salaries to a superannuation scheme. This was supplemented by another 15 percent by the university. When the two-thirds pension was introduced, the superannuation scheme was suppressed and salaries were reduced by 30 percent. Most academics had to opt out of the scheme since it was very difficult for them to find the 30 percent due to the scheme from their reduced salaries. These sectoral schemes used to exist, but do not exist anymore. They were run by the employing organisations for all their workers, irrespective of grade or specific occupation, so they could not have been categorised as 'second-pillar' pensions.

run by their employers, such as dockyard workers and the employers of Malta's main brewery, Farsons.

2. Reform trends

Overview

The most important reform took place in 2014 through the enactment of legislation (through amendments to the Social Security Act, approved in parliament in 2006). The 'third-pillar' pension on a voluntary basis was introduced in 2015. This means that a person can invest in private retirement schemes without affecting the amount of pension paid to them by the state system.[206] Two tax incentive schemes were launched, as follows.

1) An individual can invest up to a maximum of EUR 1000 annually in a pension fund, which is redeemable upon reaching retirement age. Depositors can benefit from tax incentives, saving in the process up to EUR 150 a year. Upon retirement, the person redeems 30 percent of the amount as a lump sum, whilst the remainder is issued on a monthly basis.

2) The 'individual savings account', through which only the interest accruing on the capital invested is tax exempt. The same capping of EUR 1000 annually applies also for this scheme, but full redemption, even before retirement age, is allowed.

The launch of second-pillar pensions was mooted, but not introduced.

Through the 2015 budget a number of measures were announced:

1. persons born between 1950 and 1956, and currently in employment, but who do not have enough social security contributions for a national minimum pension on retirement, have been given the opportunity to make up for the deficiency by paying in bulk a maximum of 5 years contributions to qualify for a minimum pension when they retire;
2. employees at the Civil Protection Department will now also be able to benefit from a service pension after 25 years of service, irrespective of their age;
3. persons born between 1941 and 1953 and who have paid between 1 and 5 years of contributions while working, but not enough to be awarded a minimum pension, will receive a sum of EUR 100 once a year, while for those having paid contributions for more than 5 years and also not awarded a minimum pension, the sum increases to EUR 200 (increased to EUR 150 and EUR 250 respectively since January 2017);
4. certain anomalies in pension entitlements arising from historical reasons (e.g. as a result of the closing down of the British military establishment following independence; the privatisation of the dockyard; the closure of the temporary labour corps that existed in the 1970s) will be eliminated.

Reforms, intended to address both sustainability and adequacy, introduced for the 2016 budget included the following.

1. The contribution period was raised from 40 to 41 years for persons born after 1968.
2. A 5-year review was introduced to ensure that a stable proportion is kept between the contribution period and the periods of time during which it is expected that the pension will be paid.

[206] The first voluntary 'third-pillar' pension products were launched on the market in November 2015. By 2016 the number of qualifying individuals was reported to be 0.7 percent of total employment.

3. Employees in the private sector have been given an incentive to postpone retirement beyond their pension age in return for a cumulative percentage increase.[207] This incentive became effective through Legal Notice 289/16.
4. To dissuade early retirement, persons born after 1 January 1969 will only be able to retire if they had 41 years of contributions of which only 6 years consisted of 'credits'.[208]
5. The minimum pension with a full contributory record will be no less than EUR 140 per week; this will be worked out pro rata to persons who do not have the full amount of contributions.
6. A system of crediting was introduced to reflect human capital development and lifelong learning.
7. Service pensioners were given a EUR 200 annual additional abatement.
8. Survivors will be entitled for the full pension of the deceased spouse if that is higher than their own.

In the budget for 2017, the following additional measures were introduced.

1. Pensioners do not pay income tax on pensions up to a maximum of EUR 10,500 for single tax computation and EUR 13,000 for married tax computation. From 2018 the tax-free amount will increase to EUR 13,200 for all pensioners, with those on a married tax computation also benefiting from an additonal EUR 1000 on any other income.
2. The amount of service pension not taken into consideration for social security assessment is increased by another EUR 200.
3. The gender inequality in the pension benefit rate was addressed, with females benefiting from an increase in their pension rate of up to EUR 20 per week.
4. The government also announced that it accepted in principle the 2015 pension strategy group's recommendation to introduce occupational pensions and that it would task a study group to present recommendations. Recommendations were presented to government and in September 2017 it issued incentive rules for occupational pensions.

Impact

The impact of the reforms initiated in 2014, and the subsequent refinements thereafter, on the labour market has been quite positive, especially as a result of the incentives to postpone retirement available to workers in the private sector. It has been reported that 28 percent of persons aged 61 had taken up the incentives to defer pensions even if they were eligible to retire.[209] The number of persons aged 61 and over who are still employed either on a full-time or a part-time basis has increased.

The gradual increase of the pensionable age to 65 should boost the labour supply by 7200 by 2026.[210] About 56 percent of this increase should be among men. In the 4 years that will see a

[207] If a person employed in the private sector opts to continue working when they reach retirement age and opts not to draw their pension, the pension entitlement is increased by a specific percentage each year. The increase is cumulative on the basis entitlement. As such, the increase in the first year is 5 percent, in the second year an additional 5.5 percent is added etc. For full details see: https://socialsecurity.gov.mt/en/Pensions/Pages/default.aspx.

[208] Credit refers to the virtual payment which a person is assumed to have made even though they did not actually do so because of special circumstances e.g. because a person was following a course at university, pregnancy etc. It is a 'credit' because on paper it is equivalent to a payment. These credits are awarded to persons who invest in themselves or the community, hence the reference to improved human capital development in the text.

[209] Private Communication: Ministry for Social Policy.

[210] Aaron G. Grech (2017). *The Impact of Pension Age Changes – The Case of Malta*, in *Intereconomics*. January 2017, Volume 52, Issue 1, p. 57–62.

rise in the pension age (2013, 2018, 2022 and 2026), employment is projected to rise on average by over 800 annually compared with the baseline of no change in the pension age.

Debates on pension policy are continuous in Malta, especially since negative trends have been recorded in the relative incomes of older people over the 2008-2016 period. The changes are due to the economy's overall average growth, which results in higher prices for basic services and consumer requirements. Among these private medical services, rent and communication are three sectors that are often referred to. The announcement that the government was going to explore how the equity release system could be introduced,[211] was, according to a major trade union, an admission that pensions are not adequate and that pensioners are now going to be asked to put their home on the market to improve their financial situation.[212]

3. Assessment of adequacy

3.1. Current adequacy

3.1.1. General assessment of current adequacy

Malta's pensions protect against absolute poverty, but they do not constitute an adequate income replacement and as such pensioners are currently facing difficulties in making ends meet. The relative median income ratio for older people (aged 65 or over) decreased between 2008 and 2016. Women within this age group are worse off than men.

The at-risk-of-poverty or social exclusion (AROPE) rate for older people increased. The relative figures for severe material deprivation, though much lower in absolute terms, also show increases for the total population aged 65 or over.

In respect of the older population (aged 75 and over), the AROPE indicator shows that the relative figures are effectively higher than those for the 65 and over group. In respect of women, however, improvements were recorded during the period 2008-2016.

The relative poverty gap for persons aged 65 or over showed a marked improvement for both men and women over the 2008-2016 period. An overall reduction of 7.8 percent was recorded for men and women together (a decline of 8.7 percent for men and 5.5 percent for women).

The gender gap in pensions is 44.78 percent in the 65-79 age group, one of the highest in the EU-28. Since 2008, the gender gap in non-coverage rate (share of older people without any pension) has decreased significantly while the gender gap in pension amount has increased. More women now receive a pension, albeit these are still much smaller on average than men's.

Effectively, the common perception is that in contemporary Malta one cannot survive on a pension. Paradoxically those at the bottom, who receive the lowest pensions generally through the non-contributory system, have improved, some substantially, but the reverse is true of middle-salaried persons who rely on the so-called two-thirds pension, which is capped.[213]

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[211] Recommendations to introduce home equity release instruments had been made since 2004, and under both administrations: PN: 2004, 2010; LP 2015.

[212] For a summary of the reaction by NGOs and other bodies to the 2018 budget, see: The Malta Independent, Budget reactions: The positive and the negative. Monday, 9 October 2017. [http://www.independent.com.mt/articles/2017-10-09/local-news/Budget-reactions-The-positive-and-the-negative-6736179990.](http://www.independent.com.mt/articles/2017-10-09/local-news/Budget-reactions-The-positive-and-the-negative-6736179990)

[213] In a study on what is considered as 'essential' for decent living in Malta, Caritas Malta was very critical of current pension levels. A typical older retired couple (65+) needs at least EUR 6527 per annum to live decently (always assuming they live in subsidised housing). When considering a sole pension of EUR 8807 this should technically result in a surplus of EUR 2280 over the amounted calculated in the Piscopo et al. study (2016). However, when comparing the 60 percent net equivalised income (NEI) median (SILC 2014) to the minimum essential budget for a decent living (MEBDL) this results in a shortfall of EUR 4981.213. It is to be noted that an analysis of the product list shows that this study is based on the cost of the cheapest and crudest products on the market.

The introduction of the two-thirds pension scheme suffered from systemic deficiencies: no measures were put in place to prepare for the increase in expenditure on pensions when the baby-boomers reach retirement age, and no considerations were taken on board about the steady improvement in health services making it possible for older people to live longer and therefore earn more from their pension entitlement. The increase in salaries since when the capping was introduced makes the term 'two-thirds' pension sound very hollow. Workers are in fact being asked to invest in supplementary pensions to enhance their income when they retire. But this is problematic in two ways, as follows.

1) The salaried persons who were almost 'forced' to give up their private pensions when the two-thirds pension was introduced are now finding themselves with very low pensions, and the gap between their earnings prior to retirement does not allow them to maintain their previous standard of living.

2) Investment in a private pension is not affordable for thousands of workers who earn low wages. Therefore, the income security of this category of persons on retirement depends only on the state pension.

The general inadequacy of the current pension system arises also out of a 'discriminatory' decision on what constitutes a maximum pension. In the name of sustainability[214] amendments were made to the Social Security Act which put persons who were born on 31 December 1961 and before at a great disadvantage because it introduced two maximum pensionable incomes. As a result pensioners born up to 31 December 1961 are entitled to a pension which is two thirds of a maximum of EUR 18,024 (i.e. EUR 231.10 per week), whilst those born as from 1 January 1962 are entitled to a pension worked out as two thirds of a maximum EUR 22,803 (i.e. EUR 292.35).[215] This change means that the former category receive EUR 61.30 per week less in pensions than those in the second category.

As from 1998, persons earning the national minimum pension (NMP) have seen their pensions improved by 63.92 percent, whilst those entitled to the maximum two-thirds pension (MTTP) have seen their pension increase by only 23.98 percent. This effectively means that pensioners who were receiving the lowest rate of contributions have improved their position extensively, which is very positive. But it also means that those who paid the maximum rates of contributions during their working lives are being substantially disadvantaged since their earnings-related pension is fast losing its value in real terms.[216] In Malta, the contributory system is still considered to be the only source of income for thousands of workers on attaining pension age, and the misnomer of 'two-thirds' that it carries actually misleads many to believe that on retirement they could actually enjoy a pension equivalent to two-thirds of their 'exit' salaries.[217]

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[214] The term 'discriminatory' is here used in quotes to convey the general perception among the Maltese public on this decision. But there were technical reasons for it: 'the three tiered approach of exempt, transitional, and switchers was based on the fact that the major full impact of the reform was on persons born on and after 1962: 40 year contributions, 10 best year calculation, 65 year retirement, etc. the APRR of this cohort is project to fall to 45 percent much lower than the 54 percent – 50 percent for the exempt and the transitional. If we applied a single yardstick the APRR for those born on and after 1962 would have collapsed below 30 percent'. This statement is being quoted from a personal communication from one of the leading officials who proposed and mentored the pension reform in Malta. Still the huge differences between the pensions of two individuals who paid all the contributions due is very significant, is widely considered as not equitable, and in real terms will pose greater difficulties for those born prior to 1962.

[215] In terms of the budget for 2018, the figure for persons born before 31 December 1961 will be EUR 18,271. The figure for persons born as from 1 January 1962 was due to be available sometime in the first two weeks of December.

[216] For those persons born as from 1 January 1962, a formula of 70 percent wage inflation and 30 percent retail inflation to increase the MPI annually was introduced. A similar 50:50 formula for persons between 1962 and 1961 was also proposed but never implemented by government. This obviously strengthens the perception of discrimination among this group, referred to above.

[217] The assessment of the adequacy of Malta's pension system would appear incomplete without stressing the fact that it is based only on one pillar, and that this first-pillar pension, the two-thirds pension, is based on the capped, so-called maximum pensionable income. The capping stood at EUR 17,933 for persons born before 31 December 1961 and EUR 22,137.96 for persons born after this date.

3.1.2. Redistributive elements of public pension schemes

Malta's pension system has a very important positive redistributive effect. The mean income for all persons aged 65+ in 2016 increased from EUR 3132 before social transfers to EUR 12,190 per annum. The median income for the same population increased from EUR 171 to EUR 10,411 per annum. Women register slightly lower figures than men in both instances. A drop has been noted in respect of 2015. It is not clear why the sudden drop in the 2016 figure occurs (no reply has as yet been provided from the compilers of the data). The analysis of the median data shows that there is an enormous difference across the population, something which social transfers are effectively balancing out.

Issues related to medical care are not relevant in the Maltese case since public medicine is completely 'cost free' to users, irrespective of their income or pension level. It is to be noted that the discussion on adequacy is somewhat skewed because free entitlements provided to pensioners[218] outside the pension system are not accounted for. The argument runs that these entitlements are not only available to pensioners but to all the population. Private medicine of course is not free and pensioners receiving minimum pensions find it more difficult to afford it. Given that in Malta the widespread practice is to seek private medicine by first visiting state consultants in their private clinics to ensure that they are given more attention, most pensioners do have to face this added financial burden.

With the introduction of 'credits' for lost contributions because of motherhood, women are now less disadvantaged than they used to be.

3.2. Retirement conditions for the self-employed and for people in non-standard employment

There are absolutely no special retirement provisions for the self-employed and for persons engaged in non-standard employment in Malta. All the provisions apply equally for the whole population irrespective of occupation or profession. There is no possibility of exemption or opting out whatsoever.

According to Maltese Law, a self-occupied person is one who is not an employed person, and is engaged in any activity through which earnings exceeding EUR 910 per annum are being derived. A self-employed person means a person who has not yet passed their 65th birthday, is ordinarily resident in Malta, and is not an employed person or a self-occupied person. Full-time or part-time employees who are employed for less than 8 hours per week but earn more than EUR 17.50 per week (EUR 910 per annum) are considered as self-occupied persons for social security contribution purposes. Both self-occupied persons and self-employed persons pay class 2 social security contributions according to Part III of the Tenth Schedule of the Social Security Act.[219] The difference in weight between class 2 self-occupied contributions and self-employed contributions is that self-employed contributions are valid only for pension purposes, while self-occupied contributions are valid for both pension and short-term benefit eligibility purposes.[220]

3.3. Future adequacy and challenges

The adequacy of the pension system using the theoretical replacement rates (TRRs) is best assessed looking at the so-called variant of increased statutory pensionable age. This scenario takes into consideration the increased seniority from 40 years to 41 years as per pension reform.

[218] Entitlements cover free medicine is free for schedule (ii) and schedule (v) which cover chronic conditions, healthcare, long-term care, etc.
[219] https://ird.gov.mt/services/sscrates.aspx and https://ird.gov.mt/services/sscrates.aspx.
[220] https://socialsecurity.gov.mt/en/Social%20Security%20Contribution%20and%20Benefit%20Rates/Pages/Social-Security-Contribution.aspx.

The net TRR stood at 73.7 percent of the net average wage in 2016, while the prospective 2056 net TRR is projected at 69.9 percent. This scenario shows a minimal decline in respective TRRs and is in line with the two-thirds pension principle.

The base case variant, which caters for a contributory period of 40 years, results in net TRRs of 78.3 percent in 2016 and 70 percent in 2056. This indicates a slight downwards trend. The adequacy is achieved in both cases by an increase in the contributory period, without changes in the statutory pensionable age.

Adequacy levels for women and men are equal in the above mentioned two variants. In addition, a widow's pension is also payable in full, without any deductions, if the widow is carrying out a full-time gainful occupation. The so-called surviving spouse variant, regrettably does not cater for this kind of specificity present in the Maltese pension system.

Had the capping not existed, adequacy would not have been a problem. But since it is, major problems of adequacy face those individuals who rely exclusively on it, as most Maltese do, and this because of the political discourse successive administrations entertained since the introduction of the 'two-thirds' pension system in 1979.

Past experience shows that successive administrations have rightly discriminated in favour of persons who are entitled to the lowest pensions. But this has created a number of issues, as follows.

1. The two-thirds pension which was marketed as the ideal solution was adequate only for those persons who retired soon after its introduction, when the capping was very close to real wages. With time, the two-thirds pension no longer reflects an earnings-related pension, and as such it is not adequate at all to allow persons in the middle tier of the continuum to continue to enjoy their standard of living on retirement. This is particularly more serious in those cases where private pension schemes were suppressed when the two-thirds system was introduced.
2. The perceived 'discriminatory' nature of the cut-off date of creating two groups of persons (those born before and those born after 1 January 1962) has created very serious discrepancies among pensioners. No administration has given attention to the artificial social divide created by this decision.
3. Many current pensioners continued to work after their retiring age (at 61) but continued to pay their social security contributions up to 65. However, these contributions were irrelevant to their pension entitlements. With the introduction of incentives to persons employed in the private sector to defer their pensions and increase their entitlement (described elsewhere in this report), this group of pensioners are feeling that they have been further disadvantaged and that somehow their contributions beyond retirement ought to be reflected in increases in their entitlements. A measure to consider contributions paid after pension age has been introduced from 2018.

4. Main opportunities for addressing pension-related challenges

The main areas where progress can be registered as a contribution to more adequate pensions in Malta are:

1. introduce a mechanism whereby the social security contributions made by pensioners after their retirement (at age 61) are reflected in their entitlement;
2. introduce a mechanism whereby pensions are increased on a formula which reflects 50 percent wage inflation and 50 percent retail price inflation;

3. introduce a possibility for an opt-out system from the state-run pension system for persons who prefer to create their own schemes for income when they retire;
4. continue to promote the special investment schemes in government bonds for those already in pensions;
5. provide more information and counselling to home-owners who would be interested in the home equity release system that have been announced in the budget for 2018.

5. Background statistics – Malta

1. Relative incomes of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.72	0.75	0.69	-0.01	0.02	-0.04
Income quintile share ratio (S80/S20), 65+	3.3	3.5	3.2	-0.4	-0.2	-0.4
Aggregate replacement ratio (ARR)	0.54	0.55	0.46	0.13	0.12	0.07

2. Poverty and material deprivation

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+ (%)	26.1	24.6	27.5	0.1	-1.5	1.6
At-risk-of-poverty (AROP), 65+ (%)	24.2	22.8	25.4	-0.1	-2.3	1.8
Severe material deprivation (SMD), 65+ (%)	3.5	3.5	3.5	0.4	1.3	-0.3
At-risk-of-poverty or social exclusion (AROPE), 75+ (%)	24.6	20.4	27.7	-2.2	-6.8	1.1
At-risk-of-poverty (AROP), 75+ (%)	22.4	19.9	24.2	-2.5	-6.9	0.5
Severe material deprivation (SMD), 75+ (%)	3.0	1.6	4.1	-0.5	0.1	-0.7
Relative poverty gap, 65+ (%)	11.1	11.3	11.1	-7.8	-8.7	-5.5
At-risk-of-poverty (AROP), 65+: 50% threshold (%)	8.6	8.5	8.7	-3.8	-4.8	-3.0
At-risk-of-poverty (AROP), 65+: 70% threshold (%)	41.6	39.5	43.4	0.5	0.0	1.2
				Change 2014-2016		
Material and social deprivation, age 65+ (%)	10.6	9.6	11.5	-11.5	-11.2	-11.6

3. Gender differences

Indicator	2016	Change 2008-2016
	Total	Total
Gender gap in pension income (65-79) (%)	44.78	24.54
Gender gap in non-coverage (W-M in p.p.) (65-79)	13.4	-26.2

4. Housing and health situation of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Population 65+ living in overcrowded households (%)	0.8	0.9	0.7	-0.9	-0.3	-1.3
Tenure status among people 65+: share of owners (%)	73.3	74.5	72.2	5.5	2.4	7.7
Housing cost overburden, 65+ (%)	1.6	1.9	1.3	-2.6	-2.0	-3.2
Self-reported unmet need for medical care 65+ (%)	0.8	0.4	1.2	-0.1	-0.5	0.2
Healthy life years at age 65 (years) *		13.4	14.0		2.9	2.4

5. Pension duration

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Pension payment duration (2012) (years)		22.6	26.5			
Retirement duration (AWG) (years)		21.8	25.7		23.8	28.2

Data source: (1) (2) (3) (4) Eurostat, Sept-Oct 2017 (5) European Commission

*Notes: * - 2015 data.*

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net (%)				Gross (%)			
		2016		2056		2016		2056	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Variant: old base case: 40 years up to 65	73.7		68.6		60.0		56.5	
	New base case: 40 years up to the SPA	78.3		70.0		63.2		57.9	
	Increased SPA: from age 25 to SPA	73.7		69.9		60.0		57.9	
	AWG career length case	73.7		80.0	73.1	60.0		67.5	60.8
	Longer career: 42 years to SPA			73.1				60.8	
	Shorter career: 38 years to SPA			65.6				53.7	
	Deferred exit: 42 years to SPA +2			76.2				63.9	
	Earlier exit: 38 years to SPA -2			67.2				55.1	
	Career break – unemployment: 3 years			70.0				57.9	
	Career break due to childcare: 3 years			70.0				57.9	
	Career break caring for family dependant: 3 years			70.0				57.9	
	Short career (20-year career)			38.1				28.2	
	Work 35 years, disabled 5 years prior to SPA			70.0				57.9	
	Early entry in the LM: from age 20 to SPA			70.0				57.9	
	Index: 10 years after retirement @ SPA			67.7				57.2	
	Extended part-time period for childcare			63.7				51.8	
	Pension rights of surviving spouses				60.6				47.7
Low (66%)	Variant: old base case: 40 years up to 65	81.2		70.8		68.9		57.3	
	New base case: 40 years up to the SPA	81.2		72.3		68.9		58.7	
	AWG career length case	81.2		81.9	75.2	68.9		68.4	61.6
	Career break – unemployment: 3 years			72.3				58.7	
	Career break due to childcare: 3 years			72.3				58.7	
	Short career (20-year career)			38.1				28.6	
High	New base case: 40 years up to the SPA	34.3		50.7		30.1		45.8	
	Average replacement rate across retirees								

7. Sustainability and context

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65 (years)	20.3	18.7	21.6	24.3	22.8	25.8
Old-age dependency ratio (20-64) (%)	31.1	27.2	35.2	54.9	51.3	58.7
Economic old-age dependency ratio (15-64) (%)	42.5	30.4	61.4	66.1	57.7	75.9
Employment rate, age group 55-64 (%)	44.1	61.8	26.4	66.8		
Pension expenditure as % of GDP (ESSPROS)	8.9					
AWG projections	2016			2055		
Coverage ratio (% of pop aged 65+)						

Data source: (6) Member State and OECD; (7) European Commission, DG ECFIN

*Notes: * - 2015*

The Netherlands (NL)

Highlights

- The Dutch multi-pillar pension system protects the elderly population from poverty and social exclusion and provides robust income replacement in retirement. The Netherlands has one of the lowest AROPE rates in the EU.
- The 2015 reform raises the pensionable age from 65 to 67 between 2013 and 2021 and links the pensionable age to life expectancy starting in 2015.
- Pensioners sustained income losses between 2009 and 2016 because of the effects of the financial crisis on occupational pensions.
- Future pension adequacy is likely to be good, despite recent freezes and cuts in many occupational pension schemes. The government should consider ways to speed up the reform of the occupational pension sector to improve risk-sharing and strengthen public confidence in the system.

1. General description of the national pension system

First pillar

The Dutch pension system is a true multi-pillar system in the sense that retirees draw pension benefits from all three pillars. The first pillar, the flat-rate state pension (AOW), provides a generous cash benefit to all persons older than 65 and 3 months who have lived in the Netherlands for 50 years between the ages of 15 and 65 (the pension is reduced by 2% for each year of non-residence). In 2016, 80.8 percent of AOW pensioners received a full pension. The AOW provided 53.7 percent of the income of those 65 and older in 2014. Early retirement is not possible. The statutory retirement age will increase gradually to 67 in 2021 (see discussion below), but pensioners are allowed to combine AOW benefits with employment.

AOW pensions are pay-as-you-go (PAYG) financed: the contribution rate has been fixed at 17.90 percent since 1997 (the statutory maximum is 18.25%) and is integrated into the first and second bracket of the personal income tax system for those below the retirement age (the contribution is paid on personal taxable income below the taxable income ceiling of EUR 33,791 (2017 figure).

In 2017, single pensioners received EUR 1231.95 per month (gross), including the vacation supplement of EUR 70.26 (paid in May each year), which is 70 percent of the minimum wage for a single person. Married and cohabiting pensioners receive EUR 851.23 each, including the vacation supplement of EUR 50.18, which is 50 percent of the minimum wage. Singles pay a monthly health insurance contribution of EUR 62.73 per month, whereas married/cohabiting pensioners pay EUR 43.25. Pensioners with a spouse/partner younger than the statutory retirement age with little or no income or a child younger than 18 also receive supplements. AOW benefits are indexed to the net minimum wage twice per year.

Pensioners who do not qualify for a full AOW pension and have little or no other income are eligible for an AIO (*aanvullende inkomensvoorziening ouderen*) supplement that brings the monthly net benefit up to the minimum income determined by government.[221]

Second pillar

[221] The amount varies according to family status: those with a child under 18 receive a higher amount; those who cohabit receive a lower amount.

The second pillar is comprised of occupational pension schemes operated by not-for-profit pension funds (268 in 2017) that cover 5.315 million current employees and 3.244 million occupational pensioners.[222] Schemes are collectively organised, quasi-mandatory, and solidaristic. Another 0.9 million employees have insurance companies run their second pillar pension schemes. Pension schemes may be organised at the firm, sectoral, or professional level. Occupational pension schemes (except for schemes for the free professions) are negotiated and managed by employers and unions as part of collective agreements. Legislation on the extension of collective agreements to entire sectors and the wide coverage (88% of the population aged 15-64) of such agreements ensure very high participation. The self-employed without personnel (*zzp'ers*) and those who work few hours per week at part-time jobs are less likely to be covered by occupational schemes.

Second-pillar pensions are closely integrated with the AOW and specific pension targets vary but generally aim to pay a defined benefit bringing the total pension (including a full AOW) up to 70 percent of average wages (including a full AOW) for 40 years of service. Employers typically pay two thirds of the pension contribution, and employees the rest. All participants in the same scheme pay the same contribution rate (the 'average premium'; see appendix for details). Contribution rates usually range from 15 percent to 25 percent of qualifying income above the AOW offset (there is wide variation across schemes concerning the level of the income ceiling for contributions and benefit accrual). The contribution rate and pension accrual are calculated on the basis of an AOW offset (*franchise*) that varies across schemes, but typically equals the individual AOW benefit. Participants may accrue up to 1.875 percent of their eligible salary below EUR 100,000. Most schemes base their standard pension age on the standard pensionable age under the first-pillar scheme.

Occupational pension schemes are fully funded: the regulatory framework (*financieel toetsingskader, FTK*) requires pension funds to have assets equal to at least 105 percent of all current and future liabilities. If the coverage ratio falls below 90 percent, pension funds are required to implement rights cuts. At the end of October 2017, pension fund assets totalled EUR 1,302 billion, and the coverage rate (*beleidsdekkingsgraad*) was 104.5 percent. 29 percent of pension funds were below the required minimum coverage ratio, affecting 3.7 million active participants (employees) and 2.1 million occupational pensioners (see discussion below).[223] These statistics reflect a significant improvement in the financial performance of pension funds in the past year, largely because of rising equity prices. At the end of December 2016, the average coverage rate was 97.5 percent, with 61 percent of funds below the minimum.[224]

Occupational pension schemes are nominally defined-benefit (DB) in that they typically promise a specific nominal benefit to participants. In reality, however, most schemes are hybrid DB and defined-contribution in the sense that the administrative boards of pension schemes may choose among several levers, including benefit cuts, to restore solvency if assets fall below the legally required level of 105 percent of liabilities. Pension funds are not legally required to index pension accrual and pay-outs to inflation and/or wages. Instead, the indexation of both accrual and benefits is conditional on pension fund solvency.

Most second-pillar pension schemes have phased out early retirement. Because the statutory pension scheme does not allow early retirement, workers with arduous jobs rely on the occupational pension provisions if they cannot work until the statutory retirement age. Many collectively negotiated occupational pensions offer flexibility concerning partial or full early

[222] 2016 figures; www.dnb.nl. There are also 9.617 million people who have accumulated pension rights, but are not currently active pension fund members and do not receive occupational pension benefits.
[223] https://www.dnb.nl/nieuws/nieuwsoverzicht-en-archief/statistisch-nieuws-2017/dnb364880.jsp. The coverage rate referred to here is the 'policy funding ratio', which is the 12-month average funding ratio based on daily market information.
[224] https://www.dnb.nl/nieuws/nieuwsoverzicht-en-archief/statistisch-nieuws-2017/index.jsp.

retirement, but there is wide variation across collective agreements. The social partners have introduced measures in most pension schemes that allow flexible retirement, mainly by combining part-time work with a part-time pension. Because the statutory pension scheme does not allow early retirement, workers in arduous and/or hazardous jobs can only retire early (either fully or partially) if their occupational pension scheme includes special provisions for older workers or allows flexible retirement. The sectors typically considered to include arduous and/or hazardous jobs (for example, the construction sector) include such provisions.[225]

Third pillar

Because of the size of the first and second pillar, personal pension savings arrangements are not very extensive, except for the self-employed and those wishing to supplement their first- and second-pillar pension benefits. According to a recent survey, about 75 percent of the solo self-employed have pension coverage. The proportion is smaller for the female solo self-employed, at about two thirds.[226] In the second half of the 2000s, the size of the third pillar was about 5 percent of all pension savings.

2. Reform trends

The AOW pension has been a target of reform for three decades because of rising expenditures. In 2000, AOW expenditure was EUR 19.1 billion, and it has risen to about EUR 37 billion in 2017.[227] A 2012 law, revised in 2015, raises the statutory retirement age from 65 to 67 between 2013 and 2021 and links the retirement age to changes in life expectancy starting in 2015.[228]

Reform of the occupational pension sector has been a priority for two decades. Debate about how to reform the second pillar continued in 2017 as stakeholders continued to discuss how to adapt to changes in the demographic and financial environment. Two thirds of all DB schemes were underfunded in July 2015, requiring the submission of recovery plans to the pensions regulator. The situation improved in 2016 and 2017 because of interest rate decreases and higher returns on equity markets. Many pension funds have frozen pension accrual and/or pay-outs. The situation of ABP, the largest pension fund (for public sector workers) illustrates the effect of this type of policy: between 2008 and 2016, pension accrual and pay-outs were 11.9 percent lower than they would have been if indexation had been granted.[229] Many pension schemes have also raised contributions to help restore solvency. For example, ABP raised contributions from 18.8 percent to 21.1 percent in 2017.

The March 2017 national elections have led to a pause in the occupational pension reform process. The four centre-right parties that have formed the new government have delegated the task of reforming second-pillar pensions to the social partners. This shifts the initiative for reform back to the Social and Economic Council of the Netherlands (*Sociaal-Economische Raad, SER*), which has been discussing second-pillar reform for several years. The SER is discussing a new type of pension contract in which individual pensions accrual is combined with collective risk sharing. This design is intended to address some of the problems associated with the current system of average premiums and should make the system less vulnerable to financial and demographic shocks. It is unlikely that the SER's proposals can be implemented before 2020.

The slowdown in the process of reforming second-pillar pensions increases the probability that many wage-earners and pensioners will face pension rights cuts in 2020 and 2021. As noted,

[225] *ESPN Thematic Report on Retirement regimes for workers in arduous or hazardous jobs*. The Netherlands. May 2016.
[226] https://www.cbs.nl/nl-nl/nieuws/2017/28/kwart-zzp-ers-heeft-geen-pensioenvoorziening.
[227] Figures are from the State Budget (*Rijksbegroting*) 2002 and 2018.
[228] *Wet verhoging AOW- en pensioenrichtleeftijd (Wet VAP).*
[229] https://www.abp.nl/over-abp/financiele-situatie/indexatie.aspx.

the regulatory framework (FTK) requires pension funds to have assets equal to at least 104.5 percent of liabilities. The largest pension funds (the public sector ABP; the metalworkers' funds PMT and PME) are unlikely to meet the 104.5 percent target in 2020 and 2021.

3. Assessment of adequacy

3.1. Current adequacy

3.1.1. General assessment of current adequacy

The Netherlands has a very strong record concerning pension adequacy. Only 1.2 percent of those aged 65 and older were severely materially deprived in 2016 (an increase of 0.8 percentage points (p.p.) since 2008). The rate was the same for those aged 75 or older. 9.1 percent of those aged 65 and older were at risk of poverty (AROP) in 2016, a decrease of 0.3 p.p. since 2008. Dutch women were more likely to be at risk of poverty than men, although the difference was not dramatic (9.5% for women and 8.6% for men). The AROP rate for those aged 75 and older was 10.5 percent, which reflects a decrease of 0.6 p.p. compared with 2008. The intensity of poverty for those aged 65 and older was also fairly low: the relative poverty gap for this group was 12.3 percent. 4.9 percent of this group experienced material and social deprivation.

The Netherlands' good performance concerning adequacy is a direct consequence of the universal coverage of the AOW pension and the AOW’s link to the net minimum wage. Although close to 20 percent of pensioners do not receive a full AOW, the widespread coverage of occupational pensions helps to compensate for this, as do various income supplements for pensioners with insufficient income.

57 percent of the elderly live in owner-occupied housing, which is lower than most other EU Member States. This reflects the wide availability of social housing. The proportion of the elderly living in owner-occupied housing is likely to rise, because of the increase in home-ownership among the working population (aged 16-64).

Pensioners in the Netherlands also fare well in comparison with the rest of the population. The AROP rate for those aged 65 and older and 75 and older is noticeably lower than it is for the rest of the population. Pensioner incomes also remain stable, despite the financial difficulties of many occupational pension schemes. The relative median income ratio of those aged 65 years and older is 0.83, which reflects a very slight decrease since 2008. The income quintile share ratio (S80/S20) for those aged 65 and older is 3.3, which is slightly higher (by 0.1 p.p.) compared with 2008. Finally, the aggregate replacement ratio for older people is 0.50.

The gender gap created by the state pension is mild because of the universal, flat-rate character of benefits. However, occupational pensions pay benefits based on lifetime earnings from employment, and because these have been (and still are) lower for women it is here that the gender gap in the overall pension package emerges. Female labour force participation is high, but most women tend to work part time. In 2001, 87 percent of men aged 65 and over had occupational pension income compared with 52 percent of women. The corresponding figures for 2014 were 92 and 61.3 percent (www.cbs.nl). The gender gap in pension income for those aged 65-79 was 45.42 percent in 2016. The relatively large gender gap reflects lower overall earnings due to the comparatively late entrance of women into the paid labour market compared with other EU Member States, as well as women's tendency to work part time. These trends do not affect statutory pension income, but they have a significant influence on occupational pension income.

3.1.2. Redistributive elements of public pension schemes

There are strong redistributive elements in both the statutory pension scheme and occupational pensions. The AOW's financing structure (contributions finance about 70% of AOW expenditure; general revenues finance the rest) and flat-rate benefit construction are strongly redistributive and provide strong protection from poverty (as discussed above). Residents build pension rights based on the number of years they have lived in the Netherlands between the ages of 16 and 65, rather than on income from previous employment. Those with insufficient AOW pension accumulation receive supplements that bring their benefits up to the level of a full AOW pension. This means that those with income from work finance benefits for all pensioners regardless of previous income from employment. The AOW's flat-rate benefit structure reinforces this redistribution, because it further weakens the link between contributions and benefits.

The structure of the AOW can be disadvantageous for those with arduous jobs and others who are forced to leave the labour market early. Early retirement is not possible in the AOW scheme, so early leavers must rely on statutory and occupational disability schemes to bridge the period between early labour market exit and statutory retirement.

3.2. Retirement conditions for the self-employed and for people in non-standard employment

The relative generosity of the statutory basic pension ensures that all pensioners receive an adequate income in retirement, regardless of their previous labour market status. The AOW is therefore particularly important to the self-employed and to non-standard workers, because both groups are not adequately covered by the obligatory, collectively organised pension arrangements in the second pillar. This means that the self-employed and non-standard workers are sufficiently protected against poverty after they leave the labour market, but many are unable to supplement their first-pillar pension with additional retirement savings.

The inadequacy of second- and third-pillar pension coverage for the self-employed and non-standard workers has been an important political issue for several decades. Efforts to improve second-pillar coverage for part-time work began in 1996 when the government passed legislation guaranteeing the equal treatment of full-time and part-time work, including occupational pension accrual. Part-time workers now earn occupational pension rights on a proportional basis and cannot be excluded from occupational schemes. The Flexibility and Security Act (*Wet flexibiliteit en zekerheid*) adopted in 1998 improves the social security provisions of non-standard workers. Despite these improvements, however, some categories of agency and on-call workers are not adequately covered in the second pillar. There is a binding collective agreement for the temporary sector.

Efforts to improve second- and third-pillar coverage for the self-employed have been less successful. One of the fastest growing categories of worker is the solo self-employed, yet occupational pension coverage remains insufficient. About one half of the self-employed have insufficient retirement savings in the second and third pillar, and 25 percent have insufficient savings in the third pillar (Ministry of Social Affairs and Employment, 8 July 2016). Coverage is expensive, and the self-employed often forego coverage or only buy partial coverage on the personal pension insurance market. The number of self-employed people without personnel has increased substantially during the past decade, from 400,000 in 1996 to 956,000 in 2009. Recent reform debates consider the position of *zzp'ers*, but no action has been taken.

3.3. Future adequacy and challenges

The Dutch pension system is likely to continue to perform well in terms of future pension adequacy, despite the recent freezes and cuts in some occupational pension schemes. There is a very strong political consensus to maintain the structure of the statutory pension. However, financial sustainability remains a concern. AOW expenditures have risen by about 25 percent since 2008, and projected increases in life expectancy will create additional pressure on pension financing. Current life expectancy at age 65 is 19.8 years, and this is forecast to increase to 23.8 by 2056. Recent reforms aim to reduce current and future spending by raising the statutory retirement age but these are unlikely to counteract all of the future financial effects of rising longevity. Additional increases in the statutory retirement age and/or increases in the general revenue financing of the AOW are therefore likely in the medium to long term. Continued efforts to increase the labour market participation of older people will be important elements in these reform strategies.

The slowdown in the occupational pension reform process is also cause for concern. As discussed above, many pension funds have suspended indexation for several years, resulting in some loss of purchasing power for current pensioners and lower pension accumulation for future pensioners. Agreement on a new type of occupational pension contract has been difficult, and is likely to require several years of negotiation between the social partners.

4. Main opportunities for addressing pension-related challenges

The statutory pension provides very strong protection against poverty in old age, and the wide coverage of occupational pension schemes results in strong income replacement during retirement for most pensioners. The key challenge for the Netherlands is thus to ensure the financial sustainability of both the statutory and collectively organised occupational pensions. Recent governments have taken important steps to ensure the financial sustainability of the statutory pension by raising the statutory retirement age and linking it to life expectancy. Rising life expectancy and projected increases in the old-age dependency ratio will require additional sources of financing. One option is for the government to consider gradually increasing the share of general revenue financing, thereby relieving pressure on employment-based sources of revenue.

The ongoing reform of second-pillar pensions is a priority. Several years of pension rights freezes and cuts because of the 2008 financial crisis and historically low interest rates are jeopardising the legitimacy of the system. The government and social partners should consider switching from a DB formula to a collective DB formula that is less vulnerable to financial market shocks.

5. Background statistics – the Netherlands

1. Relative incomes of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.83	0.85	0.82	-0.01	0	-0.02
Income quintile share ratio (S80/S20), 65+	3.3	3.5	3.1	0.1	0.1	0
Aggregate replacement ratio (ARR)	0.50	0.55	0.48	0.07	0.06	-0.03

2. Poverty and material deprivation

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+ (%)	10.1	9.8	10.4	0.4	-0.3	0.9
At-risk-of-poverty (AROP), 65+ (%)	9.1	8.6	9.5	-0.3	-1	0.3
Severe material deprivation (SMD), 65+ (%)	1.2	1.4	1.1	0.8	0.8	0.8
At-risk-of-poverty or social exclusion (AROPE), 75+ (%)	11.6	11.2	11.8	0.3	-2.1	1.7
At-risk-of-poverty (AROP), 75+ (%)	10.5	9.5	11.3	-0.6	-3.4	1.2
Severe material deprivation (SMD), 75+ (%)	1.2	2.2	0.5	1.0	1.7	0.5
Relative poverty gap, 65+ (%)	12.3	13.5	11.3	-2.2	2.0	-6.0
At-risk-of-poverty (AROP), 65+: 50% threshold (%)	3.3	3.4	3.2	-1.0	-0.5	-1.4
At-risk-of-poverty (AROP), 65+: 70% threshold (%)	22.7	21.4	23.9	1.1	1.8	0.8
				Change 2014-2016		
Material and social deprivation, age 65+ (%)	5.1	4.1	5.9	0.6	0.2	0.9

3. Gender differences

Indicator	2016	Change 2008-2016
	Total	Total
Gender gap in pension income (65-79) (%)	45.42	2.97
Gender gap in non-coverage (W-M in p.p.) (65-79)	0	0.2

4. Housing and health situation of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Population 65+ living in overcrowded households (%)	0.5	0.6	0.3	0.4	0.5	0.2
Tenure status among people 65+: share of owners (%)	57.1	62.8	52.2	10.5	10.4	10.1
Housing cost overburden, 65+ (%)	13.6	10.5	16.2	-2.2	-0.3	-3.5
Self-reported unmet need for medical care 65+ (%)	0.2	0.2	0.1	0.0	-0.1	0.0
Healthy life years at age 65 (years) *		10.5	9.4		0.6	-0.3

5. Pension duration

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Pension payment duration (2012) (years)		19.4	22.6			
Retirement duration (AWG) (years)		18.3	22.8		18.8	23.3

Data source: (1) (2) (3) (4) Eurostat, Sept-Oct 2017 (5) European Commission

*Notes: * - 2015 data.*

6. Theoretical Replacement Rates (TRRs)

	TRR case	**Net (%)**				**Gross (%)**			
		2016		*2056*		*2016*		*2056*	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Variant: old base case: 40 years up to 65	97.2		53.1		85.3		44.5	
	New base case: 40 years up to the SPA	101.8		96.1		89.9		86.4	
	Increased SPA: from age 25 to SPA	101.8		101.7		89.9		92.0	
	AWG career length case	108.4	106.1	61.5	59.1	96.4	94.2	52.3	50.0
	Longer career: 42 years to SPA			98.3				88.6	
	Shorter career: 38 years to SPA			93.9				84.2	
	Deferred exit: 42 years to SPA +2			105.8				96.1	
	Earlier exit: 38 years to SPA -2			97.3				87.5	
	Career break – unemployment: 3 years			92.4				83.1	
	Career break due to childcare: 3 years			92.4				83.1	
	Career break caring for family dependant: 3 years			92.4				83.1	
	Short career (20-year career)			59.0				53.1	
	Work 35 years, disabled 5 years prior to SPA			89.9				80.8	
	Early entry in the LM: from age 20 to SPA			108.5				97.6	
	Index: 10 years after retirement @ SPA			96.1				86.4	
	Extended part-time period for childcare			85.8				77.1	
	Pension rights of surviving spouses								69.2
Low (66%)	Variant: old base case: 40 years up to 65	91.8		27.6		85.3		28.3	
	New base case: 40 years up to the SPA	96.4		98.0		89.9		91.8	
	AWG career length case	101.0	99.4	34.1	32.3	96.5	94.3	33.3	31.9
	Career break – unemployment: 3 years			95.8				89.7	
	Career break due to childcare: 3 years			95.8				89.7	
	Short career (20-year career)			75.4				YES	
High	New base case: 40 years up to the SPA	98.4		64.0		89.9		70.6	
	Average replacement rate across retirees								

7. Sustainability and context

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65 (years)	19.8	18.4	21.1	23.8	22.3	25.2
Old-age dependency ratio (20-64) (%)	30.6	27.8	33.5	47.4	43.0	52.0
Economic old-age dependency ratio (15-64) (%)	35.3	29.1	42.6	48.7	41.1	57.0
Employment rate, age group 55-64 (%)	63.5	72.8	54.2	72.9		
Pension expenditure as % of GDP (ESSPROS)	12.3*					
AWG projections	2016			2055		
Coverage ratio (% of pop aged 65+)						

Data source: (6) Member State and OECD; (7) European Commission, DG ECFIN

*Notes: * - 2015*

Austria (AT)

Highlights

- The Austrian pension system produces comparatively high aggregate replacement ratios and median relative income ratios of people aged 65+. Still, the at-risk-of poverty rates for elderly people (both for the age groups 65+ and 75+) are not substantially lower than the average of EU-27, irrespective of the comparatively high public pension spending in Austria. One other challenge is a high de facto differentiation of benefit levels for men and women.
- Recent reforms aimed at a reduction of influx to early retirement and invalidity pensions, with the goal to increase actual retirement age. One other potentially important measure was to substantially increase the minimum pension via the "means-tested equalisation supplement" ("Ausgleichszulage") for people with more than 30 contribution years.
- The full implementation of pension reforms decided in the past will not imply a higher progressivity of the Austrian pension system. People with discontinuous careers and low work income risk receiving low pensions.
- Austria will introduce a new "means-tested equalisation supplement" ("Ausgleichszulage") for people with long contribution periods.

1. General description of the national pension system

The by far most important source for the provision of retirement income in Austria is the so-called "statutory pension system" ("*Gesetzliche Pensionsversicherung*"), which is the first pillar of the Austrian pension system. It provides old-age pensions, surviving dependents' pensions, as well as invalidity pensions. Today, the statutory pension system includes, in principle, all people in gainful employment[230] (including most categories of self-employed), with the exception of civil servants, who have traditionally been covered by their own systems.[231]

Schemes of the second pillar are occupational pensions based on works agreements and the so-called "new severance pay scheme". The third pillar is private savings, where public subsidies are available within a scheme called "premium-aided pension savings scheme" ("*Prämienbegünstigte Zukunftsvorsorge*").

The statutory pension scheme is organised as an unfunded pay-as-you-go (PAYG) scheme. It is at first instance financed by insurance contributions[232], which however only have to be paid for earned income up to a specific ceiling – the so-called "maximum contributions basis" ("*Höchstbeitragsgrundlage*"), currently (2017) amounting to a monthly gross earning of €4,980.[233] Although the statutory pension system is at first instance financed from insurance

[230] Employees with wages below the so-called marginal earnings threshold (*Geringfügigkeitsgrenze*) (2017 €425.7 per month gross) may opt into the old-age insurance on a voluntary basis.

[231] However, under the Act on the "Harmonisation of Austrian Pension Systems", which took effect on 1 January 2005, uniform pension laws were envisaged for all gainfully employed people, including federal civil servants. Civil servants of the federal states have different regulations

[232] Gross earnings up to the "maximum contributions base".

[233] This means that gross earnings above the ceiling are not part of the contribution base. The yearly maximum contributions base (for employees including Christmas pay and holiday pay) currently (2017) amounts to €69,720.00 gross.

contributions, tax-financed funds play some role as well. In 2016, the overall share coming from the federal budget amounted to about €9.85 billion, which equals approx. 2.8 percent of GDP or 25 percent of overall spending on pensions (e.g. old-age pensions, invalidity pensions and surviving dependants' pensions).[234]

The Austrian statutory pension system is a defined-benefit (DB) scheme. The formula for the calculation of benefits underwent rather large-scale reforms in the early 2000s (see e.g. Fink 2009 and Knell et al. 2006 for a more detailed assessment). These reforms are subject to a number of different transitional arrangements, but from a mid-term perspective, the effect will be a largely linear benefit formula. With these reforms, the contribution base on which the replacement rate is applied was expanded from the "best" 15 years with the highest earnings to lifetime earnings. Apart from that, the accrual rate was reduced from 2 percent to 1.78 percent per year. Consequently the maximum replacement rate at the statutory retirement age, amounting to 80 percent of the assessment base, will be reached after an insurance history of 45 years, instead of 40 years before the reform (see Fink 2014 for more details on transitional arrangements).[235] The Austrian statutory pension system does not provide an unconditional minimum pension. However, the so-called "means-tested equalisation supplement" ("*Ausgleichszulage*") may - on a partly means-tested basis - apply for persons who are, in principle, eligible to a pension entitlement. This means that pensions of low benefit level may be raised to the so-called "equalisation supplement reference rate" ("*Ausgleichszulagenrichtsatz*") in case of financial indigence.

The statutory retirement age is 65 for men and 60 for women. The latter will be gradually raised as from 2024, also reaching 65 years in 2033. Different schemes of early retirement exist in Austria.[236] Of them, the currently most important one is "pensions subject to very long insurance periods" (so-called "*Langzeitversichertenregelung*" or "*Hacklerregelung*"). Within this scheme, men used to have the opportunity to retire without deductions as from the age of 60 and women as from the age of 55 if their insurance periods totalled 45 contributory years (men) or 40 contributory years (women), respectively. As from 2014, access to this scheme has been considerably tightened and the number of benefit recipients has declined during recent years and is expected to get further reduced over the next years.[237] Other forms of early retirement are so-called "heavy labour pension" ("*Schwerarbeiterpension*")[238] and early

[234] Source: Federal Ministry of Labour, Social Affairs and Consumer Protection (2016). The tax-share is likely to increase slightly in the near future.

[235] By not claiming a pension and working beyond the statutory retirement age it is possible to increase the replacement rate further. Every year of further employment increases the replacement rate by 4.2 pp up to an absolute maximum of 91.76 percent.

[236] The number of recipients of normal old-age pensions (including invalidity pensions as from the age of 60 [women]/65 [men]) developed as follows: December 2006: 1,254,216; December 2010: 1,379,671; December 2011: 1,404,463; December 2012: 1,437,037; December 2013: 1,468,963; December 2014: 1,504,395; December 2015: 1,534,383; December 2016: 1,569,001. The total number of recipients of different types of early old-age retirement schemes (without invalidity pensions) developed as follows: December 2006: 122,870; December 2010: 115,092; December 2011: 119,995; December 2012: 117,395; December 2013: 117,677; December 2014: 110,987; December 2015: 96,854; December 2016: 87,577; Source: Hauptverband der Österreichischen Sozialversicherungsträger.

[237] The number of benefit recipients within this scheme developed as follows: December 2006: 11,494; December 2010: 83,988; December 2011: 89,147; December 2012: 88,763; December 2013: 90,522; December 2014: 83,545; December 2015: 67,364; December 2016: 53,380. Source: Hauptverband der Österreichischen Sozialversicherungsträger.

[238] This scheme is specifically targeted at workers in arduous or hazardous jobs (WAHJ). The number of benefit recipients developed as follows: December 2010: 2,395; December 2011: 3,227; December 2012: 3,732; December 2013: 4,482; December 2014: 6,600; December 2015: 7,405; December 2016: 14,652. Source: Hauptverband der Österreichischen Sozialversicherungsträger.

retirement via the so-called "corridor-pension" ("*Korridorpension"*)[239] (see Fink 2014 for more details on these schemes). In contrast to pensions subjected to very long insurance periods the number of retirees entering early retirement through these two pathways increased in recent years. While receiving any of the mentioned forms of early retirement working is only possible up to the marginal earnings threshold. Receiving an income above this threshold leads to a mandatory insurance and a complete loss of the early retirement pension. Apart from these options of early retirement, it is worth mentioning that invalidity pensions as well used to play a major role as an option of early exit from the labour market in Austria).[240]

For benefit recipients of regular old-age pensions, i.e. after statutory retirement age, it is possible to combine pension and earned income from work without deductions. Furthermore it is possible to defer pension entry beyond statutory retirement age. In this case, the retirement pension calculated at pensionable age gets increased by 4.2 percent for every year of additional employment (normally for up to three years) and only 50 percent of normal insurance contributions have to be paid (although they are taken into account at usual level within the pension account).

About 500.000 people receive surviving dependents' pensions which can be combined with other pension benefits.

The second and the third pillar are of rather limited importance in Austria, although coverage and the accumulated funds have increased over time. In the second quarter 2017 about 819,000 persons (or ca. 21 percent of the dependent employees) were entitled to receive an additional pension from an occupational scheme in the future, and about 95,900 persons (which equals approx. 5.5 percent of the population aged 65 and above) were already beneficiaries.[241] The second pillar was somewhat strengthened by the introduction of the so-called "new severance pay scheme" (*"Abfertigung neu"*) in 2003. Employers are obliged to pay 1.53 percent of the monthly gross salary to a staff provision fund set up especially for this purpose. Employees have the option to withdraw their savings in case of termination of a work contract (if specific preconditions are fulfilled) or to keep them until retirement age. The latter option, however, does not seem to be widely used.

Regarding the third pillar – i.e. private savings – since 2003 public subsidies are available within a scheme called "premium-aided pension savings scheme" ("*Prämienbegünstigte Zukunftsvorsorge"*). However, the impact of the "premium-aided pension savings scheme" on the level of future pensions is likely to turn out to be rather limited. The number of related

[239] The "corridor pension" – under specific circumtances – allows early retirement as from the age of 62. Early retirement according to this scheme comes with deductions. For details see: https://www.help.gv.at/Portal.Node/hlpd/public/content/27/Seite.270301.html. The number of benefit recipients developed as follows: December 2010: 10,378; December 2011: 12,810; December 2012: 14,180; December 2013: 14,956; December 2014: 15,748; December 2015: 18,815; December 2016: 17,007. Source: Hauptverband der Österreichischen Sozialversicherungsträger.

[240] The number of benefit recipients developed as follows: December 2010: 209,431; December 2011: 211,144; December 2012: 208,339; December 2013: 204,096; December 2014: 187,657; December 2015: 170,489; December 2016: 165,341. Source: Hauptverband der Österreichischen Sozialversicherungsträger. It is worth mentioning that it is also possible to work and receive an invalidity pension at the same time, but in this case the invalidity pensions will be partly reduced depending on the income. The largest possible reduction is 50 percent. For details in regard to working and receiving an invalidity pension as well as in regard to all details for working and receiving any kind of pension see Pensionsversicherungsanstalt (2017) and Arbeiterkammer (2017).

[241] Source: FMA (2017) & own calculations.

contracts even declined in recent years and the average annual insurance premium is very low.[242]

The OECD indicates (following a slightly different methodology than the one used above on the second and the third pillar) that about 13.9 percent of the population in working age (15-64) were recently covered by voluntary occupational schemes (i.e. the traditional part of the second pillar) and 18 percent by the third pillar (voluntary private schemes).[243]

Overall, the first pillar shows by far the most important relative importance of the three pillars for retirement income provision. In 2016 benefits paid from funded pensions schemes only amounted to 0.2 percent of GDP.[244]

2. Reform trends

The most important reforms on the Austrian pension system took place in 2001, 2003, 2004 and 2014. These reforms extended the contribution base to lifetime earnings, reduced the accrual rate from 2 percent to 1.78 percent per year and followed the aim of a harmonization of pensions of civil servants with the ones of private sector employees. However, the reforms of the early 2000s did not only include measures leading to a retrenchment of benefits, but also some elements intended to soften the possible negative consequences of the pension reforms, especially for women (see below sub-chapter on “Assessment of adequacy”).

With the introduction of the “New pension account” from 1.1.2014 pensions for all persons born on or after 1.1.1955 are calculated exclusively under the pension account system. The initial account credit and exclusive use of the pension account system enables the pension insurance institutions to perform accurate calculations of recipients’ future pension benefits.

Other reforms at first instance dealt with the different schemes of early retirement and with invalidity pensions, literally all of them following the aim to tighten access to these schemes and to increase actual retirement age. First related measures were decided as parts of the reforms 2000 and 2003, when early retirement due to “reduced capacity to work” and “on account of unemployment” got abolished. At the same time it was decided that the minimum retirement age for “early retirement on account of long-term insurance contributions” (“*vorzeitige Alterspension bei langer Versicherungsdauer*”)[245] would be increased stepwise until 2017 up to the statutory retirement age, which means that this exit pathway from the labour market has now ceased for new cases. Early retirement in the form of “pensions subject to very long insurance periods” (so-called “*Langzeitversichertenregelung*” or “*Hacklerregelung*”)) was originally planned to expire in 2010. However, due to reform decisions taken in 2008, 2010 and 2014 this scheme was repeatedly prolonged. But at the same time access was repeatedly tightened and since 2014 pensions according to the

[242] 1.377.272 of such contracts on savings plans existed at the end of 2016, covering only about a quarter of the population at the age below 60 (see Finanzmarktaufsicht Österreich 2017a). Furthermore, the level of premiums paid to such schemes typically appears to be rather low. In 2015, the average premium amounted to about €647 to €661 per year (depending on the type of provider of the scheme) (see Finanzmarktaufsicht Österreich 2017b).

[243] Source: OECD Global Pension Statistics.

[244] Source: OECDStat, Funded Pensions Indicators, http://stats.oecd.org/Index.aspx?DatasetCode=PNNI_NEW

[245] The number of benefit recipients developed as follows: December 2000: 132,167; December 2010: 18,331; December 2011: 14,811; December 2012: 10,720; December 2013: 7,717; December 2015: 5,095; December 2016: 2,538. Source: Hauptverband der Österreichischen Sozialversicherungsträger.

“*Hacklerregelung*” are subject to yearly deductions of 4.2 percent per year of early retirement. Also regarding the “corridor-pension” (“*Korridorpension*”) access to early retirement got tightened as from 2013 by a stepwise increase of the necessary years of insurance – from 37.5 in 2012 to 40 in 2017.

A series of reforms was as well decided on invalidity pensions. Here the most important measure was replacing so-called “temporary invalidity pension” - from which in the past a large inflow occurred to permanent invalidity pension – by two new benefits, namely “rehabilitation benefit” (“*Rehabilitiationsgeld”*) and “re-training benefit” (“*Umschulungsgeld”*), for benefit applicants born after December 31 1963. This reform pursues the following goals: to reduce the flow into permanent invalidity pension, to increase the actual retirement age, and to raise active labor market participation[246]. Furthermore, the reform was expected to contain public cost. However, a recent evaluation by the Austrian Court of Audit shows that the originally defined goals could not be reached to a great extent, both regarding re-employment of benefit recipients and cost-containment (Rechnungshof 2017).

Tightening access to early retirement and the reform of temporary invalidity pensions contributed to an increase of actual retirement age, but employability and labour market participation of older jobholders remained to be an important issue of political debates. However, additional measures were more of the type of incremental adaptation than of structural reform. An exemption would have been a so-called “bonus-malus-scheme”, coming with lower social insurance contributions for employers who engage more elderly workers than the average of the related sector and with fines for employers with a low share of elderly workers. This was originally planned to be applicable as from 2018 but will de facto not be implemented, as defined goals of rising employment rates of elderly workers have been reached anyhow. One measure actually implemented as from the beginning of 2017 is that pension insurance contributions are cut by half for a span of three years if persons choose to work longer than the statutory retirement age. This follows the aim to give additional incentives to postpone retirement after the statutory retirement age.

The distributional impact of the Austrian pension scheme has not been on the political agenda in the recent years in terms of a more encompassing debate. However, there appears to be some awareness of the fact that the Austrian pension scheme comes with comparatively low benefits for specific groups and that poverty in old-age is an issue. Low benefits were repeatedly (in 2013, 2014 and 2018) indexed at an above-standard rate and in 2016 it was decided to increase the “means-tested equalisation supplement” (“*Ausgleichszulage*”) from €883 to €1,000 when more than 30 contribution years have been reached (becoming effective from 1.1.2017). It is expected that this measure will benefits about 20,000 persons, most of them women. Another measure worth mentioning in this context is that a “negative tax”, which earlier was only accessible for earnings from gainful employment, was also introduced to pension incomes as part of the Tax Reform 2015/16. Old-age pensioners with a gross income below €11,000 per year are eligible for refunds of 50 percent of social insurance contributions up to a maximum of €110 per year.

Regarding financial sustainability, the question of adding automatic stabilizers to the calculation formula of pensions in Austria has been popping up now and then in Austria since more than a decadeIntroducing such automatic stabilizers would alter the Austrian statutory pension scheme only in changing existing parametric e.g. adapting the statutory pension age.

[246] To reach this goal, substantial additional funds were made available for re-training measures and medical rehabilitation. In case of a permanent invalidity or occupational disability it is still possible to receive an invalidity pension.

The current Austrian government has no plans in introducing automatic stabilizers to the calculation formula of pensions.

Regarding the second and the third pillar it is in general fair to say that decision makers did not give an emphasis to the further development of related instruments. Especially the funded third pillar is very reluctantly supported by politicians since the financial and economic crisis. Public subsidies within the "premium-aided pension savings scheme" (*Prämienbegünstigte Zukunftsvorsorge*) of the third pillar have been cut by 50 percent as from April 2012 and since then no attempts have been made to promote the third pillar to a larger degree.

3. Assessment of adequacy

3.1. Current adequacy

3.1.1. General assessment of current adequacy

When compared to other Member States, the Austrian pension system produces comparatively high aggregate replacement ratios and median relative income ratios of people aged 65+. Furthermore, the Austrian pension system, by international standards, shows rather long pension payment duration and retirement duration.

In spite of high average incomes, the at-risk-of poverty rates for elderly people (both for the age groups 65+ and 75+) are not substantially lower than at average of EU-27. This especially holds for women, but also for men in the age 75+. However, when looking at the development since 2008 (earlier data is not directly comparable due to a break in series in 2008[247]), numbers indicate a substantial reduction of the share of elderly people being at-risk-of poverty. In 2008 the at-risk-of poverty rate of people in the age 65+ in total amounted to 18.9 percent (men: 14.1 percent; women: 22.4 percent). In 2016 the related numbers were 13.2 percent in total, 10.0 percent for men and 15.7 percent for women. This reduction of the at-risk-of poverty rate is likely to be caused by a cohort with higher pensions now being part of the age-group 65+ and by above average indexation of minimum pensions and other comparatively low pensions (repeatedly implemented as from 2008). Furthermore, the relative median at-risk-of-poverty gap of elderly people decreased from 18.2 percent in 2008 to 13.2 percent in 2016. This means that the median income of people in the age 65+ being at-risk-of poverty is now closer to the poverty threshold than before. Overall, these developments point to the direction that the incidence of comparatively low household income got structurally reduced for people in the age 65+ during recent years.

Overall, it is fair to say that the Austrian pension scheme – on average – provides rather generous benefits from an international comparative point of view, which also is evident from the comparatively high theoretical replacement rates for continuous employment careers.

However, given the comparatively high spending for pensions in Austria outcomes are still unsatisfactory in terms of at-risk-of poverty rates. This points, as already noted above, towards a problem of substantial inequality of income of elderly people.The S80/S20 income quintile share ratio for people in the age 65+ amounted to 3.7 in 2016. This is lower than the average number for EU-28 (4.1), but still substantially higher than in the Member States with the lowest income inequality among elderly people. The problem of income inequality of elderly people

[247] Income data in EU-SILC in the case of Austria as from 2008 derives from registry data, whereas before only survey data got used.

also results in a substantial gender gap in pension income (in the age 65 to 79), amounting to nearly 41 percent in 2016, and which did not get reduced during recent years.

3.1.2. Redistributive elements of public pension schemes

The "principle of equivalence"[248], which plays an important role in the design of the Austrian pension scheme and which re-produces income inequality within gainful employment within the pension system overall even got strengthened with the reforms of the early 2000s by expanding the assessment base from the "best" 15 years" to lifetime earnings[249].

However, within the same reforms the minimum number of contribution years due to gainful work required for an old-age pension got reduced to seven years (formerly 15 years). Therefore the minimum eligibility criteria for a pension are 7 contribution years (gainful work) and at least 8 years of other pension qualifying periods (e.g. covered child-raising-periods, unemployment periods, military service).

This contributes to a reduction of the non-coverage rate and has a positive re-distributive impact. Furthermore, the assessment base for times spent with bringing up children was raised from EUR 650 per month to €1,350 per month (2011: €1,560.98; 2012: €1,570.35; 2013: €1,614.32; 2014: €1,649.84; 2015: €1,694.39; 2016: €1,735.06; 2017: €1,776.7). This measure also has a positive redistributive impact and to some degree mitigates the in that respect adverse effects of expanding the assessment base.

One other re-distributive element of the Austrian pension scheme is the "means-tested equalisation supplement" ("*Ausgleichszulage*") which defines a minimum pension for persons who are, in principle, eligible to a pension entitlement. In December 2016 for 9.1 percent of all pensions an equalisation supplement was granted.[250] The share was lower for old-age pensions, amounting to 6.1 percent. In 2016 about two thirds of all recipients of equalisation supplement were women. In 2017, the equalisation supplement reference rate in old-age pension amounted to €844.46 net per month for single persons and to €1315.73 net per couple. Pensions are granted 14 times per year, but yearly net pensions granted according to the equalisation supplement - €11,822 for singles and €18,420 for couples - are still substantially lower than the related at-risk-of poverty thresholds[251] according to EU-SILC 2016 amounting to €14,271 for singles and to €21,325 for couples. Still, the equalisation supplement – at average amounting to €308 in 2016 – significantly reduces the at-risk-of poverty gap of elderly people in Austria.

3.2. Retirement conditions for the self-employed and for people in non-standard employment

Pension insurance covers the vast majority of all people in gainful employment in the private sector in Austria. Since the middle of the 1990s, reforms in Austria have pursued the aim of closing gaps of statutory insurance and of integrating all types of earned income from

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[248] Meaning the notion that the level of benefits should at first instance reflect the level and duration of earlier insurance contributions.

[249] However, future adverse effects on the level of women's pensions get to some degree mitigated by another measure as well decided within the pension reforms of the early 2000s, namely by considerably increasing the assessment base and the insurance periods granted for times bringing up children, which are as well taken into account when calculating old-age pensions (see below in the chapter on pension adequacy).

[250] Source: Hauptverband der Österreichischen Sozialversicherungsträger (2017).

[251] At-Risk-Of-Poverty threshold: 60 percent of the median of equivalised household incomes.

employment into social security. The coverage of social insurance – and the obligation to pay social insurance contributions – was extended to the so-called new self-employed and freelance contractors in terms of pension insurance, health insurance and accident insurance in 1996. At the same time, the regulations on so-called "marginal part-time employment" were reformed, so that income from such contracts, in the case of multiple jobholders, must be added to other income from dependent employment or freelance contracts. And once the lower earnings limit (*Geringfügigkeitsgrenze*) of (currently - 2017) €415.72 per month is met, income from such contracts leads to coverage by health and pensions insurance, with an obligation to pay related insurance contributions. Apart from that, people who are solely active in marginal part-time employment can opt in to health and pensions insurance at fairly low cost.

3.3. Future adequacy and challenges

Theoretical replacement rates will – according to projections – remain comparatively high in Austria by international standards. However, the TRRs for average earners will remain at about the same level as TRRs for low wage earners. This means that the full implementation of pension reforms decided in the past will not imply a higher progressivity of the pension system. Via the principle of equivalence (of contributions and benefits) – the Austrian pension system will continue to reproduce inequalities of earned income in old-age pensions. Hereby it should be noted that the ongoing differentiation of chances and risks on the labour market comes with a growing divergence concerning continuity of employment and levels of earned income. And rising numbers of single-person businesses and persons in non-standard employment further contribute to this challenge. At the same time the Austrian quasi-minimum pension via the "means-tested equalisation supplement" is not "poverty-proof" (see above). However the "means-tested equalisation supplement" is an effective instrument within the Austrian pensions system in reducing the At-Risk-Of-Poverty-Rate considerably.

4. Main opportunities for addressing pension-related challenges

The Austrian approach of a stepwise closing of early pathways from the labour market should be followed consequently. The main task identified by the Austrian government is closing the gap between the factual retirement age and the statutory retirement age by increasing the employment rate of people 55+.

The Austrian government will focus on evaluating and reforming:

1. Surviving dependents' pensions
2. Invalidity pensions (more target-oriented rehabilitation, focus on psychiatric diseases, this refers to recommendations of the Austrian Court of Audit)
3. Introducing a new "means-tested equalisation supplement" ("*Ausgleichszulage*") for people with more than 40 contribution years with EUR 1.200 for Single persons and EUR 1.500 for couples

This is expected to contribute to the reduction of the Gender Gap in Pensions.

5. Background statistics – Austria

1. Relative incomes of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.97	1.01	0.93	0.09	0.05	0.09
Income quintile share ratio (S80/S20), 65+	3.7	3.7	3.6	-0.5	-0.3	-0.7
Aggregate replacement ratio (ARR)	0.62	0.69	0.58	0.01	0.08	0.02

2. Poverty and material deprivation

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+ (%)	13.7	10.2	16.4	-7.5	-6.3	-8.2
At-risk-of-poverty (AROP), 65+ (%)	13.2	10.0	15.7	-5.7	-4.1	-6.7
Severe material deprivation (SMD), 65+ (%)	1.2	0.6	1.6	-3.2	-2.8	-3.5
At-risk-of-poverty or social exclusion (AROPE), 75+ (%)	15.6	12.4	17.7	-6.4	-4.3	-7.2
At-risk-of-poverty (AROP), 75+ (%)	15.3	12.0	17.5	-4.4	-2.8	-5.0
Severe material deprivation (SMD), 75+ (%)	0.7	0.6	0.8	-3.4	-1.4	-4.6
Relative poverty gap, 65+ (%)	16.1	18.3	13.9	-2.1	-3.7	-3.2
At-risk-of-poverty (AROP), 65+: 50% threshold (%)	6.6	5.4	7.4	-3.9	-2.9	-4.6
At-risk-of-poverty (AROP), 65+: 70% threshold (%)	21.3	16.9	24.8	-6.5	-4.3	-7.7
				Change 2014-2016		
Material and social deprivation, age 65+ (%)	4.1	2.7	5.1	-0.8	-1.0	-0.7

3. Gender differences

Indicator	2016	Change 2008-2016
	Total	Total
Gender gap in pension income (65-79) (%)	40.57	1.05*
Gender gap in non-coverage (W-M in p.p.) (65-79)	10.2	-6.2*

4. Housing and health situation of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Population 65+ living in overcrowded households (%)	4.5	4.6	4.3	-0.3	0.1	-0.6
Tenure status among people 65+: share of owners (%)	53.9	58.4	50.3	-5.2	-5.8	-5.2
Housing cost overburden, 65+ (%)	4.8	3.3	6.0	-12.0	-7.0	-15.5
Self-reported unmet need for medical care 65+ (%)	0.2	0.1	0.2	-0.7	-0.7	-0.9
Healthy life years at age 65 (years) **		7.9	7.7		0.5	0.2

5. Pension duration

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Pension payment duration (2012) (years)		22.5	27.8			
Retirement duration (AWG) (years)		19.6	24.8		23.1	27.2

Data source: (1) (2) (3) (4) Eurostat, Sept-Oct 2017 (5) European Commission

*Notes: * there were breaks in time series (for 2008 data); ** - 2015 data.*

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net (%)				Gross (%)			
		2016		2056		2016		2056	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Variant: old base case: 40 years up to 65	86.1	94.0	84.8		72.5	81.6	71.2	
	New base case: 40 years up to the SPA	86.1	84.8	84.8		72.5	71.0	71.2	
	Increased SPA: from age 25 to SPA	86.6	75.7	83.1		72.5	62.1	71.2	
	AWG career length case	85.2	90.0	88.0	82.5	71.1	76.2	74.1	68.4
	Longer career: 42 years to SPA			88.0				74.8	
	Shorter career: 38 years to SPA			81.7				67.6	
	Deferred exit: 42 years to SPA +2			93.5				81.1	
	Earlier exit: 38 years to SPA -2			0.0				0.0	
	Career break – unemployment: 3 years			83.3				69.4	
	Career break due to childcare: 3 years			82.9				68.9	
	Career break caring for family dependant: 3 years			80.2				65.9	
	Short career (20-year career)			47.5				35.6	
	Work 35 years, disabled 5 years prior to SPA			68.7				53.8	
	Early entry in the LM: from age 20 to SPA			92.7				80.2	
	Index: 10 years after retirement @ SPA			72.6				57.7	
	Extended part-time period for childcare			76.8				62.0	
	Pension rights of surviving spouses				62.7				51.0
Low (66%)	Variant: old base case: 40 years up to 65	86.6	95.2	85.2		72.5	81.6	71.2	
	New base case: 40 years up to the SPA	86.6	85.1	85.2		72.5	71.0	71.2	
	AWG career length case	84.9	89.3	87.4	82.4	71.1	76.2	74.1	68.4
	Career break – unemployment: 3 years			83.5				69.4	
	Career break due to childcare: 3 years			89.0				75.1	
	Short career (20-year career)			62.7				50.1	
High	New base case: 40 years up to the SPA	76.8	72.7	66.0		62.4	59.8	53.2	
	Average replacement rate across retirees	83.4	76.6			69.8	63.9		

7. Sustainability and context

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65 (years)	19.8	18.1	21.3	23.9	22.3	25.4
Old-age dependency ratio (20-64) (%)	29.8	25.5	34.2	52.6	47.9	57.5
Economic old-age dependency ratio (15-64) (%)	37.0	29.6	45.3	60.3	53.1	68.0
Employment rate, age group 55-64 (%)	49.2	57.6	41.1	58.6		
Pension expenditure as % of GDP (ESSPROS)	14.8*					

Data source: (6) Member State and OECD; (7) European Commission, DG ECFIN

*Notes: * - 2016*

Poland (PL)

Highlights

- A majority of pensioners in Poland receive pensions according to the old system rules, with a significant redistributive component, which currently protects the elderly population against poverty and social exclusion, with an AROPE rate below the EU average.
- In 2017, the increase in the pensionable age to 67 for men and women was reversed and brought back to 60 for women and 65 for men, which can contribute to the poverty risk of women and the gender pension gap.
- A gradual transition to pensions based on lifetime contributions will lead to lower adequacy and an increased risk of poverty among the elderly population. At the same time, a new proposal for occupational pensions with auto-enrolment may improve future adequacy.
- In order to improve the adequacy of future pensions it is important to promote longer working lives and continuing work beyond the pensionable age, combined with increased savings in occupational and voluntary plans; in the longer run, a return to a higher pensionable age is recommended.

1. General description of the national pension system

The largest general statutory pension system in Poland covers employees and the self-employed outside agriculture. It is administered by the Social Insurance Institution (ZUS, *Zakład Ubezpieczeń Społecznych*). In 2016 the scheme covered 15.1 million insured people.

Within this system, people born before 1949 as well as those who accrued full pension rights before 2009 receive old pay-as-you-go (PAYG) defined-benefit (DB) pensions. Those born after 1948 are covered by the new system rules based on the defined-contribution (DC) principle.

The statutory pension system is financed from contributions (19.52 percent of gross salary) paid in equal shares by employees and employers. The contribution is divided between two or three accounts.

There are two accounts in the non-financial DC scheme managed by ZUS, as follows.

1. NDC1 account (12.22% of gross salary), which is valorised to the growth of the covered wage bill in the economy. Pension rights accrued before 1999 were recalculated into initial capital and credited to that account.
2. NDC2 account (7.3% of gross salary – or 4.38% for those who decided to save part of their pension contribution in a funded account), valorised in line with average 5-year GDP growth. The value of this account is inherited in the case of the premature death of an insured person.

Insured workers can also have a third account in a statutory funded scheme. It is a voluntary personal funded DC pension account (FDC) in open pension funds (*otwarty fundusz emerytalny – OFE*). This account is supplemented with 2.92 percent of gross salary, paid from mandatory social insurance contribution. The FDC account was mandatory until 2014. In 2014 all workers had to choose to pay contributions to FDC or NDC2 accounts (the latter being the default option). The equivalent of the value of government bonds on the FDC account in February 2014 (52% of assets) was also removed from the FDC account and credited to NDC2. The FDC option is voluntary for new entrants to the labour market. Starting 10 years before reaching pensionable age, assets accumulated by an individual in the FDC account are gradually transferred to the NDC2 account. Pensions are paid from NDC1 and NDC2 accounts.

In December 2016, there were 16.4 million members in OFEs, including those who have paid in to an OFE since 1999, even if they are not currently insured.[252] In the same month, the contributions were transferred for 3.63 million participants (22% of all members). The OECD estimates the coverage of the voluntary funded system at 66.6 percent. At the end of 2016, the assets accumulated in OFEs amounted to PLN 152 billion (EUR 35 billion), of which 83.4 percent was invested in shares of companies listed on the regulated market.

Old-age pensions are calculated by dividing the value of pension accounts by unisex life expectancy at retirement age. The pensionable age after the change introduced in 2017 (see Section 2) is 60 for women and 65 for men. The life-expectancy factor is calculated by the Central Statistical Office and adjusted annually.

There is no minimum insurance period to claim a pension. However, in order to have a right to a minimum-pension guarantee a minimum insurance period of 25 years for men and 20 years for women is required. The minimum pension from March 2017 amounts to PLN 1000 (EUR 230) per month.

Extensive early retirement possibilities that existed before 2008 were abolished. Since 2009 early retirement is possible in the form of a bridging pension for workers (around 2.5% of all insured) who had worked before 1999 in arduous or hazardous conditions (i.e. bus and engine drivers, people working in a very hot or very cold microclimate, underground, underwater, in the air). The system will gradually phase out. Only miners, covered by the rules of the old DB scheme, have permanent early retirement. There are no other early retirement possibilities within the general pension system.

After reaching the standard pensionable age, the old-age pension can be combined with earnings from work without any restrictions. However, if a pensioner is younger than the standard pensionable age, their pension is reduced when their earnings are between 70 percent and 130 percent of the average wage, and completely suspended when earnings are higher than 130 percent of the average.

Farmers have a separate Agricultural Social Insurance Fund (*KRUS, Kasa Rolniczego Ubezpieczenia Społecznego*) with 1.38 million contributors. KRUS is financed mainly from taxes and only in small part from contributions. KRUS pensions are calculated on the basis of contributory years, with the reference level related to the minimum pension, which means that the benefits are not linked to the level of income, but to the length of being a farmer. For other non-contributory pensions, benefits are based on DB principles.

There are also separate tax-financed schemes for 'uniformed services' such as military, police and prison services, as well as state provision for judges and prosecutors.

All pensions in payment are indexed once a year according to the consumer price index (measured as the higher of the general or pensioners' households topped up by 20 percent of the real growth of average earnings in the previous year. Indexation can be higher if agreed by the social partners. Pensions are subject to personal income tax.

Supplementary retirement savings consist of occupational pension schemes (PPE, *pracownicze programy emerytalne*), 'individual retirement accounts' (IKE, *indywidualne konta emerytalne*) and 'individual pension protection accounts' (IKZE, *indywidualne konta zabezpieczenia emerytalnego*). Their coverage has remained very low. At the end of 2016 there were only 395,600 participants in PPE (coverage 1.6%).[253] Individual forms are more popular: in mid-

[252] Annual Bulletin. OFE's Market 2016. Information on Open Pension Funds' Members and Pension Contributions Transferred by ZUS. Polish Financial Supervision Authority https://www.knf.gov.pl/?articleId=58731&p_id=18.
[253] Annual Bulletin. PPE's Market 2016. Polish Financial Supervision Authority https://www.knf.gov.pl/?articleId=57349&p_id=18.

2017 the were 932,500 IKE accounts (coverage 5.9%)[254] and 664,100 IKZE accounts (coverage 4.2%).[255] These schemes play a negligible role in current retirement income provision. Most of the income of pensioners comes from the public pension provision.

2. Reform trends

The most important changes introduced in the pension system in the period between 2014 and 2017 were:

1. the reduction of pensionable age back to 60 years for women and 65 years for men that came into force from October 2017, following the pre-election campaign promises of the current government and the President;
2. increase of the minimum pension to PLN 1000 (EUR 233) from March 2017.

The first change reversed the reform introduced in 2013 that aimed at a gradual increase of pensionable age to 67 for men (by 2020) and women (by 2040). The change was a result of the pre-election campaign promises of the current ruling party as well as the President. As a result of this change, the pensionable age in 2016 was reduced from 61 years for women and 66 years for men to 60 and 65 respectively and will remain on that level.

According to the information provided by the Ministry of Family, Labour and Social Policy (MRPiPS)[256] in October and November there were almost 350,000 pensions granted, of which almost 60 percent were benefits for women. Half of the pension claims were from non-working people, including those who received other types of benefits (i.e. pre-retirement benefits received by people who lost their job due to company restructuring before reaching retirement age[257]), while the other half were from those who were employed. For comparison, in the whole of 2016 there were fewer than 230,000 old-age pensions granted. That means that the number of new pensions in 2017 will be at least double the number in 2016. Results of the SHARE survey indicate that 55 percent of working men and 47 percent of working women below age 60 would like to retire as soon as it is possible (Chłoń-Domińczak, Holzer-Żelażewska, and Maliszewska 2017).

This change will have long-term consequences for the reduction of the labour supply, affecting the revenue of the pension system. According to the demographic projections of the Central Statistical Office from 2014, the number of people in the age group 20-59 (women)/64 (men) will be 18.9 million, while in the age group 20-66 it will be 21.6 million. This means that the number of potential workers will be reduced by 2.1 million (that is 12.6%). This will deepen the projected decline of the working-age population caused by demographic changes.

Due to the direct link of pension benefits to life expectancy, the different retirement age of men and women will lead to an increase of the gender pension gap. According the information from the MRPiPS[258] the average newly granted pension in the period October and November was PLN 1627 (EUR 378) for women and PLN 2728 (EUR 634) for men. This difference results both from the past employment record and earned salaries as well as the different retirement age, which is also shown in the level of theoretical replacement rates (TRRs). The reduced pensionable age for women also increases the risk of falling below the minimum pension level (Chłoń-Domińczak and Strzelecki 2013).

[254] Informacje liczbowe o rynku IKE za I półrocze 2017 roku (Data on the IKE market for the first half of 2017.) Polish Financial Supervision Authority. https://www.knf.gov.pl/?articleId=58494&p_id=18.
[255] Informacje liczbowe o rynku IKZE za I półrocze 2017 roku (Data on the IKZE market for the first half of 2017). Polish Financial Supervision Authority. https://www.knf.gov.pl/?articleId=58496&p_id=18.
[256] https://businessinsider.com.pl/twoje-pieniadze/praca/ile-osob-zlozylo-wnioski-o-emeryture-2017-rok/tjngpb6.
[257] In October 2017 around 170,000 people received pre-retirement benefits.
[258] https://businessinsider.com.pl/twoje-pieniadze/praca/ile-osob-zlozylo-wnioski-o-emeryture-2017-rok/tjngpb6.

The increase of the minimum pension for the first time disentangled the change of this value from the general indexation of pension benefits and increased the role of this benefit as a poverty-protection instrument. The rules for increasing the minimum pension in the future remained the same, following the indexation of all pension benefits, which means that in the future, the ratio between the minimum pension and average wage will decline again.

Further changes in the pension system are discussed, especially in the area of supplementary pension savings. In November 2017, the Ministry of Finance announced the development of a new type of occupational pensions, employee capital plans (*pracownicze plany kapitałowe* – PPK).[259]The government proposes to introduce an auto-enrolment system for all employees (with a possible opt-out), which would cover around 11 million workers. The main assumptions include the following:

– contribution of employee: minimum 2 percent, up to 4 percent of wage,
– employer co-payment: 1.5 percent of wage (up to 4%),
– public co-payment: welcome bonus 250 PLN (EUR 58), annual payment additional 240 PLN (around EUR 55),
– maximum cost 0.6 percent of assets.

Investments of the PPK would be made through the public State Development Fund and supervised by the Financial Supervision Commission. The system is planned to be introduced gradually starting with the largest employers (250+ workers) from January 2019 up to the smallest ones from July 2020. The change will stimulate the development of additional pension savings topping up the mandatory pension system. There is also an ongoing discussion on the changes in the functioning of open pension funds: however, no proposals were formulated yet.

While the proposed change can improve the adequacy of pension benefits, it will lead to an increase in labour costs for employers. This may have an impact on the overall level of the demand for labour. On the other hand, given the reduced labour supply, caused by demographic trends, PPKs can be seen as attractive feature for job-seekers.

Recently, the MRPiPS also proposed to prolong the preferential rate of social insurance contributions for the newly self-employed from 2 to 3 years.[260] The project is currently in social consultations. The contributions in the third year would be paid on the basis of 60 percent of the minimum wage. The aim of this change is to stimulate the growth of newly established enterprises and their chances for longer functioning. The change was expected to come into force from January 2018.

Another government proposal that was recently sent for consultation is the removal of the cap on contribution payments. Currently, those whose annual earnings exceed 30 times average monthly earnings stop paying pension contributions. This means that around 350,000 workers would pay higher contributions and as a result could also expect higher benefits in the future.

[259] http://www.mf.gov.pl/ministerstwo-finansow/wiadomosci/aktualnosci/ministerstwo-finansow2/-/asset_publisher/M1vU/content/pracownicze-plany-kapitalowe-bezpieczenstwo-finansowe-i-wyzszy-standard-zycia-polakow-na-emeryturze?redirect=http%3A%2F%2Fwww.mf.gov.pl%2Fministerstwo-finansow%3Fp_p_id%3D101_INSTANCE_NsX0%26p_p_lifecycle%3D0%26p_p_state%3Dnormal%26p_p_mode%3Dview%26p_p_col_id%3D_118_INSTANCE_9Jwz__column-1%26p_p_col_count%3D1#.

[260] https://www.mpips.gov.pl/aktualnosci-wszystkie/art,5539,9102,3-lata-preferencyjnej-skladki-dla-przedsiebiorcow.html.

3. Assessment of adequacy

3.1. Current adequacy

3.1.1. General assessment of current adequacy

Almost all pensions currently paid come from the old DB system. Thus, the current adequacy of pension benefits does not reflect potential developments in the future, where pensions will be calculated according to the principles established in 1999. Therefore, the current adequacy of the Polish pension system is relatively good, which reflects the generosity of the pension formula in the old DB system. In 2016, the relative median income ratio of people aged 65+ was 0.97, which means that people in this age group have median income similar to the younger part of the population. Men have relatively higher median income compared with women, which is also reflected in the indicator (1.04 vs 0.92 respectively). The level of this indicator has remained at a stable level since 2008.

The median income of the population aged 65+ remains close to the population average. Older women face a higher risk of poverty compared with men (15.2% vs 9.1%).

Overall, between 2008 and 2016 there was a significant decline of the old-age at-risk-of-poverty or social exclusion (AROPE) rate in Poland (from 26.9% to 16.1%), due to the large drop in the level of severe material deprivation (from 20.8% to 5.9%). This decline is related mainly to the improvement of the situation in the housing dimension (in particular, there is higher equipment of households with telephones and TV sets). At the same time, the at-risk-of-poverty (AROP) rate for the population aged 65+ increased by 1.6 percentage points (p.p.) It should be also noted that there is a very high share of homeowners in Poland (87% in the case of people aged 65+).

The aggregate replacement ratio (ARR) in Poland is also relatively stable and in 2016 amounted to 0.62. Men have a higher ARR than women (0.72 vs 0.61), reflecting differences in pension levels. The ARR increased from 2008 by 0.06 (that is from 0.56), which is the combined result of a stable mechanism of old-age pension indexation and the relatively small growth of wages in the population aged 55-59. Social Insurance Institution data also show that the ratio between average old-age pensions and average wages remains stable at the level of around 60 percent (Zakład Ubezpieczeń Społecznych 2017).

The gender gap in pension income in Poland is currently at the level of 21.83 percent, which is moderate compared with the level observed in other EU countries; and it remains relatively stable over time. There is also a small (-2.4 p.p.) gender gap in non-coverage rate, which indicates slightly lower access to pensions by women. The data from SHARE-LIFE show that around a quarter of women in the age group 50 and over in Poland experienced broken careers with longer periods of time outside employment, which could cause this gap.

Recent data from round six of the SHARE survey indicate that the share of people that declare health problems in Poland is relatively high, exceeding 20 percent for those in the 60 and over age group. There is a very high share of those declaring four or more depression symptoms (more than 30% of men and more than 50% of women in the 60-and-over age group). Older people also indicate financial strains. Around 60 percent of the 60+ population also indicated that they cannot afford unexpected expenses (in general).

The assessed pension payment duration in 2012 was 20.1 years for men and 27.8 years for women. The high difference in these values results from both the lower retirement age of women and their longer life expectancy. As a result, older women have an increased risk of monetary poverty. The retirement duration according to the Ageing Working Group (AWG) is 17.2 years for men and 24.0 years for women – shorter duration in this case is related to an increased effective retirement age. According to the projections, retirement duration will increase by around 4 years for men and women until 2056, following the increase in life expectancy.

3.1.2. Redistributive elements of public pension schemes

The low level of poverty among current pensioners in Poland is, among others, a result of existing redistributive mechanisms in the old pension system. Namely, the former pension formula included the so-called basic component, equal to 24 percent of the average pension. As a result, those people whose earnings were below the average could expect higher replacement levels compared with those with higher earnings.

In the new system, which is based on the DC principle, there are two types of redistribution that are included. First, for selected periods outside employment, pension contributions are paid from the public sources. These periods include:

- parents during periods of maternity and childcare leave, as well as periods of caring for children (up to 6 months),
- unemployed persons receiving benefits or scholarships,
- carers that resign from work to provide long-term care to family members.

Furthermore, there is a minimum pension guarantee that tops up the old-age benefit. The top-up is financed from the state budget.

There is no maximum value of the old-age pension: however, there is a cap on contributions which implicitly limits the value of old-age pensions that are paid. The government proposed to remove the cap from 2018: however, this change is under consultation and has not yet been legislated for.

The minimum level of pension indexation in Poland is set at the change in prices plus 20 percent of average wage growth in the previous year. The government, with the social partners, may decide to increase this level. However, in recent years the indexation has remained at the minimum level. In the period of economic slowdown, there were additional measures to increase the income of people with lower pensions. In 2015, the minimum increase of pensions amounted to 36 PLN, while the indexation factor was 101.8 percent. In 2016, pensioners with low benefits (6.5 million people) received a lump-sum payment ranging from PLN 400 to PLN 50. In 2017, the minimum increase of the old-age pension was 10 PLN and the indexation factor was 100.73 percent. In 2018, the expected indexation factor should be around 102.7 percent and there are initial indications of potential lump-sum payments in the second half of the year.

The indexation mechanism in the long run leads to a decline of the ratio between pensions in payment and average wages. This leads to the increased risk of relative poverty among the eldest group of pensioners, predominantly women.

Women with shorter or no working careers have their old-age income protected through survivor benefits. According to the ZUS data (Zakład Ubezpieczeń Społecznych 2017), around 1.06 million women above age 50 in Poland receive survivor pensions.

3.2. Retirement conditions for the self-employed and for people in non-standard employment

Most of the social protection benefits in Poland are based on a social insurance principle. The self-employed and workers employed on non-standard contracts are covered by the general social insurance system and they have no option to opt out. Contribution rates for old-age pensions are the same. There is a binding minimum base for the self-employed (60% of average wage), who also pay all contributions by themselves. The social insurance system does not cover contracts for a specified task and there is no possibility to opt in to social insurance for those that have only this type of contract.

Labour costs for those employed on civil contracts (especially contracts for a specified task) are lower. Thus, non-standard civil contracts are used by employers, particularly in the case of low-skilled workers. Similarly, employment of own-account self-employed people is also cheaper compared with the labour-code contract. To reduce the extent of the overuse of non-standard contracts, since 2016 the rules on coverage of workers by social insurance have been changed. The wage basis for contribution payments cannot be lower than the minimum wage (this applies to the sum of all contracts in a given period).

Overall, the coverage of the social protection benefits of the self-employed and non-standard workers in Poland is similar to labour-code workers, with the exception of those working based on the civil code contract for a specified task. But, due to their lower contribution levels, their benefits are also lower compared with labour-code workers. A self-employed person's average pension is at least a fifth lower than the average for all pensioners.

3.3. Future adequacy and challenges

Future TRRs for Poland reflect the projected outcomes of the new pension system that introduced a close link between contributions and benefits. The pensions are calculated by dividing the value of NDC1 and NDC2 pension accounts by life expectancy at retirement age. The declining size of the labour force, due to population ageing, will have an impact on the growth of the wage bill used for the valorisation. At the same time, the life expectancy at retirement age will be increasing. These factors will result in declining levels of benefits in the future.

The transition from the current to future pension levels is gradual, as people who worked before 1999 have their pension rights accumulated until the end of 1998 based on the old DB pension formula.

The net replacement rate for an average-wage earner who will be retiring after a 40-year career at standard pensionable age in 2056, according to the simulations, will be 41.2 p.p. lower for men and 45.2 p.p. lower for women compared with someone retiring in 2016, reflecting the transition to NDC. Future TRRs for women with a 40-year career are 6.9 p.p. lower than for men, reflecting the 5-year difference in pensionable ages.

Pension credits are granted for periods of maternity and childcare, as well as unemployment (during the time of receipt of unemployment benefit). However, it still shows a reduction in expected pension level. Women with a 3-year childcare break could expect a moderate decline of pension by 0.8 p.p. (2 p.p. for men). In the case of a 3-year unemployment break, the reduction is slightly more tangible – 1.3 p.p. for women, 4.4 p.p. for men. A short career (20 years) means a drop of TRR by 21.6 p.p. for men and 18.1 p.p. for women.

The Polish pension system is currently in a transitional phase. The analysis of indicators related to the situation of current pensioners shows clearly that pensions now paid provide a sufficient protection against monetary poverty. Pensions that are currently granted are based on the new system rules. As indicated in the statistics of the ZUS, the level of pension granted according to the new rules is lower compared with the old rules and this tendency will be observed in the future.

There are also important considerations regarding pension adequacy for women. A significant share of the low-benefit risk for women stems from differences during their labour market career. As women tend to have both shorter working lives and lower wages, this is a combined effect that has an impact by way of a reduced pension level. Recent changes in the area of family policy include, among others, increased contribution payments for old-age pensions for parents taking a break for maternity and childcare periods. This should have a positive impact on future pension adequacy.

The reversal of the increase of retirement age will also lead to the increased risk of poverty among older women and will contribute to the gender pension gap.

Introduction of the announced employee capital plans will be a measure that can increase pension levels in the future.

4. Main opportunities for addressing pension-related challenges

The pension system in Poland faces significant challenges related to demographic changes. The pace of population ageing in Poland will be accelerating, as the bulk of people born in the post-war baby boom cohorts retire and the number of births, and subsequently young people reaching adulthood, remains very low. This means that employment levels are most likely to decline, which will affect contribution revenue.

Improving both the sustainability and adequacy of NDC pensions in Poland depends on labour market performance. Increasing coverage and participation levels are the key challenges, not only for the pension system but for the Polish economy as a whole. The pensionable age remains the key challenge for the pension system. An increase of the effective retirement age through promoting longer working lives should be promoted. At the same time, a return to the higher legal retirement age, equal for men and women, should be considered in the future as one of the important measures to improve future adequacy, while maintaining the sustainability of the pension system.

Promoting additional saving and the introduction of planned reforms in this area, particularly the employee capital plans, are also an important step to provide sources for financing the consumption of people after retirement.

Popular trust in the pension system and its institutions is also relatively low, as shown among others in the results of the social diagnosis surveys (*diagnoza społeczna* 2014). Thus, one of the most important activities is rebuilding trust. This should include reinstating and simplifying the pension account reports. Building financial literacy in Poland is important to improve the future incomes of pensioners.

5. Background statistics – Poland

. *Relative incomes of older people*

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.97	1.04	0.92	0	-0.01	0
Income quintile share ratio (S80/S20), 65+	3.5	3.3	3.5	0.1	-0.2	0.2
Aggregate replacement ratio (ARR)	0.62	0.72	0.61	0.06	0.07	0.08

2. *Poverty and material deprivation*

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+ (%)	16.1	11.7	19.0	-10.8	-10.1	-10.9
At-risk-of-poverty (AROP), 65+ (%)	12.8	9.1	15.2	1.1	0.2	1.8
Severe material deprivation (SMD), 65+ (%)	5.9	4.3	6.9	-14.9	-13.3	-15.9
At-risk-of-poverty or social exclusion (AROPE), 75+ (%)	15.2	9.9	17.8	-11.4	-10.1	-12.1
At-risk-of-poverty (AROP), 75+ (%)	11.6	6.8	14.1	1.6	0.5	2.3
Severe material deprivation (SMD), 75+ (%)	5.8	4.8	6.3	-14.9	-11.0	-16.8
Relative poverty gap, 65+ (%)	16.3	16.6	16.2	2.5	3.8	2.4
At-risk-of-poverty (AROP), 65+: 50% threshold (%)	6.3	4.5	7.5	1.1	0.7	1.5
At-risk-of-poverty (AROP), 65+: 70% threshold (%)	22.0	16.0	25.8	0.4	-0.9	1.4
				Change 2014-2016		
Material and social deprivation, age 65+ (%)	11.8	8.7	13.7	-8.3	-6.7	-9.4

3. *Gender differences*

Indicator	2016	Change 2008-2016
	Total	Total
Gender gap in pension income (65-79) (%)	21.83	-0.19*
Gender gap in non-coverage (W-M in p.p.) (65-79)	-2.4	-3.8*

4. *Housing and health situation of older people*

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Population 65+ living in overcrowded households (%)	25.9	22.4	28.1	-6.1	-4.8	-6.8
Tenure status among people 65+: share of owners (%)	87.0	88.8	85.9	17.7	17.1	18.0
Housing cost overburden, 65+ (%)	6.7	3.3	8.9	-4.1	-3.3	-4.4
Self-reported unmet need for medical care 65+ (%)	8.7	7.9	9.1	-1.4	-0.4	-2.2
Healthy life years at age 65 (years) **		7.6	8.4		0.6	0.7

5. *Pension duration*

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Pension payment duration (2012) (years)		20.1	27.8			
Retirement duration (AWG) (years)		17.2	24.0		21.5	28.4

Data source: (1) (2) (3) (4) Eurostat, Sept-Oct 2017 (5) European Commission

*Notes: ** - there were breaks in time series (for 2008 data); ** - 2015 data.*

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net (%)				Gross (%)			
		2016		*2056*		*2016*		*2056*	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Variant: old base case: 40 years up to 65	82.4	86.1	44.7		72.2	75.6	38.2	
	New base case: 40 years up to the SPA	85.9	73.0	44.7	37.8	75.4	63.8	38.2	32.1
	Increased SPA: from age 25 to SPA	85.9	65.9	44.7	32.9	75.4	57.5	38.2	27.8
	AWG career length case	85.1	70.7	45.8	36.4	74.7	61.7	39.2	30.9
	Longer career: 42 years to SPA			47.0				40.3	
	Shorter career: 38 years to SPA			42.4				36.2	
	Deferred exit: 42 years to SPA +2			49.9				42.8	
	Earlier exit: 38 years to SPA -2								
	Career break – unemployment: 3 years			41.4	35.1			35.4	29.7
	Career break due to childcare: 3 years			43.8	37.0			37.4	31.4
	Career break caring for family dependant: 3 years			43.5	36.8			37.2	31.3
	Short career (20-year career)			23.1	19.7			19.2	16.2
	Work 35 years, disabled 5 years prior to SPA			39.6	33.5			33.7	28.3
	Early entry in the LM: from age 20 to SPA			49.5	37.8			42.5	32.1
	Index: 10 years after retirement @ SPA			41.0	34.7			35.0	29.4
	Extended part-time period for childcare			39.9	33.8			34.0	28.6
	Pension rights of surviving spouses				38.2				32.5
Low (66%)	Variant: old base case: 40 years up to 65	92.8	98.4	44.9		81.8	86.9	38.2	
	New base case: 40 years up to the SPA	96.9	83.0	44.9	38.0	85.6	72.9	38.2	32.1
	AWG career length case	95.6	80.6	46.0	36.7	84.4	70.8	39.2	30.9
	Career break – unemployment: 3 years			41.8	35.4			35.4	29.8
	Career break due to childcare: 3 years			44.3	37.6			37.7	31.7
	Short career (20-year career)			23.6	20.1			19.2	16.2
High	New base case: 40 years up to the SPA	61.8	52.1	33.2	28.1	53.9	45.3	28.4	23.9
	Average replacement rate across retirees								

7. Sustainability and context

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65 (years)	18.2	15.7	20.1	22.9	21.0	24.7
Old-age dependency ratio (20-64) (%)	25.0	19.5	30.4	67.4	58.7	76.5
Economic old-age dependency ratio (15-64) (%)	35.0	24.0	48.3	89.8	69.3	116.2
Employment rate, age group 55-64 (%)	46.2	55.7	37.6	49.5		
Pension expenditure as % of GDP (ESSPROS)	11.2*					
AWG projections	2016			2055		
Coverage ratio (% of pop aged 65+)						

Data source: (6) Member State and OECD; (7) European Commission, DG ECFIN

*Notes: * - 2015*

Portugal (PT)

Highlights

- The Portuguese pension system provides wide coverage. However, it does not ensure an adequate protection for all the elderly against poverty and social exclusion, although pension adequacy indicators show an improvement between 2008 and 2016.
- Since the major reform of 2007 and the introduction of a sustainability factor, as well as other revisions, the normal age of entitlement to old-age pension has been increasing, standing at 66 years and 3 months in 2017.
- The reforms accomplished have mainly tried to address sustainability, including the suspension of early retirement between 2012 and 2015[261] and of the indexation of pensions between 2011 and 2015 when only the lowest ones were updated.
- Developing a comprehensive national strategy on the extension of working life and the consolidation of a sustainable pension system should be a priority, and the government priority of poverty alleviation should continue.

1. General description of the national pension system

The pension system in Portugal consists of a public pension pillar (with two distinct schemes: one that covers private sector workers and public sector employees registered since January 2006;[262] and the CGA[263] that covers civil servants who had started working in the public sector before 2006) complemented by supplementary pension schemes: voluntary occupational pension schemes and personal pension schemes.[264]

The public pension pillar has two branches: a statutory pension scheme and the non-contributory regime, subject to means-testing.

The statutory pension scheme is an unfunded mandatory regime based on earnings. These statutory pensions are financed on a pay-as-you-go basis by social contributions, complemented by a small fraction of the value added tax ('social' VAT), both earmarked revenues for the contributory system. At the present moment, the global contribution rate is 34.75 percent of gross earnings (11% to be paid by the worker and 23.75% by the employer), of which 26.94 percent is earmarked for pensions. As regards the self-employed, the global rate of contribution is 29.6 percent of gross revenue. There is also a contributory voluntary insurance scheme covering some categories; in general situations these pay 26.9-percent contributions. A share of social security (SS) contributions is annually transferred to the Social Security Trust Fund (FEFSS), when the contributory regime of the social security system has a surplus or when the economic situation allows, that will act should the SS treasury be under stress. In 2017, an extra part of the real state tax started to be allocated to the FEFSS; and in 2018, a small part of corporate tax will also be transfer to the social security budget as revenue of the FEFSS. In

[261] The early-retirement scheme (age 55 and 30 years of contributions) created in 2007 was suspended in mid-2012 (see DL 85-A/2012, 5 April) until January 2015. In 2015 the suspension was partially lifted (see DL 8/2015, 14 January) revised to age 60 and 40 years of contributions. In 2016 during the period of 1 January to 8 March the previous scheme (age 55 and 30 years of contributions) was in force again. After this period the early-retirement scheme changed again to age 60 or more and a minimum of 40 years of contributions.

[262] The general regime of social security subsystem.

[263] CGA (*Caixa Geral de Aposentações* subsystem) subscribers enrolled since September 1993 are subject to the same rules as those of the general regime of social security. The pension scheme of these employees was closed in 2007 and has been phasing out in a convergence process towards the general regime of social security since 2005.

[264] https://europa.eu/epc/sites/epc/files/docs/pages/portugal_-_country_fiche_on_pensions.pdf

2016 there were 2,994,711[265] SS pensions and 643,000[266] pensioners from the public employees' special unfunded scheme (CGA).

In 2016 old-age pensions accounted for 68.0 percent of the total social security pensions (47.1% for men and 52.9% for women).

The normal age of retirement was 66 years and 3 months in 2017. Since 2016 the normal age varies with average life expectancy at age 65.

As from 2015, early retirement can be claimed if the insured person has both a minimum age of 60 and 40 years of contributory career. The penalty[267] for early retirement is composed of: a reduction rate of 0.5 percent for each month of anticipation until the normal age of retirement; and the sustainability factor, which takes into account the average life-expectancy indicator (in 2017 it was 13.88%). Each contributory year above the 40 years of contributory career reduces the penalty by 4 months and up to the minimum of 65 years old.[268]

Ordinance 126-B/2017, of 6 October,[269] among other modifications in the pensions system, set changes to the early-retirement regime. It covers workers with very long careers (at least 60 years old and 48 years or more of contributions, or at least 60 years old with 46 years or more of contributions and started working, and paying contributions, before the age of 15) who claim early old-age pension. These workers, both from the private sector and civil servants, will not suffer any penalty, including no application of the sustainability factor.

There is a special pathway to retirement for long-term unemployed older workers. If unemployment occurs after the completion of 57 years, retirement is allowed (if 15 years of contributions have been completed), without penalties, at the age of 62. If unemployment occurs between the ages of 52 and 56, retirement is allowed, with penalties, at the age of 57. In this latter case, the qualifying period is increased from 15 to 22 years of insurance.

There are also special retirement conditions for people with arduous jobs, such as miners, seafarers in fisheries, maritime workers of the merchant navy, coastal navigation and coastal fishery, air traffic controllers, professional classical and contemporary dancers and embroiderers from Madeira Island and harbour workers. These professionals may request early retirement within the specific conditions set up for each activity as regards age and contributory records, but they always have to comply with the 15-year (successive or not) record of contributions for social security or for any other social protection scheme which entitles them to a retirement pension.

Minimum benefits for pensions are defined by law accordingly to the length of contributory records, and the difference between the actual statutory pension and the minimums (social supplement) will be financed by state transfers without any means-testing.

Old-age pensions could be cumulated with income from work, except if the pension is a result of the replacement of a previous (total) disability pension. An early-retirement pension may not be accumulated with income from work during the first 3 years after the date of access to the old-age pension, whenever that income is a result of any activity or work undertaken in the same company or group where the beneficiary was working.

[265] Source: http://www.seg-social.pt/estatisticas.
[266] Source: http://www.cga.pt/relatoriocontas.asp?L=PT.
[267] According to the established by Decree-Law 187/2007 of 10 May updated with Decree-Law 167-E/2013 of 31 December and amended by Decree-Law 10/2016.
[268] There are special conditions for unemployed persons, who used the maximum length of time of unemployment benefit including the social unemployment benefit, for applying an old-age pension according to when started receiving unemployment benefit (before or after January, 2007), the age when they became unemployed and the age when they started receiving the old-age pension.
[269] Portaria n.º 67/2016, de 1 de abril, Diário da República, 1.ª série – N.º 64 – 1 de abril de 2016, available at: https://dre.pt/application/file/a/108269513 (Accessed 9 November 2017).

If an old-age pensioner decides to develop a professional activity, in addition to paying a lower contribution rate the monthly amount of their pension is increased by 1/14th of two percent of the total record of remunerations. The increase takes effect on 1 January of each year taking into account the previous year's remuneration.

The non-contributory regime provides means-tested benefits – the old-age social pension – for the aged population whose contributory records do not qualify for the earnings-related scheme.

The solidarity supplement for the elderly (CSI)[270] has been implemented since early 2006, to fight poverty amongst the elderly with its threshold defined close to the level of the poverty line.

The occupational pension market in Portugal is provided by a few private funded schemes which may be set up at the initiative of a company, and groups of social or professional associations. According to the Framework Law of the Social Security, the complementary schemes of collective initiative must ensure gender-equal treatment.

A third pillar comprises funded individual retirement plans. Supplementary pension schemes do not cover a wide range of people in Portugal.[271]

2. Reform trends

In the last few years, the pensions system has undergone changes aiming at its sustainability. For instance, the sustainability factor was redesigned in 2013, changing the reference year of the average life expectancy at 65 from 2006 to 2000. However, since then it was applied only to early-retirement pensions.

Ordinance 67/2016, of 1 April,[272] set the new sustainability factor and corresponding statutory retirement age for 2017, which was set to 66 years and 3 months according to the specific rule, applied on the basis of the recorded change in life expectancy at age 65 between 2014 and 2015.

The latest changes to the pension system regard the early-retirement regime (see above). They took effect in October 2017 with the publication of Decree-Law 126-B/2017, of 6 October.[273] This represents the first part of the legal revision of the early-retirement scheme that aims to protect very long careers and repair early market entries.

Another recent change regards an extraordinary uprating of pensions. This took effect in August 2017 and affected pensioners whose global pension amount was equal or lower than EUR 631.98/month (1.5 times the social support index) 'as a way of compensating the loss of purchase power caused by the suspension, in the 2011-2015 period, of the pension update regime (…) and to increase the income of pensioners with lower pensions'.[274] In general terms, an extraordinary increase of up to EUR 10 in pensions below or equal to 1.5 IAS[275] (EUR 631.98) was decided in 2017, as a result of which each pensioner will receive, from August

[270] Created by Decree-Law 232/2005 of 29 December, available at: https://dre.pt/application/file/469110 (Accessed 9 November 2017). The CSI is a measure designed to provide a basic safety net for the elderly based on the principle of social justice, and to increase the effectiveness of anti-poverty efforts in this segment of the population. This benefit became effective on 1 January 2006 for persons aged 80 and over and was extended to all persons aged 65 and over in 2008. All pensioners and their survivors or persons treated as such under any national or foreign systems of social protection residing legally on national territory are eligible. This measure also provides additional health payments to its beneficiaries.

[271] 3.7 percent of the working-age population (15-64 years) are covered by a voluntary occupational plan, and 4.5 percent by a voluntary-personnel plan. (OECD, 2017).

[272] Ordinance 67/2016, of 1 April, *Diário da República*, 1.ª série – N.º 64 – 1 de abril de 2016, available at: https://dre.pt/application/file/a/74018012 (accessed 9 November 2017).

[273] Decree-Law 126-B/2017, of 6 October, *Diário da República*, 1.ª *série* – N.º 193 – 6 de outubro de 2017, available at: https://dre.pt/application/file/a/108269513 (accessed 31 October 2017).

[274] Regulatory decree n. 6-A/2017 31 July.

[275] IAS=Social Support Index.

onwards, the difference between the ruled increased and EUR 10; the increase of those pensions which had been extraordinarily updated between 2011 and 2015, which only had an increase of EUR 6, was also approved. The state budget proposal for 2018 includes a similar measure also to be applied in August.

Another issue the European Commission has been addressing is that even if 'several reforms have improved the long-term sustainability of the pension system in recent years (…), its reliance on budgetary transfers remains high' thus meaning that 'the short to medium-term sustainability challenges of the pension system remain unaddressed [and also adding that] any changes to the pension systems should always take into consideration reducing intergenerational inequalities'.[276]

A clear political agreement of a wide spectrum on the definition of a national strategy regarding the path towards the consolidation of a sustainable pension system seems to be still pending. The absence of such an explicit political commitment and strategic guidelines resulted in the introduction of ad hoc reforms and measures dictated by situational economic conditions. It is obviously important to consider flexibility within such a strategy in order to respond to changing national and global challenges. However, the existence of a direction (or on the contrary its absence) may represent the fundamental difference between slow progress and failure regarding what should be the main objectives and functions of public policies in the domain of the pension system.

In overall terms, the government has been publicly expressing its concern with the challenges to the future of social security, namely regarding the need to diversify its funding sources even if government officials have also considered that the most crucial input for the sustainability of social security is the performance of the economy.

3. Assessment of adequacy

3.1. Current adequacy

3.1.1. General assessment of current adequacy

In 2016, the risk-of-poverty or social exclusion (AROPE) rate for people aged 65+ was 21.8 percent in Portugal (18.9% for men and 24.0% for women) which represents a decrease of 5.9 percentage points (p.p.) compared with 2008. This decrease comes hand in hand with a decrease of the poverty or social exclusion rate for the overall population (25.1% in 2016, 24.1% for men and 26.0% for women).

As for the at-risk-of-poverty rate (AROP) rate for the elderly (65+), it also decreased by 4 p.p. between 2008 and 2016 where it stood at 18.3 percent (16.0% for men and 19.9% for women). However, it should be mentioned that the rate has been increasing since 2013 when it stood at 14.6%). A similar trend is visible regarding the poverty intensity rate for the elderly. In 2016 the relative poverty gap (65+) stood at 18.0 percent, representing relative stability (an increase of 0.3 p.p.) compared with 2008 even if rather unequal in terms of gender (-0.8 p.p. for men and +1.2 p.p. for women).

However, in 2011, according to national data, poverty intensity registered the lowest level (11.0%) and 3 years later, in 2014, the highest rate (20.6%) within the period under consideration. Actually the current figure for this indicator is 15.3, and refers to 2016. On the contrary, the severe material deprivation (SMD) rate receded 3.4 p.p. between 2008 and 2016,

[276] EC – European Commission (2016). *Post-Programme Surveillance Report. Portugal, Summer 2016*, Institutional Paper 036, September 2016, available at: https://ec.europa.eu/info/file/63201/download_en?token=P__zsaXZ .

standing at 6.7 percent (4.9% for men and 8.0% for women) in 2016 even if the housing cost overburden rate increased in the same period by 2 p.p. to 4.0 percent (compared with 10.5% in the EU-28).

The overall decrease in the average working-age income may have contributed directly to a decline in the elderly AROP rate and indirectly to a decline in the elderly AROPE rate, together with demographic dynamics.

In any case, it should be mentioned that, in 2016, income inequality among the elderly (S80/S20) remained high without much variation since 2008, standing at 5.4 compared with 4.1 in the EU-28. Also in 2016, the gender gap in pension income (ages 65-79) still stood at 32.6 percent. Similarly, the relative median income ratio (65+) for women stood at 0.88 and the aggregate replacement ratio (ARR) stood at 0.60 compared with 0.97 and 0.68, respectively, for men. In total the figures were 0.91 and 0.64, respectively.

A strong probability of needing some kind of regular care arises in old age: in 2014, Portuguese women, at 65 years old, will spend almost three quarters of their remaining life (62% among men) with some kind of limitation in their daily life.[277] Within this context it is also worrying that unmet need for medical care (age group 65+) increased by 1.3 p.p. between 2008 and 2016 even if still lower than the EU-28 average (2.4% compared with 2.6%, respectively).[278]

Access to long-term care is therefore of the utmost relevance, particularly within the context of the low levels of benefits still provided by pensions.

While Portugal has in recent years been developing a network of basic care for children, the provision of in-home and institutional care for the elderly remains very limited.

Home support for elderly and dependent people is an increasing concern, especially in a country where elderly support has traditionally been provided by informal carers (mostly women). The latest national health survey found that over 1 million people aged 15 years or more provided informal care or assistance to relatives or other non-family members. Additionally, these informal carers were mainly women and 42.6 percent provided informal care for more than 10 hours per week.

3.1.2. Redistributive elements of public pension schemes

In Portugal, there is an ongoing debate around the coexistence of benefits within the system and their interconnections. The minimum pension within the contributory regime (there is a minimum floor but not a maximum ceiling in the Portuguese pension system) and the non-contributory social pension both provide very low levels of income, in spite of their different nature. The former has no means-tested conditionality attached to it, contrary to the social pension.

It is important to note that the benefit amounts of neither the minimum pension nor the social pension provide an income above the poverty threshold. The implementation of the solidarity supplement for the elderly (CSI), in 2006, aimed precisely at ensuring that the elderly's income based on very low pensions would rise to a level close to the poverty threshold.

Policy developments in recent years have shown divergent political orientations directly impacting on the redistributive elements of the public pension scheme. During the implementation of the memorandum of understanding and up to the latest legislative elections in late 2015, there was an option to privilege the uprating of the (contributory) minimum

[277] Observatório Português dos Sistemas de Saúde – OPSS (2017). *Relatório Primavera 2017 – Viver em tempos incertos: sustentabilidade e equidade na saúde*, OPSS, available at: http://www.opss.pt/sites/opss.pt/files/Relatorio_Primavera_2017.pdf.
[278] http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&plugin=1&pcode=tespm110&language=en.

pensions, and at the same time to reduce the reference value of the CSI, which led to a significant reduction in the number of recipients, with women representing the majority of such beneficiaries. For the last 2 years, there has been an explicit political commitment to return income to the elderly, namely by updating the amount of pensions (general and social regime) and by restoring the reference value of the CSI. But at the same time, the automatic updating rule was replaced for all pensions and an extraordinary increase of up to EUR 10 in pensions below or equal to 1.5 times IAS (EUR 631.98) was applied in 2017 and will be in 2018 (pensions which had been extraordinarily updated between 2011 and 2015 only had an increase of EUR 6). The Minister of Labour, Solidarity and Social Security has voiced concerns regarding the recent reversal of the declining trend of poverty among the elderly which had been steadily and consistently falling since 2004. The suspension of the indexation of pensions (except the minimum pensions, the value of which is much below the poverty line) between 2011 and 2015 and the erosion of the buffering effect of other social transfers such as the CSI have certainly contributed to this negative development. It should also be mentioned that beneficiaries of social security benefits (e.g. unemployment benefit, maternity leave, parental leave, etc.) continue to build up pension credits.

3.2. Retirement conditions for the self-employed and for people in non-standard employment

Generally speaking, retirement conditions for the self-employed and for people in non-standard employment are similar to the conditions of the general system for the employed, including the compulsory nature of contributions. Contributory rates differentiated for self-employed workers are 29.6 percent for the self-employed in general, 34.75 percent for the self-employed engaged exclusively in commercial or industrial activities and proprietors of individual limited liability establishments, and 28.6 for agricultural producers.

The contributory rate for employees in general, including those with intermittent and fixed-term contracts, part-time and temporary workers is 11 percent. Companies pay an additional 23.75 percent meaning that the total tax contribution rate for social security amounts to 34.75 percent. However, given the specific characteristics of self-employment and of non-standard employment the possibility that future pensions for these workers are not adequate is higher.

3.3. Future adequacy and challenges

The analysis of the theoretical replacement rates (TRRs) for Portugal confirms the already initiated long-run decrease arising from the redesign of the sustainability factor in 2013 and its application from 2014.

In 2056 the net replacement rates continue to be higher than gross replacement rates (GRR), which reflects fiscal impacts on income in the transition from work to retirement. However, between 2013 and 2016 the drop of the GRR was greater than that of the NRR (11.1 p.p. compared with 9.3 p.p. respectively).

The net TRR for disability pensions is particularly penalising for those compelled to leave the labour market 5 years prior to the national standard pensionable age (SPA): 59.5 percent compared with the 89.3 percent in a base case of a 40-year career with the person retiring at the national SPA or even with those with a shorter career of 38 years, whose NRR amounts to 85.5 percent. However, since October 2017 the sustainability factor for disability pensions on the date of their conversion to old-age pension was eliminated, which should have a significant effect on the TRR for this case.

4. Main opportunities for addressing pension-related challenges

A consistent approach for addressing pension-related challenges within the Portuguese context needs to be framed by different elements, namely: (a) a comprehensive understanding of the interconnections between endogenous (e.g. retirement age, entitlement conditions, replacement rates, financing sources) and exogenous (e.g. birth rates, dependency rates, employment and unemployment, level of salaries, productivity) variables affecting the system's overall sustainability; (b) sustaining reforms; and (c) addressing old-age poverty. Also, consolidating a sustainable pension system and extended working life should become a priority.

Other more specific suggestions directly arising from the discussion entailed in the previous sections could include:

- improving the adequacy of the pension system on the long run, which demands a serious commitment towards reducing salary inequalities throughout active years;
- strengthening the transparency, harmonisation and simplification of the present pension system, namely as regards the introduction and coexistence of diverse means-tested mechanisms;
- assessing the efficacy of the existing means-tested benefits as regards their major goal of tackling poverty among the elderly;
- enhancing women's and men's rights to social protection in old-age, regardless of their family contexts;
- ensuring that flexible pathways to retirement are transparent and consistent;
- reinforcing mechanisms for improving gradual access to retirement and for part-time old-age retirement while ensuring the continued accumulation of pension entitlement rights, thus making more attractive the continued contribution of older workers and allowing for a gradual transition into work inactivity;
- adopting gender-sensitive policies and incentives to extend working life, which need to take into account that older men and women do not have the same opportunities or resources for organising their lives.

5. Background statistics – Portugal

1. Relative incomes of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.91	0.97	0.88	0.08	0.08	0.11
Income quintile share ratio (S80/S20), 65+	5.4	5.6	5.3	0.0	0.2	0.1
Aggregate replacement ratio (ARR)	0.64	0.68	0.60	0.13	0.02	0.11

2. Poverty and material deprivation

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+ (%)	21.8	18.9	24.0	-5.9	-5.7	-5.9
At-risk-of-poverty (AROP), 65+ (%)	18.3	16.0	19.9	-4.0	-3.2	-4.6
Severe material deprivation (SMD), 65+ (%)	6.7	4.9	8.0	-3.4	-3.7	-3.3
At-risk-of-poverty or social exclusion (AROPE), 75+ (%)	25.2	21.9	27.3	-6.3	-6.5	-6.2
At-risk-of-poverty (AROP), 75+ (%)	21.7	19.1	23.3	-4.0	-4.5	-3.7
Severe material deprivation (SMD), 75+ (%)	7.4	5.3	8.7	-4.0	-3.5	-4.4
Relative poverty gap, 65+ (%)	18.0	16.6	19.1	0.3	-0.8	1.2
At-risk-of-poverty (AROP), 65+: 50% threshold (%)	9.7	7.9	10.9	-2.0	-2.2	-1.9
At-risk-of-poverty (AROP), 65+: 70% threshold (%)	29.0	25.9	31.2	-7.5	-5.5	-9.0
				Change 2014-2016		
Material and social deprivation, age 65+ (%)	17.9	13.9	20.8	-7.6	-7.6	-7.6

3. Gender differences

Indicator	2016	Change 2008-2016
	Total	Total
Gender gap in pension income (65-79) (%)	32.6	-5.5
Gender gap in non-coverage (W-M in p.p.) (65-79)	6.9	6.7

4. Housing and health situation of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Population 65+ living in overcrowded households (%)	4.1	3.2	4.8	-1.8	-0.6	-2.5
Tenure status among people 65+: share of owners (%)	78.4	80.8	76.6	5.2	2.6	7.0
Housing cost overburden, 65+ (%)	4.0	2.6	5.0	2.0	0.8	2.9
Self-reported unmet need for medical care 65+ (%)	2.9	1.9	3.7	1.6	1.2	2.0
Healthy life years at age 65 (years) *		7.0	5.4		0.3	-0.2

5. Pension duration

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Pension payment duration (2012) (years)		21.9	25.5			
Retirement duration (AWG) (years)		18.5	22.9		20.5	24.3

Data source: (1) (2) (3) (4) Eurostat, Sept-Oct 2017 (5) European Commission

*Notes: * - 2015 data.*

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net (%)				Gross (%)			
		2016		*2056*		*2016*		*2056*	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Variant: old base case: 40 years up to 65	83.0		53.6		63.6		39.9	
	New base case: 40 years up to the SPA	97.8		89.3		79.4		70.8	
	Increased SPA: from age 25 to SPA	97.8		89.3		79.4		70.8	
	AWG career length case	108.2	102.5	74.9	69.8	89.7	84.6	56.8	53.4
	Longer career: 42 years to SPA			89.3				70.8	
	Shorter career: 38 years to SPA			85.5				67.7	
	Deferred exit: 42 years to SPA +2			105.0				87.4	
	Earlier exit: 38 years to SPA -2								
	Career break – unemployment: 3 years			87.8				69.6	
	Career break due to childcare: 3 years			86.2				68.3	
	Career break caring for family dependant: 3 years			78.1				60.3	
	Short career (20-year career)			28.2				21.0	
	Work 35 years, disabled 5 years prior to SPA			59.5				44.3	
	Early entry in the LM: from age 20 to SPA			98.2				80.0	
	Index: 10 years after retirement @ SPA			70.3				52.3	
	Extended part-time period for childcare			86.2				68.3	
	Pension rights of surviving spouses				57.0				42.5
Low (66%)	Variant: old base case: 40 years up to 65	79.2		50.0		63.7		40.3	
	New base case: 40 years up to the SPA	79.5		88.7		79.5		71.4	
	AWG career length case	108.5	102.0	73.6	65.0	89.9	84.7	57.4	54.0
	Career break – unemployment: 3 years			87.3				70.2	
	Career break due to childcare: 3 years			85.7				69.0	
	Short career (20-year career)			26.3				21.2	
High	New base case: 40 years up to the SPA	93.7		72.5		71.8		53.2	
	Average replacement rate across retirees								

7. Sustainability and context

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65 (years)	20.0	18.0	21.7	23.8	22.1	25.5
Old-age dependency ratio (20-64) (%)	34.6	29.9	39.0	70.7	60.6	80.8
Economic old-age dependency ratio (15-64) (%)	45.2	35.4	55.3	82.0	68.8	95.5
Employment rate, age group 55-64 (%)	52.1	58.5	46.3	64.9		
Pension expenditure as % of GDP (ESSPROS)	14.7*					

Data source: (6) Member State and OECD; (7) European Commission, DG ECFIN

*Notes: * - 2015*

Romania (RO)

Highlights

- The Romanian pension system ensures a good replacement of work incomes and a low level of monetary poverty of the elderly compared with other age groups. However, despite efforts within the last 2 years, poverty and material deprivation levels remain high compared with EU averages.
- Its currently high adequacy can be affected by some aspects related to distributional equity (among different categories of pensioners, men/women, self-employed/employees), service provision for elderly and the work life/retirement duration ratio.
- In order to maintain adequacy, equalisation of the standard pensionable age and building in incentives to stay in or re-enter the labour market for older workers (especially women), the long-term unemployed, the self-employed or persons with partial invalidity are a must.
- In addition, retirement and contributory conditions for the self-employed have to be fine-tuned and the status of service pension schemes clearly defined.
- Finally, the updating mechanism of the pension point and of the minimum pension has to be transparently secured.

1. General description of the national pension system

The Romanian social insurance pension system combines a pay-as-you-go (PAYG) earnings-related public scheme (first pillar), with two, privately managed, funded components: a statutory funded scheme (second pillar) and a third pillar comprising personal pension schemes. Along with the main social insurance PAYG scheme, several service schemes coexist. Also, there are a few professional groups such as lawyers, notaries and the clergy who have alternative, separate pension schemes in place.

Coverage. Participation in the public pension scheme is mandatory for most types of contracts and employment categories and voluntary (based on a social insurance contract) for anyone who might want to enrol, provided their income is higher than 35 percent of the gross average salary. In July 2017, the number of insured persons under the first pillar (PAYG) was 5,606,482 (of which 78,637 concluded a social insurance contract) corresponding to 5,049,161 pensioners.

The statutory funded (second) pillar is compulsory for all those who are less than 35 years old and optional for those between 35 and 45 years, while opting out is not permitted (L 411/2004). In July 2017, the number of participants to the second pillar registered with payments during the current month was 4,084,403.[279]

Finally, participants in **the third pillar**, a voluntary and privately managed pension fund, have increased by 30 percent since 2014, reaching 438,602 in September 2017 (approximately 7.3% of the total number of those insured within the PAYG public pensions scheme).

Contributions. The level of social contributions varies depending on the working conditions, ranging from 26.3 percent (for normal working conditions) to 36.3 percent of the gross wage (for difficult working conditions). The contributions are paid both by the employer (variable

[279] https://www.cnpp.ro/indicatori-statistici-pilon-i?p_p_id=101_INSTANCE_svWpDmJy1qVq&p_p_lifecycle=0&p_p_state=normal&p_p_mode=view&p_p_col_id=column-1&p_p_col_count=2&p_r_p_564233524_tag=2014%20%20https://www.cnpp.ro/indicatori-statistici-pilon-i?p_p_id=101_INSTANCE_svWpDmJy1qVq&p_p_lifecycle=0&p_p_state=normal&p_p_mode=view&p_p_col_id=column-1&p_p_col_count=2&p_r_p_564233524_tag=2014.

rate) and employee (fixed rate of 10.5%).[280] The employees' contribution (of 10.5%) is divided between the first pillar (5.4%) and second pillar (5.1%) (this share has been gradually growing).

Contributions to the third pillar are elective, and separate from the regular social contribution. However, the contributions are tax-deductible, for both employer and employee, up to EUR 400 per year per participant.

For employees the contributions are paid in relation to the minimum gross salary (disregarding whether a part-time or full-time individual work contract (IWC), without any upper cap (GEO 3/2017; GO 4/2017)).

The minimum contribution period required to draw a pension is 15 years. Entitlement to a full pension is reached by men after 35 years of contribution (since 2015) and by women after 30 years and 8 months (in October 2017; increasing to 35 years by 2030).

Types of benefits. The first pillar of the public pension system grants five types of benefits: (a) old age; (b) early retirement; (c) partial early retirement; (d) invalidity; and (e) survivors.

The **old-age pension** is granted upon reaching the standard pensionable age (SPA) (65 years for men, since January 2015) and 60 years 8 months for women in October 2017 (planned to increase to 63 years by 2030) and meeting the minimum contributory period. A complete contributory period and reaching the SPA entitles beneficiaries to a full pension benefit. Individuals not more than 5 years below the SPA can retire early if they have completed the full contribution period. This is regulated under two different regimes: **early retirement**, when the contribution period of an individual is at least 8 years higher than the complete contribution period; and **partial early retirement**, when the contribution period has been completed, but the excess is less than 8 years (with penalties for each missing year introduced by L 142/2016). Once the pensionable age is reached, beneficiaries become automatically entitled to their full benefit. Deferring retirement (beyond SPA) is encouraged (50% increase in the number of the monthly pension points), although some may argue that the requirement to renew the employment contract at this age could act as a strong de facto disincentive.

The **invalidity pension** is granted when an insured person loses at least half of their working capacity (with pension credits of 0.35 to 0.70 pension points for each month missing, up to the full contribution period, depending on the level of invalidity). The **survivor pension** is granted to the insured person’s children up to 16 years of age or graduation age but at most 26 years of age and/or to their spouse when they reach the retirement age and if the marriage lasted for at least 10 years. This condition does not need to hold if the death of the spouse resulted from an accident at work or an occupational disease.

Benefits. The PAYG component provides benefits based on a points system. The benefit is calculated by multiplying the lifetime average number of points (i.e. the relation between an individual's gross income and the average gross salary in a given year) by the point value. The point value amounted to RON 1000 (or EUR 217) in July 2017 and is supposed to increase annually by 100 percent of the average inflation rate and an additional 50 percent of the real increase of the average gross salary. Workers in arduous and hazardous jobs (WAHJ) benefit from shorter contributory periods and a lower SPA, through a system that permits a higher pension point accumulation rate. The PAYG component is currently providing all pension benefits, while the statutory funded scheme (pillar II) has not started to pay any benefits yet (as it has not reached maturity yet).

[280] Contributions under L 223/2015 on state military pensions – due to the state budget at a 10.5 percent rate by the employee.

The service pensions are calculated as 80 percent of the last received salary (6 consecutive months of the last 5 years in the case of military and police, or the average of the last 12 months for all other categories – i.e. aviation personnel, court clerks, external public auditors, parliamentarians and associated personnel, and diplomats).

For all pensioners, a minimum benefit (social indemnity for pensioners) is guaranteed, payable from the general budget, limiting thus the strain on the social insurance budget. Since March 2017, the amount of this benefit is RON 520 (c. EUR 113).

2. Reform trends

During 2014-2016, changes to the pension law aimed at: (a) reversing the measures adopted in the aftermath of the economic crisis (i.e. unfreezing of the pension point and of the social indemnity for pensioners); (b) restoring several service schemes for some occupational categories; and (c) calibrating the newly reformed system (e.g. integrating the self-employed and lowering employers' contributions). Starting from the end of 2016, most of the amendments have revolved around the planned reform of the pension and tax system, proposed by the governance programme. In November 2017, the fiscal code was amended, changing significantly mandatory enrolment conditions and contribution levels to the social insurance and health insurance systems.

Changes in design. While the 2010 pension reform integrated almost all former beneficiaries of special service schemes (with the exception of magistrates, judges, prosecutors, court auditors, and clerical personnel) into the main public system, these were progressively reinstalled, starting with 2015: aviation personnel (L 83/2015), parliamentarians and associated personnel (L 215/2015), diplomats (L 216/2015), court clerks (L 130/ 2015), military, police and public employees in the penitentiary system (L 223/2015) and, finally, external public auditors (L 7/2016). Parliament's ad hoc initiatives to reintroduce service pension schemes threaten to reverse de facto the logic underlying the pension reform introduced in 2010. In July 2017, there were 8668 beneficiaries of service pensions who received their pension through the National House of Public Pensions and 79,000 beneficiaries of Ministry of National Defence. Due to a series of anomalies related to the updating mechanism of state military pensions, the law (L 223/2015) was amended in July 2017 (GEO 59/2017); thus the updating of the pension benefits is not any more related to the increase of salaries, but linked to inflation.

As a countermeasure, the government extended the eligibility to enter the public social insurance pension system to some occupational categories who benefit from autonomous social insurance pension schemes, such as notaries (L 142/2016), or to anyone who might want to enrol. In addition, in 2016, mandatory enrolment was extended to all the self-employed (with a monthly income higher than 35 percent of the average gross salary, L 227/2015).[281] Until 2016, the self-employed in agricultural, fishing and forestry activities were exempted; in addition, any income from independent activities made by an employee (or an individual in an equivalent work relationship) was exempted, along with any income derived from renting/leasing. While there is a pressure towards extending eligibility and mandatory enrolment, retirement conditions for partial early retirement (PER) have been relaxed (L 142/2016). The penalties, ranging from 1.8 percent to 6 percent for each missing year until the SPA, led to early labour market exits through PER, with a 6.2 percent beneficiaries expansion in September 2017 compared with 2016.

Starting from January 2018 pension contributions have shifted almost entirely under the responsibility of the employed, who pay 25 percent of their gross income. The same rate

[281] In addition, the option to pay the social contribution on an estimated (as opposed to a real) insurable amount was eliminated (L 227/2015).

applies for the self-employed if their monthly income is equal to or higher than the minimum gross salary. Employers are required to pay an extra 4 percent or 8 percent of their total gross income for arduous or hazardous working conditions, and also 2.25 percent of gross income as a labour insurance contribution. Along with these new regulations, the minimum insurable income has become the minimum gross salary. The de facto rationale behind the measure was to increase transparency of transfers of contributions and decrease debts to the social insurance fund.

The equalisation of the SPA for men and women was a long time on the legislative agenda and still awaits parliament's final decision. The pension law project within the parliamentary procedure provides that the equalisation of the retirement age between men and women is achieved during 2030-2035. At the time, while the option to resort to the SPA under the general rule is still available to them, women belonging to some professional groups can currently choose to prolong their working lives, by making use of the legislated retirement age for the particular group, and depart the labour market at a similar age to men.

Pension benefits. Since the pension point has started to increase again, the increase has been systematically higher (in 2015 and 2016 the increase was 5% instead of 4.5%, and 4.31%, respectively) than the expected increase based on the algorithm specified by the law (100% with the inflation and an additional 50% of the average wage growth). Since July 2017, the pension point has been RON 1000 (c. EUR 217.5, GEO 2/2017), a 9 percent increase compared with January 2017, when it increased – once again – by 5.25 percent compared with December 2016 (GEO 99/2016). In July 2017, an amendment to the pension law was made (L 160/2017), allowing the government to establish the maximum value of the pension point, while the algorithm ensures its minimum value; thus, its utility in ensuring predictability and in helping to avoid any budgetary slippages has been de facto cancelled. Along with the pension point, the social indemnity for pensioners was, in October 2017, 30 percent higher compared with 2015 (L137/2017).[282] Its current value is RON 520 (c. EUR 113), and is expected to increase to RON 640 (c. EUR 139) in July 2018.

In 2017, social contributions increased for high-earning employees, as the maximum cap on insurable income (of five times average gross salaries) has been removed (exceptions are income from self-employment and from intellectual property). Another measure, adopted along with the former one, was to increase the minimum insurable amount for all employees to the level of a minimum gross salary, disregarding if the individual work contract is part time or full time (GO4/2017). Thus, starting from July 2017, employers have to pay the same minimum amount of social contributions for both full-time and part-time workers. The Labour Inspectorate reported that positive effects emerged following the adoption: besides fighting undeclared work, part-time contracts registered a descending trend, being turned into full-time contracts.

Finally, the rules regarding taxation of pensions changed. Starting from February 2017, the health insurance contribution on pensions is paid by the state budget, while the threshold for tax-deduction has been doubled to RON 2000 (c. EUR 435); income in excess of that is taxed at 16 percent, as is any other income (L 2/2017), and the taxation level was due to decrease to 10 percent starting from January 2018.

Currently, pensioners can cumulate income from an old-age pension with salaries, even in the public sector, according to a 2014 law (L 134/2014).

[282] Leading to an increase, in September 2017, of 42% in the number of beneficiaries, compared with December 2016 (www.cnpp.ro/statistics).

3. Assessment of adequacy

3.1. Current adequacy

3.1.1. General assessment of current adequacy

Poverty prevention. In Romania, the population aged 65+ was, over the last 10 years, better off – in terms of all welfare indicators – compared with the overall population or any other age group. Overall, the risks of poverty for the population aged 65+ continued to improve even during and after the economic crisis until 2013, when the trend reversed. The highest increase in poverty for the elderly was in 2015, (24% compared with 2014). In 2016, 19.1 percent of the population over 65 years was at risk of poverty (AROP) (compared with 25.3% for the total population). Among the elderly population the risk of poverty for pensioners is a little lower. All other combined welfare indicators (at-risk-of-poverty or social exclusion (AROPE) and severe material deprivation) decreased constantly until 2015; in 2016, for the first time in 10 years, these indicators start to deteriorate (34.1% AROPE rate and 22.5% SMD, both lower still than the level of the overall population). Despite the fact that the pension point, and as a consequence pension benefits, increased significantly over the last 2 years, these increases did not exceed – in real terms – the increase in the minimum salary.

Along with the relative depreciation of pensions compared with incomes from work starting from 2013 (an aggregate replacement ration (ARR) of 0.66 in 2016), social benefits depreciated as well. Thus, this evolution is mostly due to the decreasing power of social benefits to address poverty. While during 2010-2014 the impact of pensions on poverty in Romania was higher than the EU average, in 2015 pensions started to 'lose power'. However, their impact on the welfare of the elderly continued to be significant, compared with that of other social benefits: in 2016, a 76 percent poverty reduction rate by pension benefits, compared with only 5 percent by all other social transfers.[283]

What remains worrying is the huge gender gap in the AROP rate, after social transfers, and especially after pensions. While the AROP rate among the elderly is slightly higher for men before any social transfer (with a gap[284] of only 2% in 2016), the situation changes dramatically if pensions are taken into account: the gender gap, after pensions, but before any other social transfers, increases to 57 percent. The power of pensions to reduce the AROP rate is significantly lower for women (71% in 2016) compared with men (85% in 2016). The high gender gap in regard to the AROP rate, after the transfer of pensions, from an initial relative low before any transfers indicates an important distributional distortion through the pension system. This conclusion is also supported by the gender gap in pay (Eurostat, tesem180, i.e. 5.8% in 2015) and in pensions (25.16% in 2016). The gender gap in pensions is highest for old-age pensions (28.8%),[285] followed by PER and invalidity pensions (c. 17%). The gender gap in pensions is also due to both longer non-contributory periods during women's careers and a lower SPA/effective contributory period.

Overcrowding and housing cost overburden remain high for the entire population. While the proportion of the population aged 65+ which experience housing cost overburden is similar to that of the entire population, it is well above the European average value. Overcrowding is less an issue for the elderly compared with the overall population (in 2016, 19.5% compared with 48%), yet the proportion of the elderly experiencing overcrowding is more than 3 times higher than that at the European level.

[283] Calculated as the AROP reduction rate after – compared with before – social transfers.
[284] The gender gap is calculated as the proportion of the difference between the value of the indicator between men and women, and the value of the indicator for the entire population.
[285] Calculated for July 2017, based on statistical data provided by the National Public Pension House (www.cnpp.ro/ statistics).

Income replacement. The gender gap is also present at the level of the relative median income ratio of persons 65 and over. During 2010-2014, Romania had the second highest relative median income ratio (65+ age group) across Europe, with a median income of the elderly higher than for the population below 65 years. Starting from 2015 it deteriorated, at a higher pace for women; yet its value is still among the highest in Europe (i.e. 0.97 compared with 0.92, the European average in 2016). This holds true also for the ARR, which increased constantly until 2014, when it started to depreciate. As with the previous indicator, the ARR is among the highest across Europe, despite its deteriorating since 2014; the ARR reached 0.66 in 2016, compared with 0.58 at the European level. High values of the ARR and median income ratio are the consequence of a constant increase in pensions since 2008, when the pension point started to increase significantly. Increases in pensions exceeded by far increases in average/median work-related income. In addition, inequality among the elderly is lower than at the level of the whole population; while Romania has had over the last 10 years the highest S80/S20 income quintile share ratio across Europe, inequality among the elderly is not the highest across Europe, even if above the EU average. Inequality increased constantly during 2012-2015, dropping by 29 percent in 2016 compared with 2015 (reflected also by the slight decrease of the relative poverty gap in 2016).

Pension duration. Pension payment duration, approximated by life expectancy at 65 years and the average age for old-age retirement (2012), is lower than the European average. The average age for old-age retirement pension in 2012 was 56.9 years and the median age 57 years.[286] We can assume that this increased during the last 4 years, along with the increase in the SPA. The average age of retirement decreased only for a small segment, i.e. mostly for those enrolled in special service pension schemes, but this is a recent trend and their number is rather insignificant. Thus, for 2012, the pension payment duration was 19.6 years for men and 25.8 years for women.[287] Yet even if the real retirement age would have remained constant since then, the pension payment duration would still be among the lowest across Europe. On the other hand, the working life duration is also among the shortest across Europe, at 3.2 years below the EU average. Thus, in terms of the working life/retirement duration ratio, Romania is below the EU average. Thus, disincentives for early retirement, and especially incentives to extend the working life duration, are still weak.

3.1.2. Redistributive elements of public pension schemes

The PAYG pension benefits are tightly linked to lifetime earnings. Thus, the pension system redistributes mainly through ensuring a minimum pension benefit (i.e. social indemnity for pensioners), invalidity and survivors' pensions and through awarding pension credits (i.e. assumed years of career and pension points/contributions) for several non-contributory periods (i.e. maternity/paternity, tertiary education, military service, unemployment, incapacity to work and medical leave). However, for most of the non-contributory periods, the pension accruals are low (i.e. 25% of the average wage as compared with 35% of the average wage – the minimum insurable amount).

Survivor benefits are clearly redistributive elements. Survivor pensioners represent around 11 percent of all pensioners, although slightly decreasing over the last period. The average survivor pension is about 46 percent of the average old-age pension (July 2017). In addition to these, differences in benefits between occupational categories which fall under the service pensions and social insurance pensioners become increasingly significant.[288]

[286] According to the National House of Public Pensions, the average retirement age for old age was 61.4 for men and 58.7 for women.
[287] Average pension duration in 2012 as reported by the National House of Public Pensions was 17 years and 6 months.
[288] With average benefits – for the military in 2017 – 3 times higher than the average social insurance pension.

Despite these redistributive elements, the inequality[289] among the population aged 65 and over was highest across Europe in 2015; in 2016 it decreased by 29 percent compared with its 2015 value for those aged 65+, and relative to that of the population under 65 years. This reflects to some extent the increase in the social indemnity for pensioners (i.e. the minimum pension), which led to a higher proportion of beneficiaries[290] and the upper cap on the maximum insurable income (of five times average gross salaries). As the social indemnity increased even more in 2017, a further decline in inequality in 2017 is to be expected among the elderly.

3.2. Retirement conditions for the self-employed and for people in non-standard employment

Non-standard employment benefits from the same retirement conditions as standard employment, in both statutory contribution periods and contribution levels. Starting from August 2017, employers pay minimum social insurance pension contributions for both full-time and part-time employees, as a percentage of the minimum salary (GO 4/2017). While among standard and non-standard employment forms there are no significant differences in regard to retirement conditions and future pension benefits, there are some differences between employees (with an IWC) and the **self-employed**. For the self-employed who earn above 35 percent of the average gross salary per month, participation in the public pension scheme is mandatory, and the monthly income base for which contributions are paid varies between 35 percent of the average gross salary and five times the average gross salary. For employees, the upper cap of the income base was removed in February 2017 (GEO 3/2017). The self-employed can pay the entire contribution (of 26.3%) or they can pay only the part that an employee would pay (10.5% of gross income), but with the consequence of receiving a lower pension entitlement. While the pension law was amended in order to regulate the rights of the self-employed and their dependants, still there is a high concern regarding the coverage of many self-employed people with lower income levels (including family contributing members).[291]

Currently, pensions for those formerly working in agriculture are lower than for other occupational categories, as until 2010 pensions for this former category were calculated based on their workloads, not effective working time. Thus, in July 2017 the average pension from the main public pension scheme was 2.4 times higher than that for those formerly working in agriculture, whose pensions were calculated based on workload (RON 1070/month, c. EUR 234, compared with RON 440/month, c. EUR 96), with the remark that former agriculture workers whose pensions are below the RON 520 threshold are eligible for minimum pension benefit.

3.3. Future adequacy and challenges

Disconnecting the pension point from the growth in wages after 2030 (when it will be increased solely by inflation), along with a different configuration of the pension benefit (resulting from the maturation of the statutory funded component), will significantly impact the future adequacy of the pension benefits.

Between 2016 and 2056 the theoretical replacement rate (TRR) will more than halve under all scenarios. High-wage earners will face the most significant decrease, with the TRR reaching 17.5 percent for men and 17.1 percent for women, for a 40 years length career up to the SPA. However, it is likely that the replacement rate will be higher, given the removal of the

[289] ilc_di11.
[290] i.e. from 10 percent of pensioners in 2014 to 16 percent in July 2017.
[291] The proportion of the insured self-employed with an income lower than the gross minimum salary is around 93 percent, compared with a proportion of only 17 percent of employees.

contributions cap in 2017 and if service pensions survive. Low-income earners will lose their advantage as compared with average-income earners: for average incomes, the TRR reaches 32.2 percent for men and 31.4 percent for women, while for low-income earners the TRR will be lower, decreasing to 31.5 percent for men and 30.7 percent, in the case of 40 years of career up to SPA. The increasing pensionable age reduces, though not abolishes, the gender gap in the replacement rate. In 2056, the gender gap in TRR decreases to 0.8 percentage points (p.p.), as compared with 5.6 p.p. in 2016, for average earnings and a career of 40 years up to the SPA. The sharp drop in future adequacy will be slightly compensated for by an amelioration in the length of working careers: for average-earner men, in the Ageing Working Group (AWG) career length case, the TRR will stand at values higher than for careers of 40 years up to SPA. Women recuperate significantly in terms of career length, as the net TRR for AWG case tends to catch up with the net TRR for a 40-years career up to SPA (30.2%, compared with 31.4%). Increasing the career length and deferring retirement emerges as the only gainful strategy in the current context (the TRR increases to 36.2% for men and 35.2% for women in the scenario of 42 years to SPA+2, average earnings). This is even more important than dissociating the pension point value from the growth in wages. 10 years after retirement at SPA brings a loss of around 5 p.p. in the value of the TRR for an average-earnings worker.

Under all scenarios adequacy decreases, at a higher rate for higher-income earners, followed by low-income earners. While the gender gap decreases significantly under the AWG scenario, differences between the self-employed and employees will persist and even deepen, if the pension system does not build in any incentives for the former ones to register in the public pension scheme and to declare their real income. The medical needs of the elderly are not properly addressed, with an impact on the non-monetary adequacy of pensions. In addition, the working life duration has not increased spectacularly since 2008 (and in fact decreased compared with 2000), especially for women. While life expectancy may have increased, the age at first pension decreased even before the pension reform and continued to be rather low afterwards.

4. Main opportunities for addressing pension-related challenges

Currently, Romania’s pension adequacy is satisfactory, considering its monetary dimension. Yet some aspects related to distributional equity (men/women, self-employed/employees, and between different categories of pensioners), non-monetary adequacy and working life/retirement duration ratio weaken its current adequacy and threaten the future one, along with a rather unfavourable demographic prospect and a planned change in the updating mechanism of pension points (as of 2030). In order to maintain a decent level of adequacy, and counteract the high decrease in the replacement rate of pension benefits over time, the main challenges of the pension system are: (a) to increase the working life duration (concomitant with the increase of the effective retirement age); and (b) to adjust the differences in retirement conditions and benefit entitlements between men and women, the self-employed and employees, and among different occupational categories.

The first challenge can be addressed twofold: (a) by aiming at the equalisation of the SPA for men and women (with positive effects in the long run on both the sustainability of the pension system, again threatened by the recent amendments, and on the gender gap in pensions); and (b) by building in (through labour market policies, and fiscal and pension legislation) incentives to stay in/re-enter the labour market especially for workers 55 and over, the older unemployed and those with partial/mild invalidity. Effective labour market policies are crucial to decrease the number of early retirements and invalidity pensioners, while fine-tuned legislation creating a smooth path to work after reaching SPA would increase the chances of longer work lives.

Secondly, to diminish inequities among different categories of pensioners, a few issues have to be addressed. In order to prevent cleavages between different occupational categories, a clear legal definition of occupational pension schemes versus service schemes would be needed; this would help stop the vicious cycle of fighting over pension privileges, with a significant impact on the sustainability of the public pension system. To prevent a steep decrease in coverage by social insurance pensions of a significant working population in rural areas (especially of those employed in agriculture) and to increase their chances of decent pension benefits, pension contribution requirements have to be fine-tuned, so that there is an incentive for the low-income self-employed to enrol in the system and for those who enrol to contribute according to their real income.

Finally, making sure that benefits or social indicators (e.g. minimum salary, the minimum pension, and the value of the pension point) cannot be changed/updated on a discretionary basis would grant stability to both the statutory PAYG as well as the statutory funded pension pillar: there is a need to secure their effectiveness and sustainability.

5. Background statistics – Romania

1. Relative incomes of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.97	1.10	0.89	0.12	0.18	0.11
Income quintile share ratio (S80/S20), 65+	4.4	3.9	4.6	-0.6	-0.5	-0.6
Aggregate replacement ratio (ARR)	0.66	0.68	0.57	0.16	0.13	0.12

2. Poverty and material deprivation

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+ (%)	34.0	27.0	38.7	-15.4	-18.3	-13.5
At-risk-of-poverty (AROP), 65+ (%)	19.1	12.2	23.7	-7.4	-8.4	-6.8
Severe material deprivation (SMD), 65+ (%)	22.5	18.9	25.0	-16.5	-17.7	-15.7
At-risk-of-poverty or social exclusion (AROPE), 75+ (%)	39.9	28.2	46.5	-14	-21.4	-9.9
At-risk-of-poverty (AROP), 75+ (%)	23.3	13.1	29.1	-6.6	-9.5	-5.2
Severe material deprivation (SMD), 75+ (%)	26.9	20.0	30.8	-15.4	-18.9	-13.5
Relative poverty gap, 65+ (%)	20.1	20.2	20.1	-3.3	-2.3	-3.9
At-risk-of-poverty (AROP), 65+: 50% threshold (%)	11.0	7.0	13.7	-5.2	-5.1	-5.3
At-risk-of-poverty (AROP), 65+: 70% threshold (%)	26.1	18.1	31.6	-9.6	-10.9	-8.7
				Change 2014-2016		
Material and social deprivation, age 65+ (%)	56.3	52.4	58.9	-4.1	-2.8	-4.9

3. Gender differences

Indicator	2016	Change 2008-2016
	Total	Total
Gender gap in pension income (65-79) (%)	25.16	-4.01
Gender gap in non-coverage (W-M in p.p.) (65-79)	3.6	-2.4

4. Housing and health situation of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Population 65+ living in overcrowded households (%)	19.5	16.6	21.5	-3.9	-2.4	-5.0
Tenure status among people 65+: share of owners (%)	99.0	99.2	98.9	-0.4	-0.3	-0.4
Housing cost overburden, 65+ (%)	14.6	9.8	17.8	-12.7	-11.5	-13.6
Self-reported unmet need for medical care 65+ (%)	15.2	10.8	18.2	-11.4	-13.0	-10.3
Healthy life years at age 65 (years) *		6.3	5.7		-1.6	-2.3

5. Pension duration

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Pension payment duration (2012) (years)		19.6	25.8			
Retirement duration (AWG) (years)		16.0	21.0		21.3	25.9

Data source: (1) (2) (3) (4) Eurostat, Sept-Oct 2017 (5) European Commission

*Notes: * - 2015 data.*

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net (%)				Gross (%)			
		2016		*2056*		*2016*		*2056*	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Variant: old base case: 40 years up to 65	77.2	71.6	32.2	34.4	56.7	52.9	22.1	23.6
	New base case: 40 years up to the SPA	77.2	71.6	32.2	31.4	56.7	52.9	22.1	21.5
	Increased SPA: from age 25 to SPA	80.0	65.6	32.2	30.6	65.1	51.6	22.1	21.0
	AWG career length case	71.3	58.7	32.6	30.2	55.7	45.2	22.4	20.7
	Longer career: 42 years to SPA			33.0	32.2			22.6	22.1
	Shorter career: 38 years to SPA			31.4	30.6			21.6	21.0
	Deferred exit: 42 years to SPA +2			36.2	35.2			24.8	24.1
	Earlier exit: 38 years to SPA -2			31.4	30.6			21.6	21.0
	Career break – unemployment: 3 years			32.2	31.4			22.1	21.5
	Career break due to childcare: 3 years			32.2	31.4			22.1	21.5
	Career break caring for family dependant: 3 years			32.2	31.4			22.1	21.5
	Short career (20-year career)			7.1	6.7			4.9	4.6
	Work 35 years, disabled 5 years prior to SPA			32.2	31.4			22.1	21.5
	Early entry in the LM: from age 20 to SPA			34.1	32.5			23.4	22.3
	Index: 10 years after retirement @ SPA			27.0	26.3			18.5	18.0
	Extended part-time period for childcare			31.0	30.3			21.3	20.8
	Pension rights of surviving spouses								
Low (66%)	Variant: old base case: 40 years up to 65	81.0	89.7	31.5	33.7	68.1	75.3	22.1	23.6
	New base case: 40 years up to the SPA	81.0	89.7	31.5	30.7	68.1	75.3	22.1	21.5
	AWG career length case	77.9	69.4	31.9	29.6	59.8	55.4	22.4	20.7
	Career break – unemployment: 3 years			31.5	30.7			22.1	21.5
	Career break due to childcare: 3 years			31.5	30.7			22.1	21.5
	Short career (20-year career)			6.9	6.5			4.9	4.6
High	New base case: 40 years up to the SPA	59.3	49.8	17.5	17.1	44.0	37.0	13.2	12.8
	Average replacement rate across retirees	:				:			

7. Sustainability and context

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65 (years)	16.4	14.5	18.0	21.9	20.3	23.5
Old-age dependency ratio (20-64) (%)	28.2	22.6	34.0	64.1	58.1	70.1
Economic old-age dependency ratio (15-64) (%)	37.8	27.0	55.3	88.0	67.3	116.8
Employment rate, age group 55-64 (%)	42.8	53.0	33.6	49.8		
Pension expenditure as % of GDP (ESSPROS)	8.0*					
AWG projections	2016			2055		
Coverage ratio (% of pop aged 65+)						

Data source: (6) Member State and OECD; (7) European Commission, DG ECFIN

*Notes: * - 2015*

Slovenia (SI)

Highlights

- The Slovenian pension system is doing quite well at protecting elderly people against material and social deprivation, with material and deprivation indicators below the EU-28 average.
- The latest pension reform (ZPIZ-2) brought some changes that have had positive effects on the adequacy of pensions, but did not provide a solution for the long-term sustainability of the system.
- The pension adequacy challenge concerns especially persons with incomplete or short working careers, those working in intermittent jobs or with a low contribution density, and the self-employed.
- Based on in-depth analysis and a permanent dialogue with stakeholders, the government should coordinate the implementation of measures affecting the employment rate of older people with the agreed key aims of the further development of the pension system.

1. General description of the national pension system

The Slovenian statutory pension and disability insurance system (first pillar) is a pay-as-you-go (PAYG) one. It is uniform and mandatory for all employed persons and other persons generating income from employment or other gainful activity. Inactive persons may join the system on a voluntary basis. They are all included in the insurance scheme under the same act – Pension and Disability Insurance Act (2012) (henceforth: ZPIZ-2) – and are covered by the same insurance provider (the Pension and Disability Insurance Institute of Slovenia). The system is financed through social security contributions and direct transfers from the central government budget. The total contribution rate for pension and disability insurance is 24.35 percent of gross salary without a ceiling (the employee's contribution is 15.50% and the employer's is 8.85%). Transfers from the central government budget amounted to 28 percent of the total 2016 revenues of the Pension and Disability Insurance Institute of Slovenia. The scheme includes: a) the right to a pension (old-age, disability, survivors' and partial pension); b) disability insurance entitlements (such as occupational rehabilitation, temporary benefits, etc.); c) the right to a yearly bonus; and d) the right to an assistance and attendance allowance. There are also some special schemes covering farmers, military personnel, etc.

The statutory retirement age will be gradually (until 2016 and 2020 for men and women, respectively) equalised at 65 years – from 63 years for men and 61 years for women in 2012.

Since 2013 the minimum age requirement for early retirement is 60 years for both sexes. With the so-called added period (credited years of military service, tertiary education and registered unemployment spells) abolished, a very important pathway to early retirement was eliminated. There are additional restrictions regarding special provisions that enable early retirement without incurring a reduced pension. The most important one is related to childrearing: the ZPIZ-2 has practically limited this provision to women, shrunk the number of months by which the minimum age condition is decreased, and introduced additional conditions, such as a sufficient number of years of work.[292] On the other hand, the retirement age for men can be

[292] Women have to fulfil at least 38 years of work (pension qualifying period without purchased period), while the retirement age (65 years) may be reduced by a maximum of 48 months for child-raising. In the case of 40 years of work fulfilled, the retirement age of 60 years may be reduced equally. According to ZPIZ-1 the partners agreed which of them would use the right to reduce the retirement age due to child-rearing. According to ZPIZ-2, men have the right to reduce their retirement age only if they were beneficiaries of the parental leave salary compensation (the minimum retirement age is 63 for those with at least 38 years of work and 58 years for those with 40 years of work).

decreased by two thirds of the military service period. It can also be decreased in the case of persons who started working before the age of 18 years, but with restrictions regarding a sufficiently long insurance period (40 years of work, with the maximum decreased from 60 years to 56 years for women and 58 years for men).

The minimum pension is provided through the minimum pension assessment base that is fixed at 76.5 percent of the average net salary. There is also a maximum pension assessment base that is four times higher.

The deductions for early retirement amount to 3.6 percent per year for retirement prior to the age of 65 years (up to a maximum of 18%). The accrual rates for later retirement were increased to 4 percent per additional year, for up to 3 years.[293]

The use of nominal salary changes for the calculation of valorisation coefficients (instead of considering also the growth of pensions used until 2012) has stopped a decrease in accrual rates, which was an important step towards the stabilisation of replacement rates and preventing a further decrease in entry pensions. However, entry pensions will continue to decrease till 2019 due to an increasing number of best consecutive years (from 18 to 24 years) for the calculation of the pension assessment base. Additionally, the indexation of pensions was changed from salary growth only to 60 percent of salary growth and 40 percent of price growth.

The second pillar (occupational defined-contribution schemes) consists of mandatory schemes for public employees and persons employed in hazardous or arduous occupations, as well as various collective voluntary schemes organised by employers, and covers nearly two thirds of all employees (64%). A special scheme for workers employed in hazardous or arduous occupations offers these workers bridging pensions up to their standard pensionable age (SPA) should they retire early.

The split between collective (occupational) and personal pension insurance is extremely unequal. At the end of December 2016, collective supplementary pension insurance accounted for 96.4 percent of all supplementary insurance policies, compared with only a 3.6 percent share for personal insurance policies. The total amount of savings reached EUR 2741 million, with an almost equal split between mandatory and voluntary pension funds. The average monthly premium in voluntary pension funds was EUR 66.55 (or 4.2% of the average national gross salary).

At the end of 2016 almost 20,000 annuities were being paid, of which more than 17,000 were accelerated ones. In 2016, the average monthly lifetime annuity amounted to EUR 68, compared with the average monthly accelerated annuity of EUR 126. Despite a relatively short saving period of 15 years, the average lifetime annuity increased the average pension for new old-age pensioners (EUR 646) by 10.5 percent. This positive outcome of the supplementary pension system is only ostensible; namely, only a small proportion of all new pensioners receive lifetime annuities. It can be expected that the relative difference between the two

[293] A deferred pension is thus allowed and is not limited in time. If the person who fulfilled the conditions for old-age or early-retirement pension continues to work with full-time insurance, they may apply for and actually receive 20% of their old-age or early-retirement pension per month in addition to current earnings.

pensions will be gradually increasing in the future as the saved amounts will be increasing.[294] [295]

2. Reform trends

The primary aim of the ongoing pension reform (ZPIZ-2) has been the system's short- and medium-term sustainability, as well as the adequacy of future pensions, rather than its long-term sustainability. Recent estimates reveal that, while the reform ensured sustainability in the medium term, major challenges to long-term sustainability still remain. Pension expenditures will remain below 12 percent of GDP till 2028, but were projected to reach 15.3 percent in 2060. Though some minor adjustments of the ZPIZ-2 cannot be ruled out, the current regulation is expected to provide a stable pension environment within a 10-year period. This is certainly a welcome development, as the pension reform had been stalled for a long period.

There were two major amendments to ZPIZ-2 in the period after 2013. On 15 December 2015, the National Assembly endorsed amendments to the Pension and Disability Insurance Act that dealt with the dual status of pensioners who continue working beyond the retirement age and occupational insurance.

All employees who fulfil the early-retirement or old-age retirement conditions according to ZPIZ-2 and continue working already had dual status, with an option of receiving 20 percent of an early or old-age pension. This option was extended to all employees who qualify under the old rules. The payment is no longer limited to the maximum age of 65 years. The amendments also provide more flexible forms of transition from employment to full retirement: all insured persons (including independent entrepreneurs, partners, employees and farmers) who are eligible for retirement may decide to work at least 2 hours per day (before, it was at least 4 hours a day) and receive a proportional share of their pension.

The ZPIZ-2B introduced changes to occupational insurance regarding the resources that have to be collected on individual accounts (increase in the lowest occupational pension, a ceiling to the highest one and introduction of solidarity reserves). It also initiated the process of revaluation of the existing list of arduous and hazardous jobs.

The following Act Amending the Pension and Disability Insurance Act (2017, henceforth ZPIZ-2C) was unanimously approved by parliament on 25 April 2017. The Minister of Labour, Family, Social Affairs and Equal Opportunities considered this an important step towards a decrease in the poverty risk among pensioners. The amendments increased the minimum old-age and disability pension to EUR 500 per month for pensioners who had fulfilled the full retirement conditions. This amount slightly exceeds the income threshold for entitlement to income supplement, thus ensuring basic social security for this group of pensioners. The number of old-age and disability pensioners who had retired under the provisions of ZPIZ-2 or previously applicable regulations, and had fulfilled the full retirement conditions, was estimated at 45,291 (29,722 women and 15,569 men), or 46 percent of all pensioners with a pension between EUR 400 and 500.

[294] The third-pillar (personal) pension scheme, access to which does not depend on an employment relationship, is poorly developed in Slovenia and there have been almost no analyses made. There is no comprehensive definition of what belongs to the third pillar, and the available data (SIA, 2016a, 2016b) cover only a part of it. In 2016 there were 9767 insured persons (pension and annuity insurance according to the Insurance Act providing life annuity pay-outs), 6966 of whom paid premiums (the average monthly premium was EUR 66.8 or 4.2% of the average gross salary, while the average saved amount was EUR 15,752). With some parts of life insurance added (endowment insurance, mixed insurance, annuity insurance, other life insurance, unit-linked life insurance, and capital redemption insurance), these numbers would be substantially higher, with 154,428 insured persons added whose monthly premium paid averaged EUR 267.2 per month in 2016.

[295] Taking into account the number of insured persons in the first pillar (891,002 on average in 2016) as well as active policies in the second pillar (385,138 persons at the end of 2016) and the third pillar (6966-154,428 persons at the end of 2016), the coverage rates of different pension schemes, as shares of population aged 15-64, were 65%, 28% and 0.5-11.3%, respectively.

The Slovenian government has seriously taken into account the importance of a stronger involvement of social partners. This is evident in practice from the contents of the White Paper on pensions that was presented to the public in April 2016, the broad public debate launched, and the appointment of a task force aimed at achieving an agreement among the social partners on various elements of future pension reform.[296]

In December 2016, the government adopted the document *Older Workers and the Labour Market in Slovenia* and the related action plan. The document includes an analysis of the position of older people in the labour market and a list of possible measures that could contribute to a higher employment rate of older people as well as their longer stay in employment and a higher employability. This document represents an important and necessary addition to the white paper on pensions. Both documents complement each other: without a successful implementation of the proposed measures for the elderly in the labour market, the future pension reform can have only a limited chance of success.

Based on an intensive debate between the Slovenian government and the social partners on particular measures proposed in the white paper, that took place in the period from June 2016 to March 2017, the starting points for the renovation of the pension and disability insurance system in Slovenia were prepared and unanimously approved by the parliament on 7 July 2017. The agreed key aims of the further development of the pension system are: a) gradual achievement of decent pension levels at the minimum replacement rate of 70 percent; b) financial sustainability; c) system transparency; and d) raising the confidence of all generations in the pension system. These aims can be achieved by the implementation of the following set of measures/principles: full implementation of the 'every work counts' principle; an increase in the actual retirement age and prolonged working life; equal treatment of men and women; indexation of pensions, taking into account salary growth and the price index, to ensure decent pensions and a sustainable pension fund; professional rehabilitation becoming a fundamental right under the disability insurance system, whereby health insurance and occupational safety and health are adapted in parallel; and supplementary pension insurance being determined primarily in terms of income upgrade at retirement, but not at the expense of the first pillar. Slovenia made an important step towards a new pension reform by reaching a consensus between the social partners on some key starting points for the renovation of the system. Unfortunately, as also noted by the Council of the EU, concrete legislative proposals are still lacking.

The governmental Working Group on Coordination of the Preparation of Projections of Public Expenditures Due to the Population Ageing prepared an expert note on the importance of a reduction in age-related expenditures for fiscal consolidation in the following years (GRS, 2017), which was presented at the government meeting on 6 July 2017: however, there has been no tangible follow-up.

3. Assessment of adequacy

3.1. Current adequacy

3.1.1. General assessment of current adequacy

Compared with the EU-28 average, the Slovenian pension system produces lower aggregate replacement ratios (0.47 compared with 0.58) and lower median relative incomes of people

[296] The white paper consists of the situation analysis, effects of the 2012 pension reform, as well as potential solutions that would ensure the fiscal sustainability of the pension system and adequate pensions. It represents the basis for a public debate among the social partners and the general public on the contents of the new pension reform that is expected to take effect after 2020.

aged 65+ (0.89 compared with 0.92).[297] Still, as regards income inequalities among the population aged 65+, the income quintile share ratio (S80/S20) for Slovenia is lower than the EU-28 average (3.6 and 4.1, respectively).

The at-risk-of-poverty or social exclusion (AROPE) rates for the age groups 65+ and 75+ are higher than the EU-28 average (19.9 and 22.8, respectively, compared with 18.3 and 19.9), and are especially high for women (25.0 and 29.1, respectively, compared with 20.7 and 22.9). The proportions of the elderly in Slovenia experiencing severe material deprivation (SMD) are close to or lower than the EU-28 average for both age groups. This reflects an overall high material standard of living in Slovenia, particularly compared with eastern European EU Member States. A relatively high material standard of living of the elderly in Slovenia is additionally confirmed by the average share of the population aged 65+ living in overcrowded households (4.4% in Slovenia compared with 6.6% in the EU-28), higher tenure status among people aged 65+ (the share of owners is 88.8% in Slovenia compared with 78.1% in the EU-28), and a much lower housing cost overburden rate (5.6% in Slovenia compared with 10.5% in the EU-28). It is also worth pointing out that the self-reported unmet need for medical care of the population aged 65+ in Slovenia (0.5%) is one of the lowest in the EU-28 (3.5%). However, this is not reflected in the average number of healthy life years at age 65 (8.2 for men and 7.6 for women, compared with the EU-28 averages of 9.4 years for both men and women). The reason can be found in the negative developments in the observed period (a decrease by 1.0 years for men and 1.8 for women in Slovenia in the years 2008-2016, compared with the rise in healthy years by 0.7 and 0.6 years, respectively, in the EU-28).

In 2016, the average pension payment duration, according to national administrative data, amounted to 24 years and 1 month for women and 17 years and 7 months for men.

In the years 2008-2016, the relative incomes of elderly people increased: the relative median income ratio increased by 0.05 for both genders (to 0.96 for men and 0.84 for women) and the aggregate replacement ratio increased by 0.05 for women (to 0.50).[298] This relative improvement was mainly due to the impact of the crisis on the earnings of the working-age population that exceeded the effect of the pension indexation freeze (one of the financial consolidation measures) and revisions in social assistance benefits. The same explanation holds for changes in the relative income poverty indicator: the at-risk-of-poverty (AROP) rate decreased by 3.7 and 5.4 percentage points (p.p.) for the age groups 65+ and 75+, respectively. An unexpected improvement in SMD for both genders (by -1.6 and -1.5 p.p. for men and women, respectively, in the age group 65+) could be explained by: 1) changes in the structure of pensioners (older women cohorts, with low pensions due to the short contributing periods and low salaries, were replaced by younger ones, with higher contributing periods and higher salaries); and 2) a higher share of old-age pensioners in all pensioners. These changes also resulted in a decrease in the share and number of pensioners with pensions lower than EUR 500 in the period from 2008 to 2016 (their share decreased from 45.5% to 38.3%), while the change in the number of pensioners with pensions lower than EUR 500 was -7.8 percent, compared with +9.8 percent for all pensioners.

The latest pension reform (ZPIZ-2) introduced new pension indexation rules: 60 percent of salary growth and 40 percent of price growth (inflation rate). This will have a negative impact on preserving the future adequacy of pensions. An indexation freeze during the economic crisis

[297] As Slovenian pensions are virtually exempt from personal income tax and payment of social security contributions, the aggregate gross replacement ratio has to be interpreted with caution. The net aggregate replacement ratio would therefore be a much better indicator – amounting to 0.77 for men and 0.69 for women.
[298] It remained at the same level (0.50) for men.

contributed to the drop of pensions in real terms.[299] The reform also changed the methodology for the calculation of valorisation coefficients, which was an important step towards the stabilisation of replacement rates and preventing a further decrease in entry pensions.

During the last several years, financial consolidation measures have had an important negative impact on current pensions, the minimum income provision for older people and future pensions. These measures included: an indexation freeze and a temporary reduction of the annual supplement; a reduced paternity/parental leave earnings-compensation rate and maximum amount; a substantial decrease in the compulsory supplementary insurance pension premium; and a decreased number of paid premiums in the voluntary supplementary schemes. Furthermore, changes in social assistance benefits, brought by the Social Assistance Benefits Act (2010), implemented in January 2012, have additionally negatively influenced the adequacy of pensions for pensioners with low pensions and older persons without any pensions.

However, the adequacy challenge concerns especially pensioners with incomplete or short working careers, those working in intermittent jobs and those with a low contribution density. As the number of persons working part time or on fixed-term labour contracts increased during the economic crisis, the adequacy problem will be extended to future years.

3.1.2. Redistributive elements of public pension schemes

There are quite important redistributive elements in the Slovenian public pension schemes. The minimum pension is provided through the minimum pension assessment base that is fixed at 76.5 percent of the average net salary (the maximum pension assessment base is four times higher). With a minimum pension assessment base of EUR 788.10 in 2016, pensioners with 40 years of career and a pension assessment base lower than the minimum one are lifted above the AROP threshold. Additionally, from 1 October 2017, the ZPIZ-2C increased the minimum old-age and disability pension to EUR 500 per month for the pensioners who had fulfilled the full retirement conditions. According to the information provided by the The Ministry of Labour, Family, Social Affairs and Equal Opportunities, the number of affected pensioners was estimated at 45,291 (or 46% of all pensioners with a pension between EUR 400 and 500).

Pension provisions for people forced to leave the labour market early, too, have an important positive impact on pension adequacy. The so-called added period (two thirds of the difference between the age of a disabled person and 60, plus 2.5 years) mitigates a decrease in the accrual rates. Maternity/paternity/parental leave does not have any impact on working careers and the gender pension gap because social security contributions are paid during the leave from the salary compensation that is equal to the average monthly gross salary during the 12 months prior to leave. Unemployed persons receive unemployment benefit for up to 25 months (the maximum duration applies to persons older than 55 years and insured for more than 25 years), and are additionally credited with pension contributions if, after the cessation of entitlement to unemployment benefit, they have less than a year until retirement. Those unemployed persons who are not, or cease to be, entitled to unemployment benefit may apply for cash social assistance.

The latest pension reform (ZPIZ-2) has equalised the conditions for acquiring an old-age pension for men and women, both the age of the insured person and the pension qualifying period (however, the accrual rates for the first 15 years of work are higher for women (29%) than for men (26%)). Important changes were also made in special provisions that enable the lowering of the statutory retirement age (a smaller number of months for which the age

[299] In 2010, pensions were indexed by 50% of the average salary growth and by 25% in 2011. Pension indexation was frozen in 2012, while in 2013 the pensions increased by 0.1%. No indexation of pensions was foreseen in the state budgets for the years 2014 and 2015. In 2016 there were two extraordinary adjustments (by 0.7% and 0.4%) and a further one (by 1.15%) on 1 January 2017.

condition is decreased due to childrearing and a sufficiently long insurance period for benefiting from this provision). All these changes will have a positive effect on the further narrowing of the gender pension gap.

3.2. Retirement conditions for the self-employed and for people in non-standard employment

The self-employed are insured against all risks and pay for themselves both the employer's and the employee's social security contributions at the same rates as employees on employment contracts and their employers.[300] Most non-standard work contracts are covered by social security insurance − particularly pensions and disability – and health insurance, as well as insurance against accidents and work and occupational injuries; and the same (or similar) contribution rates apply to those for workers on permanent full-time employment contracts. However, low insurance bases entitle them to low benefits. Almost 70 percent of the self-employed pay social security contributions from the minimum base and will be entitled to the minimum old-age pension. The adequacy of their pensions is a serious problem in particular.[301] All this even more holds for non-standard workers, whose low density of work is an additional problem. Relatively short insurance periods have negative consequences for the long-term social security of workers on fixed-term contracts, including casual and seasonal workers, temporary agency workers, workers on civil contracts, etc. If unable to earn a (decent) pension, they will live in poverty in their old age.

There have been amendments to labour market legislation and measures implemented and foreseen in Slovenia to stimulate the conclusion of permanent employment contracts, support self-employment among the formerly unemployed, hinder the conclusion of non-standard contracts, detect and punish disguised employment/'bogus' work and increase the social security of workers on non-standard contracts.

Recent revisions, based on the 'each work counts' principle, have undoubtedly increased the social security of non-standard workers. For workers on civil contracts and students performing student work, the future total pension insurance period has been increased, which will result in higher accrual rates and higher pensions. On the contrary, a higher social security contribution base for the self-employed and some non-standard workers has immediately decreased their disposable income with no effect on their future pensions since they remain below the minimum pension base.

3.3. Future adequacy and challenges

Prospective net theoretical replacement rates (NTRR) are expected to remain the same (for men) or decrease over the long run (for women). In the base case of a male worker in Slovenia, retiring at the SPA after 40 years of career at the average salary, the NTRR would remain unchanged (compared with a decrease of 3.6 p.p. for a woman). In the case of an Ageing Working Group (AWG) career length that takes into account the effective entry and exit age, the values increase by 3.9 and 1.7 p.p. for men and women respectively.

The same outcome can be observed when comparing the changes in the NTRR levels over time for different earning profiles. Compared with average-salary earners, the NTRR levels for workers with high earnings are much lower in the base year 2016. Deterioration in the income replacement levels after 40 years of career (by 4.5 p.p.) is evident only for women due to the

[300] There is no possibility for opting out.
[301] The minimum insurance base for the self-employed was EUR 870 in 2016, while the average insurance base, from which they paid their social security contributions, was EUR 1074. It is obvious from the comparison with the average Slovenian gross salary of EUR 1558 that the self-employed will on average gain substantially lower pensions than those employed with an employment contract.

lowered accrual rates. Low-salary earners are in a relatively better position due to a higher minimum assessment base. Increased NTRRs (by 7.6 p.p. for men and 0.3 for women) are expected in the long run due to the amended Pension and Disability Insurance Act that increased the minimum old-age and disability pension to EUR 500 per month as from 1 October 2017 for pensioners meeting the full retirement conditions (ZPIZ-2C).

It is worth noting that the current pension act (ZPIZ-2) made a radical change, by completely decoupling the valorisation mechanism and the indexation mechanism. This change, together with the new indexation mechanism, could boost the adequacy of pensions, provided that both the effective retirement age and career length are increased.

There are provisions in the ZPIZ-2 that are likely to have a negative impact on the future adequacy of pensions. The methodology for computing the pension assessment base acts to the detriment of low-income earners (compensated by the minimum pension assessment base). The period for calculating the pension assessment base is extended from 18 years to 24 years, which will gradually lower the pension base. Due to a much higher share of women, compared with men, with their pensions computed from the minimum pension assessment base, the average decrease in the pension assessment base will be lower for women. Data on the working years of younger generations reveal substantially lower values compared with those for older generations. Young generations will thus have a lower number of working years at the retirement age, and consequently lower pensions. This certainly raises the question of the future adequacy of pension outcomes for different career patterns.

The projections indicate that, at average earnings, delaying retirement by 2 years beyond the SPA results in an increase in the NTRR by 7.6 and 4.0 p.p. for men and women, respectively. A 3-year career break due to unemployment results in no change in the NTRR due to the fact that an unemployed person would be receiving unemployment benefits for 25 months, and would have pension insurance contributions paid for a further 11 months. A 3-year career break due to childcare results in a drop in the NTRR by 1.25 p.p. An increase in the NTRR is expected for surviving spouses as they are entitled to a part (15% of 70%) of the late spouse’s pension. A much larger decrease in the NTRR may be expected in the case of long-term career breaks. The calculations based on an assumed 20-year career reveal a drop in the NTRR by 25 p.p. for men and women with average earnings (29 p.p. for those with low earnings).

It can be concluded that the design of the Slovenian pension and social security systems prevents great negative pressures on the future adequacy of pensions.

4. Main opportunities for addressing pension-related challenges

With approved starting points for the renovation of the pension and disability system, Slovenia made an important step towards a new pension reform. Among agreed key aims the first one is ‘gradual achievement of decent pension levels at the minimum replacement rate of 70 percent’, complemented with financial sustainability, system transparency and raising the confidence of all generations in the pension system. Together with the agreed set of measures/principles it is certainly on the right path but some important and urgent activities are still lacking, as follows.

a) In-depth analyses are needed in many areas (dependent self-employment and ‘bogus’ work, the impact of labour costs on the demand for or offer of non-standard workers, the effects of changes in the social assistance benefits, supplementary pension insurance, workers in arduous and hazardous jobs, and disability and survivors’ pensioners, etc.).

b) To start an open and continuous public debate on demographic changes and their effects on the pensions, healthcare, long-term care and education systems as well as on the labour market with all relevant stakeholders and based on the conducted analyses.

c) Coordinated actions in many areas, such as education, healthcare, long-term care and the labour market, are necessary in order to effectively implement the needed new pension reform.

Responsibility for timely action is not only on the government’s shoulders but also on individuals and firms. Awareness by Slovenian society and firms of the challenges of population ageing is still low. The government should take care of the timely and adequate informing of the individuals, firms and crucial stakeholders to be able to make correct decisions.

The Slovenian government is well aware of the necessity for action and adopted several documents and measures on the labour market and pension system, is preparing healthcare and long-term care reforms and in June 2017 adopted the *Strategy for a Long-Lived Society* (IMAD, 2017). It should serve as a strategic framework for all activities of this and all future governments, and it should become an important part of the new development strategy of the Republic of Slovenia. A permanent active and healthy ageing group is to be established with the following tasks: a) care for the strategy implementation; b) planning, preparing and implementing the activities for permanently informing Slovenian society; and c) establishment and implementation of a permanent dialogue among policy-makers and crucial stakeholders in the process of implementing the strategy in practice – finding at least minimal consensus regarding the basic/key questions of each particular system.

5. Background statistics – Slovenia

1. Relative incomes of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.89	0.96	0.84	0.05	0.05	0.05
Income quintile share ratio (S80/S20), 65+	3.6	3.3	3.6	0	0.1	-0.1
Aggregate replacement ratio (ARR)	0.47	0.50	0.45	0.03	0.00	0.05

2. Poverty and material deprivation

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+ (%)	19.9	12.9	25.0	-4.5	-2.1	-5.5
At-risk-of-poverty (AROP), 65+ (%)	17.6	10.8	22.5	-3.7	-0.9	-5.0
Severe material deprivation (SMD), 65+ (%)	5.8	4.1	6.9	-1.6	-1.6	-1.5
At-risk-of-poverty or social exclusion (AROPE), 75+ (%)	22.8	12.1	29.1	-5.3	-3.2	-5.1
At-risk-of-poverty (AROP), 75+ (%)	20.5	10.1	26.6	-5.4	-2.3	-5.6
Severe material deprivation (SMD), 75+ (%)	5.5	3.7	6.6	-1.2	-0.3	-1.3
Relative poverty gap, 65+ (%)	19.1	18.0	19.5	-0.5	-0.1	-1.0
At-risk-of-poverty (AROP), 65+: 50% threshold (%)	10.4	5.9	13.6	-2.0	-0.3	-2.8
At-risk-of-poverty (AROP), 65+: 70% threshold (%)	26.8	18.3	32.8	-4.3	-2.4	-5.0
				Change 2014-2016		
Material and social deprivation, age 65+ (%)	10.4	7.6	12.5	-5.7	-6.6	-5.0

3. Gender differences

Indicator	2016	Change 2008-2016
	Total	Total
Gender gap in pension income (65-79) (%)	15.76	-12.17
Gender gap in non-coverage (W-M in p.p.) (65-79)	-3.4	5.0

4. Housing and health situation of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Population 65+ living in overcrowded households (%)	4.4	3.2	5.2	-17.3	-12.3	-20.4
Tenure status among people 65+: share of owners (%)	88.8	92.3	86.2	-1.2	-1.0	-1.6
Housing cost overburden, 65+ (%)	5.6	2.5	7.8	-1.0	-2.0	-0.2
Self-reported unmet need for medical care 65+ (%)	0.5	0.4	0.5	0.3	0.2	0.3
Healthy life years at age 65 (years) *		8.2	7.6		-1.0	-1.8

5. Pension duration

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Pension payment duration (2012) (years)		22.5	30.1			
Retirement duration (AWG) (years)		21.9	26.3		24.1	27.7

Data source: (1) (2) (3) (4) Eurostat, Sept-Oct 2017 (5) European Commission

*Notes: * - 2015 data.*

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net (%)				Gross (%)			
		2016		*2056*		*2016*		*2056*	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Variant: old base case: 40 years up to 65	58.8	65.4	58.8	61.8	38.2	42.5	38.2	40.2
	New base case: 40 years up to the SPA	58.8	65.4	58.8	61.8	38.2	42.5	38.2	40.2
	Increased SPA: from age 25 to SPA	58.8	65.4	58.8	61.8	38.2	42.5	38.2	40.2
	AWG career length case	56.3	60.2	58.8	39.1	36.6	39.1	38.2	39.4
	Longer career: 42 years to SPA			66.4	69.4			43.2	45.1
	Shorter career: 38 years to SPA			56.3	59.3			36.6	38.5
	Deferred exit: 42 years to SPA +2			66.4	69.4			43.2	45.1
	Earlier exit: 38 years to SPA -2								
	Career break – unemployment: 3 years			58.8	61.8			38.2	40.2
	Career break due to childcare: 3 years			57.5	60.5			37.4	39.4
	Career break caring for family dependant: 3 years			55.0	58.0			35.8	37.7
	Short career (20-year career)			34.8	37.7			23.0	25.0
	Work 35 years, disabled 5 years prior to SPA			58.8	61.8			38.2	40.2
	Early entry in the LM: from age 20 to SPA			69.3	72.3			46.7	49.1
	Index: 10 years after retirement @ SPA			55.7	58.9			36.2	38.3
	Extended part-time period for childcare			52.7	55.7			35.5	37.8
	Pension rights of surviving spouses				40.1				27.0
Low (66%)	Variant: old base case: 40 years up to 65	62.5	69.8	70.1		44.4	49.6	49.8	
	New base case: 40 years up to the SPA	62.5	69.8	70.1		44.4	49.6	49.8	
	AWG career length case	59.9	63.9	70.1	64.3	42.6	45.4	49.8	45.7
	Career break – unemployment: 3 years			70.1				49.8	
	Career break due to childcare: 3 years			61.2	64.3			43.5	45.7
	Short career (20-year career)			38.0	41.1			27.0	29.2
High	New base case: 40 years up to the SPA	51.7	58.0	50.9	53.5	30.7	34.4	27.8	31.8
	Average replacement rate across retirees								

7. Sustainability and context

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65 (years)	19.7	17.6	21.4	23.5	21.8	25.2
Old-age dependency ratio (20-64) (%)	29.6	23.9	35.7	62.6	58.3	67.0
Economic old-age dependency ratio (15-64) (%)	41.5	31.8	52.7	79.3	71.5	87.7
Employment rate, age group 55-64 (%)	38.5	43.6	33.4	57.1		
Pension expenditure as % of GDP (ESSPROS)	11.4					
AWG projections	2016			2055		
Coverage ratio (% of pop aged 65+)						

Data source: (6) Member State and OECD; (7) European Commission, DG ECFIN

*Notes: * - 2015*

Slovakia (SK)

Highlights

- Older Slovaks face a lower risk of poverty or social exclusion (12.3%) than the EU average, and the level of income replacement from pensions is slightly higher than the EU average (0.62).
- Pensionable age has been linked to life-expectancy gains.
- A minimum pension was introduced in 2015, and the method of pension indexation has been adjusted, including minimum adjustment guarantees. Future pension adequacy is expected to remain stable in the long run.

1. General description of the national pension system

A three-pillar pension system operates in Slovakia. The first pillar is represented by the insurance-based mandatory defined-benefit pay-as-you-go (PAYG) pension scheme administered by a statutory public body – the Social Insurance Agency. The second pillar is based on individual accounts and is represented by a statutory funded pension scheme. The third pillar is designed for supplementary savings and is voluntary (except for certain professional groups). Pension benefits from the first pillar still represent the major source of old-age income.

Statutory pension scheme (PAYG)

The first component is financed primarily through pension insurance contributions paid by the economically active part of the population. Two modalities of contributing are used, depending on whether insured persons are covered only by the first pillar or by the first and the second pillar. Employees presently contribute four percent. Employers contribute 14 percent. If employees participate also in the funded pension scheme, part of employers' contributions (4.5% in 2018) is transferred into this scheme. The minimum contribution period for pension entitlements is 15 years. The pension component has a mixed content based on restricted solidarity and earning-related principles.

Solidarity within the first pillar has been strengthened recently. Since July 2015 the assessment base[302] for the self-employed has been increased from 50 percent of average monthly taxable income (in the previous year) to 67.3 percent. In addition, the maximum amount of the assessment base has grown: between 2013 and 2016 there was a ceiling of five times the average monthly wage, but since January 2017 it amounts to seven times the average monthly wage.

Pensionable age has been linked to changes in life expectancy at the reference age, with the goal to improve the long-term sustainability of the pension system. In 2018, it represents 62 years and 139 days. There are several exceptions to this rule. The new pensionable age doesn't apply to: persons born before 1 January 1955; women born before 1 January 1962 who are subject to a lower pensionable age in view of the number of children; and persons in arduous or hazardous jobs.

Early retirement is possible 2 years prior to pensionable age conditional on a 15-year insurance record and entitlement exceeding the subsistence minimum at least 1.2 times. The amount of an early old-age pension is decreased by 0.5 percent per 30 days missing to pensionable age.

[302] The assessment base represents a basis for calculation of insurance contributions. Old-age pension contributions by employees to the first pillar equal 4% of the assessment base. Contributions paid by the self-employed represent 18% of the assessment base.

In the first pillar an unlimited deferment is possible. The amount of a deferred old-age pension is increased by 0.5 percent per 30 days of deferment. The accumulation of an old-age pension with earnings is possible, so most working pensioners combine a pension with their earnings and the deferred pension is not exploited.

Statutory funded pension scheme

Young people up to 35-years-old can decide whether they participate in the statutory funded pension scheme (second pillar) or stay only in the first (PAYG) pillar (opt in, no automatic registration). Once chosen, it is not possible to leave the second pillar. For the year 2017 the contribution rate for saving was 4.25 percent, for the year 2018 it is increased to 4.50 percent. The contribution rate will be increased gradually by 0.25 percentage points (p.p.) in each coming year and will reach the target level of 6 percent in 2024. The scheme covers 36.1 percent of population aged 15-64[303] or 59.3 percent of the economically active population aged 26-55.[304]

In 2014, the attractiveness of the funded pension scheme was supported by the so-called annuity reform which modified conditions for old-age pension payments. Now, access to resources in the funded pension scheme depends only on reaching the retirement age or claiming an early old-age pension in the first pillar. Accumulated assets could be drawn down in the form of a lifetime annuity, temporary pension and programmed withdrawal. The reform addressed also the improvement of the administrative framework including an extension of information activities. More flexible conditions for the payment of the programmed withdrawal and temporary pension have come to force from 1 February 2018.

Supplementary pension scheme

It is open to employees, the self-employed and other voluntary savers. Contributions have been tax-deductible so far. Employers who contribute to their employees' supplementary pension saving can benefit from tax-deduction for up to 6 percent of the employee's gross wage. There are no classic occupational pensions in Slovakia; however, participation in supplementary pension insurance is mandatory for specified categories of employees, such as certain arduous jobs (for example, miners) and artistic professions. The employer is obliged to contribute in this case.[305] Conditions for the entitlement are 10 years working in this category and the reaching age of 55 years. Supplementary pensions cover 26.3 percent of the working-age population.[306]

Calculation and indexation of benefits

The amount of the pension benefit depends on an individual's average earnings and length of contribution period. A minimum old-age pension (within the first pillar) was introduced in 2015. An amount of 136 percent of the subsistence minimum is granted to persons with at least 30 qualified years of insurance. Each addition year up to 39 qualified years of insurance brings an additional 2 p.p. increase of the sum and each additional year over 39 qualified years of insurance brings an additional 3 p.p. increase.

In the period 2013-2017, pensions were indexed annually, taking into account year-on-year changes in wages and consumer prices, with a growing weight of inflation (10% more every year). Starting from 2018, pensions will be indexed reflecting only the year-on-year growth of consumer prices in pensioner households (their consumption basket). Based on increased general public concern about the adequacy of pensions, a minimum rate of pension benefit

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303 OECD. 2016 data.
304 Statistical Office of the Slovak Republic, 2017 data.
305 Obligations are on the employers' side, but employees may also contribute.
306 Ministry of Labour, Social Affairs and Family, *Report on Social Situation of Population in the Slovak Republic* (2016).

increase was defined. In the period 2017-2021, it represents 2 percent of the average sum of the pension benefit in the first (PAYG) pillar.

2. Reform trends

Three main reform initiatives can be identified currently in Slovakia.

The first one is represented by the changes in the indexation of pensions, including the introduction of its minimum rate. As result, pensions will increase either on the basis of increased inflation (related to pensioner households) or by the given minimum fixed amount. In 2018, the old-age pension will increase by at least EUR 8.40.

The changes in the indexation process will have a direct impact on pension adequacy. They are expected to increase the lowest pensions and guarantee their stable and predictable growth. On the other hand, the necessity to implement the minimum rate of old-age pension growth could serve as an incentive (in the sense of a warning) for young people to not rely on the first pillar and rather invest resources into the second and third pillar. In the long term it could increase the attractiveness of various alternatives of pension savings and thus contribute to a better balance of resources.

The second potential reform initiative was discussed in 2017. It would introduce a new benefit from the supplementary pension scheme that would enable savers to leave the labour market earlier and cover living expenses by private savings from the personal account, aimed at older employees who can't work full time any longer (due to poor health, for example) and can't rely on other resources (such as unemployment benefit) in the period until the legal retirement or early retirement age. This proposal was, however, suspended and it remains unclear whether it will be implemented.

The third potential reform doesn't take the form of a specific legislative proposal yet, but it is the object of discussions between trade unions and the Ministry of Labour, Social Affairs and Family (MLSAF). It would consist of supporting early retirement for workers in hazardous and arduous jobs without reduction of the pension benefit. The Metal Trade Union Association (OZ KOVO), one of the largest trade unions in Slovakia that is the main proponent of the proposal, views increasing the pensionable age as a risk because 'it is very likely that at the current rate of pensionable age growth people will retire at 68 years'.[307] Therefore, it calls for fixing the pensionable age at 64 years and, at the same time, defining explicitly conditions for early retirement which wouldn't penalise employees. These suggestions received a positive response from the representatives of the MLSAF. The Minister of Labour, Social Affairs and Family has promised discussions with social partners, with the aim to find a consensus that would fit the expectations of the trade unions.

Generally speaking, the adequacy of pensions is currently a hot topic in Slovakia. It is reflected in ongoing debates concerning their indexation as well as the increasing pensionable age. Arguments that are put on the table are often framed by the imperative of financial responsibility and the necessity to move toward a healthy balance of public finances. In this context, the attention of the public is drawn to the advantages of the second and third pillar. There is also an increasing focus on the specific treatment of some groups of workers, reflecting their specific work history and conditions.

[307] http://www.ozkovo.sk/takmer-dvetisic-kovakov-a-priaznivcov-podporilo-pred-ministerstvom-prace-skorsi-odchod-do-dochodku.

3. Assessment of adequacy

3.1. Current adequacy

3.1.1. General assessment of current adequacy

The at-risk-of-poverty or social exclusion (hereinafter AROPE) rate for people aged 65 or over was 12.3 percent in 2016. The incidence of AROPE among the old-age population has decreased by approximately 10 p.p. since 2008. When looking at the narrower age group of the oldest people (aged 75+), one can see that the risk increases with age. In 2016, almost 15 percent of persons aged 75 or over were at risk of poverty or social exclusion. The situation of women is worse, particularly in the higher age group: while the AROPE rate among women aged 65 or over represented 13.5 percent in 2016 (compared with 10.3% among men), there were 18 percent women aged 75 or over who faced the risk (compared with 9.1% of men).

The comparison of the overall income situation of older people with the income situation of the younger age group shows a relative median income ratio (65+ age group) of 0.91 in 2016 (slightly below the EU average of 0.93), as was the case in the 2 previous years. In the period 2008-2016 the ratio increased by 0.12. As this indicator takes into consideration all sources of income and a quite broad age reference group (0-64 years), the resulting picture can hide some important details. The aggregate replacement ratio shows the level of retired persons' pensions as a share of the level of earnings of people in the decade before retirement. In 2016, it represented 0.62, having increased by 0.08 between 2008 and 2016, and is now slightly above the EU-28 average (0.58).

The gender gap in pensions was 8.1 percent in Slovakia in 2016, being significantly lower compared with the EU-28 average. It has decreased by almost 5 p.p. since 2008. The gap is influenced by the shorter working lives of women (the pension age of women was set lower in the past), lower employment rates, and prevailing employment in less-remunerative jobs and sectors and a lower share in higher management positions. Future old-age pensions will also be influenced by the length of employment. In Slovakia, employment of women aged 20-49 years with young children is very low due to the small share of children 0-3 years old in formal childcare, also caused by the shortage of affordable pre-school facilities.

The low incomes of older people influence their housing conditions only to a limited extent. The proportion of people aged 65 or more living in overcrowded households seems to be high (17.8% in 2016), when compared with the EU average (6.6%): however, to put it in the national context, in general 40.6 percent of the population lived in overcrowding households in 2016. The housing costs overburden rate for persons aged 65 or more represented 8.1 percent in 2016 (compared with 9.1% for the total population).[308] On the other hand, older people tend to spend a larger part of their income on heating bills and face a higher risk of living in homes with inadequate heating.

As regards health conditions, the incidence of unmet need for medical care among older people is slightly higher (3.9% in 2015) than in the total population (2.1%). The number of healthy life years at age 65 (both for men and women) is significantly lower in Slovakia (4.1 for men and 3.8 for women in 2015) than in the EU as whole (9.4 for men and women).

3.1.2. Redistributive elements of public pension schemes

The introduction of a minimum old-age pension represents one of the latest measures in favour of low-income pensioners. It provides a guarantee of a certain income standard for nearly all

[308] 2015 data.

old-age pensioners and thus contributes to a redistribution of public resources toward the least well-off. The objective of the minimum pension is to make sure that any insured person who has carried out gainful activity most of their working life receives a pension income at such a level that they would not depend on assistance in material need. The question of the adequacy of the minimum old-age pension arises in relation to ongoing debates about the adequacy of the subsistence minimum itself. It is used especially as an eligibility threshold for the minimum income scheme. As such it is challenged by experts due to its lack of adequacy, transparency and indexation mechanisms. This has direct consequences for the adequacy of the minimum pension, where it serves as a reference category.

The indexation mechanism of the old-age pension within the first pillar has undergone changes in recent years. Now, it relies on changes in consumer prices (for pensioner households), with a guaranteed minimum fixed sum of growth. As we have shown in the previous part of the report, no significant improvement of adequacy can be expected in this context.

The redistributive orientation of the Slovak pension system is partially reinforced also by provision of the so-called Christmas bonus. The Christmas bonus is a form of special supplement to pensions (old-age pension, early old-age pension, invalidity pension, social pension, widow and widower pension) which is paid to pensioners with an income below 60 percent of the average national wage. The maximum amount for 2017 represented EUR 100. It is a one-off benefit with a rather limited amount, but it is interpreted as a declaration of interest in the living conditions of elderly people.

3.2. Retirement conditions for the self-employed and for people in non-standard employment

Eligibility conditions are the same for all working persons. The same holds true for mechanisms for benefit level calculation. Differences arise in relation to expected levels of old-age pensions and, thus, pension adequacy. As the majority of self-employed persons (more than 70%) pay old-age contributions from the so-called minimum assessment base, there is a significant risk that the level of their future pensions will be quite low. In this respect, the introduction of a minimum old-age pension is of great relevance. In relation to people on non-standard contracts it plays but a minor role as there are qualifying conditions (at least 30 qualified years of insurance).

3.3. Future adequacy and challenges

Theoretical replacement rates (TRRs) suggest that the future adequacy of pensions in Slovakia will remain stable. In the period 2016-2056 the net TRR for a 40-year career at average earnings until the standard pensionable age (SPA) will increase by 1.2 p.p. When taking into account the country-specific length of career (‘AWG (Ageing Working Group) career length case’ indicator), differences between men and women will come to the fore. The value of the net AWG career length case indicator for men is projected to decrease by 0.6 p.p. by 2056. For women, an increase of almost 5 p.p. is projected.

Replacement rates are slightly higher for persons with lower earnings, who seem to benefit more from existing solidarity arrangements. The net TRR for a 40-year career at low earnings until the SPA will grow by approximately 1 p.p. by 2056.

Future adequacy also depends on the sustainability of the pensions system. The old-age dependency ratio in Slovakia is projected to become one of the highest ratios in the EU.

4. Main opportunities for addressing pension-related challenges

Discussions regarding pension adequacy in Slovakia should focus more on the pension formula which is the basis for calculation of old-age pensions. It attracts little attention, as other mechanisms and tools have been modified in recent years. The formula consists of average personal earnings point (APEP), period of pension insurance (PPI), and current pension value (CPV). At least, the APEP and indexation of pensions in payment should become the object of expert discussions in relation to the adequacy of pensions.

In addition, analysing and assessing the risks of occupational categories should be explored and discussed.

Last but not least, the concept of the subsistence minimum should be renewed in order to make an idea of minimum but acceptable living conditions more transparent and correct. This step will have direct consequences not only for the minimum-income scheme but also for the pension scheme in Slovakia.

5. Background statistics – Slovakia

1. Relative incomes of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.91	0.94	0.90	0.12	0.11	0.13
Income quintile share ratio (S80/S20), 65+	2.4	2.4	2.3	0.1	0.2	-0.1
Aggregate replacement ratio (ARR)	0.62	0.60	0.67	0.08	0.06	0.12

2. Poverty and material deprivation

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+ (%)	12.3	10.3	13.5	-9.6	-5.4	-12.1
At-risk-of-poverty (AROP), 65+ (%)	5.7	4.3	6.5	-4.2	0.5	-6.9
Severe material deprivation (SMD), 65+ (%)	8.0	7.0	8.6	-7.3	-6.1	-7.9
At-risk-of-poverty or social exclusion (AROPE), 75+ (%)	14.9	9.1	18.0	-10.9	-9.4	-11.6
At-risk-of-poverty (AROP), 75+ (%)	6.7	3.1	8.7	-5.5	-0.6	-7.8
Severe material deprivation (SMD), 75+ (%)	9.3	6.2	11.0	-8.5	-9.3	-7.9
Relative poverty gap, 65+ (%)	10.3	11.6	9.8	0.9	3.4	0.2
At-risk-of-poverty (AROP), 65+: 50% threshold (%)	1.5	1.5	1.6	-1.4	0.4	-2.3
At-risk-of-poverty (AROP), 65+: 70% threshold (%)	13.1	9.5	15.3	-10.1	-2.8	-14.3
				Change 2014-2016		
Material and social deprivation, age 65+ (%)	17.8	15.5	19.3	-3.0	-2.3	-3.4

3. Gender differences

Indicator	2016	Change 2008-2016
	Total	Total
Gender gap in pension income (65-79) (%)	8.12	-4.55
Gender gap in non-coverage (W-M in p.p.) (65-79)	-0.2	-0.4

4. Housing and health situation of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Population 65+ living in overcrowded households (%)	17.8	14.8	19.7	-0.6	0.2	-0.9
Tenure status among people 65+: share of owners (%)	96.1	97.1	95.4	2.1	2.0	2.0
Housing cost overburden, 65+ (%) *	8.1	5.5	9.8	-5.8	-1.9	-8.0
Self-reported unmet need for medical care 65+ (%)	3.8	3.5	4.0	0.8	1.0	0.7
Healthy life years at age 65 (years) *		4.1	3.8		1.1	1.1

5. Pension duration

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Pension payment duration (2012) (years)		18.1	26.5			
Retirement duration (AWG) (years)		18.5	23.3		19.8	23.5

Data source: (1) (2) (3) (4) Eurostat, Sept-Oct 2017 (5) European Commission

*Notes: * - 2015 data.*

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net (%)				Gross (%)			
		2016		*2056*		*2016*		*2056*	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Variant: old base case: 40 years up to 65	76.6				59.0			
	New base case: 40 years up to the SPA	65.0		66.2		50.0		50.9	
	Increased SPA: from age 25 to SPA	60.1		70.7		46.3		54.4	
	AWG career length case	65.5	54.7	64.9	59.3	50.4	42.1	50.0	45.6
	Longer career: 42 years to SPA			69.5				53.5	
	Shorter career: 38 years to SPA			62.9				48.4	
	Deferred exit: 42 years to SPA +2			77.8				59.9	
	Earlier exit: 38 years to SPA -2			55.0				42.3	
	Career break – unemployment: 3 years			61.2				47.1	
	Career break due to childcare: 3 years			64.6				49.7	
	Career break caring for family dependant: 3 years			64.2				49.4	
	Short career (20-year career)			33.1				25.5	
	Work 35 years, disabled 5 years prior to SPA			66.2				50.9	
	Early entry in the LM: from age 20 to SPA			79.9				61.5	
	Index: 10 years after retirement @ SPA			57.8				44.5	
	Extended part-time period for childcare			60.1				46.2	
	Pension rights of surviving spouses				39.7				30.6
Low (66%)	Variant: old base case: 40 years up to 65	81.0				65.2			
	New base case: 40 years up to the SPA	68.7		69.8		55.3		56.2	
	AWG career length case	69.2	58.1	68.5	62.5	55.7	46.8	55.1	50.3
	Career break – unemployment: 3 years			64.6				52.0	
	Career break due to childcare: 3 years			69.5				55.9	
	Short career (20-year career)			34.9				28.1	
High	New base case: 40 years up to the SPA	50.6		49.2		37.2		36.2	
	Average replacement rate across retirees								

7. Sustainability and context

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65 (years)	17.2	15.0	18.8	22.3	20.5	24.1
Old-age dependency ratio (20-64) (%)	22.2	17.2	27.4	62.3	55.1	69.7
Economic old-age dependency ratio (15-64) (%)	31.5	21.9	43.3	76.2	62.3	92.6
Employment rate, age group 55-64 (%)	49.0	55.1	43.5	68.0	68.9	67.2
Pension expenditure as % of GDP (ESSPROS)	8.2					
AWG projections	2016			2055		
Coverage ratio (% of pop aged 65+)						

Data source: (6) Member State and OECD; (7) European Commission, DG ECFIN

*Notes: * - 2015*

Finland (FI)

Highlights

- The earnings-related pension system was reformed at the beginning of 2017 to take better into account increasing life expectancy, as the pensionable age was also linked to life expectancy. Previously, longevity was taken into consideration only by the life-expectancy coefficient, which decreases the pension level in line with the cohort's life expectancy.
- The reform will have a positive impact on long-term sustainability and also adequacy as pension-accruing careers will be longer and the effect of the life-expectancy coefficient will be mitigated.
- The level of pensions of blue-collar workers is expected to increase in particular because of the amelioration of accrual rates in younger cohorts and of more generous disability pensions.
- Despite the reform, the level of basic pensions remains crucial in preventing old-age poverty in the future.

1. General description of the national pension system

In Finland, the statutory (first-pillar) pension system consists of three defined-benefit (DB) parts: 1) earnings-related pensions (ERP), which aim to balance out incomes and, to a reasonable degree, to maintain the income level achieved during the recipient's working career; 2) a residence-based national pension (NP) that is tested against income from the legislated ERP schemes; and 3) a guarantee pension (GP), which aims at poverty alleviation and guaranteeing the minimum safety net (EUR 760.26 per month). The NP and GP are administered by the Social Insurance Institution of Finland (Kela) and financed via taxes.

The Finnish ERP system consists of various schemes that are separate for employees (main pension act, TyEL; similar systems for public sector, JuEL; and seamen, MEL), the self-employed (YEL) and farmers (MYEL). The ERP scheme is mandatory, fully legislated and decentralised. The ERP covers all employees and almost all self-employed workers, and a person can accrue pension rights under several separate pension acts during their working life. Even though the ERP system is legislated and fully mandatory, it is run by private pension insurance institutions (5 pension insurance companies, covering about 70% of all insured persons, 13 company pension funds, 6 industry-wide funds) and 6 special pension institutions for certain categories of employees. The implementation of earnings-related pensions is coordinated by the Finnish Centre for Pensions.

The benefits in all schemes include old-age, disability and survivor's pension (for a surviving spouse and under-aged children) and rehabilitation benefits. In addition, the ERP system grants partial disability (50%) and partial old-age pensions (25 or 50%) as well as years-of-service pensions.

TyEL and other schemes for employees: there are separate pension acts covering central government and municipal (JuEL) and private sector employees (TyEL and MEL). Benefits in these schemes are now identical, but there are some differences in administrative structures, financing and the degree of funding. TyEL, the main private sector pension act, is partially pay-as-you-go (PAYG) (about two-thirds) and partially (one-third) funded. TyEL and other funds amounted to 88 percent of the GDP in 2016. Since the beginning of 2017, the accrual rates have been the same (1.5% of the annual income) for all age groups with a transition period until the end of 2025. Employers and employees jointly finance TyEL. The average TyEL contribution is 24.4 percent of the wage.

YEL for the self-employed: the self-employed are obliged to take out a YEL pension insurance if they are 18 to 67 years old, the entrepreneurial activity has continued for 4 months, and if their annual income exceeds EUR 7645.25. If the entrepreneurial income is lower than the minimum, the self-employed can take out a voluntary YEL insurance policy. The YEL contribution rates vary (24.1% to 25.6%) depending on the age of the self-employed person. Pension contributions are lower for the first 4 years of self-employment. The state financed about 8 percent of the YEL pension expenditure in 2016. The accrual rates are the same as for employees.

MYEL for farmers and grant receivers. The Farmers' Pension Insurance (MYEL) was originally established for farmers, forest owners, fishermen, reindeer breeders and their families. At the beginning of 2009 recipients of scientific or artistic grants and scholarships became covered by the MYEL. There is a separate organisation (Mela) administrating the scheme. MYEL pensions accrue in the same way as the other earnings-related pensions. The state participates in the financing of the MYEL scheme. In 2016, the state financed about 80 percent of MYEL pension expenditure.

In Finland, all the legislated pensions are coordinated with each other. The amount of the NP and GP depends on the accrued ERP benefits, which reduce the NP by 50 percent. Pensioners whose ERP is more than EUR 1299.88 (single) or EUR 1157.71 (a person living with a spouse) a month are not entitled any more to an NP or GP (the 2017 situation). The full NP is granted on the basis of 40 years of residence in Finland. In 2017, the full NP was EUR 628.85 a month for single pensioners and EUR 557.79 for married pensioners. The full NP is approximately 20 percent of the average wage. The NP is supplemented by GP benefits that are payable in full for those pensioners whose only income consists of the NP. The GP is fully dependent on other pension incomes that are deducted 100 percent from the full GP (EUR 760.26 net a month in 2017).

Due to universal coverage and the absence of ceilings in TyEL (neither in the insured income nor in pension amounts), the role of supplementary pensions, i.e. occupational pensions or personal pension insurance, is small in Finland. Occupational collective DB schemes cover less than one tenth, and personal pension plans about one fifth, of the working-age population. The income package of the elderly in Finland almost solely consists of legislated pensions (earnings-related pension expenditure representing about 90% of total pension expenditure) and housing allowances that compensate for a maximum of 85 percent of rents or the costs of living in owner-occupied apartments. Due to the joint effect of taxes, income-tested GP, NP and housing allowance, there is a strong equalising effect in the pension design. The flip-side is that low-paid employees and the self-employed may end up having their ERPs no higher than the GP, which potentially may erode the legitimacy of the ERP.

2. Reform trends

The Finnish ERP system was totally reformed in 2005, when lifetime income (instead of the last 10 years) became the basis for benefits calculations and a life-expectancy coefficient was introduced (applied for the first time in 2010). The purpose of the coefficient was to limit the growth in pension expenditure due to rising life expectancy, as well as to contribute to prolonging working lives. In 2011, a GP was introduced to help the lot of those living solely on the NP.

The latest reform became effective at the beginning of 2017. The main purpose of the reform was to combat increases in pension expenditure and raise the retirement age to better correspond to the rise in life expectancy. The main principles of the new pension system are as follows.

- The lowest pensionable age will be gradually increased from 63 to 65 years of age between 2018 and 2027. The increase in pensionable age is 3 months per cohort, beginning with the cohort born in 1955.

- The difference between the lowest pensionable age and the highest age of pension insurance should be 5 years, as now. However, the highest age of pension insurance will not rise above 70 according to the legislation.
- The age limit of pension insurance for employees was lowered from age 18 to 17.
- From the year 2030, the pensionable age will increase by 1-2 months per cohort (born in 1965 and later) in line with increases in life expectancy.
- The accrual rate will be 1.5 percent in all age groups, i.e. the age-related accrual rates introduced in the 2005 reform were abolished and replaced by a rate that will be homogenous for all age groups. There will be a transition period until the end of 2025, when the accrual rate will still be a bit higher (1.7) for those aged 53 to 62.
- Since 1996, an employee's pension contribution has been deducted from their pensionable salary. The reform of 2017 abolished this rule and pension calculations are now based on total income, which partly compensates for the lowering of the accrual rate in older ages and actually ameliorates the accrual for younger cohorts.
- The part-time pension was transformed into a partial old-age pension, available at the age of 61 years (62 for the cohort born in 1964 and then rising at the same speed as the old age eligibility age). In cases where claimants take a partial old-age pension before the lowest pensionable age, the pension amount will be reduced permanently.
- The rising pensionable age also increases new disability pensions, because in the amount of the new disability pension the period after the disability incidence to the pensionable age is also taken into account.
- The pension can be deferred. Postponement will yield an increase of 0.4 percent per month, i.e. if the employee does not use the right to an old-age pension, the pension accumulated will be increased by 0.4 percent for each month beyond the lowest pensionable age. This increase replaced the previous higher accrual rate between ages 63 and 68.
- Those in arduous jobs, with a work career of 38 years, can get their pension at the age of 63 (years-of-service pension).
- The life-expectancy coefficient (see above) will be preserved but mitigated from 2027 onwards.
- The future role of the survivor's pension is under evaluation.

The reform combines the life-expectancy coefficient, which decreases the pension level (the longer the cohort's life expectancy is, the bigger the decrease), with higher pensionable ages that increase in accordance with life expectancy. For the time being it is too early to say anything about the impact of the reform upon labour market behaviour or the retirement plans of the insured. However, simulations show that the reform will have a positive impact on lengthening working careers, improving the sustainability of the pension system and equalising pension income.[309]

In the context of the 2017 pension reform, a new pension form called partial old-age (POA) pension was introduced to the ERP system. The POA allows the claimant to take out a partial old-age pension when they have turned 61 years of age (62 for the cohort born in 1964 and then linked to life expectancy). The claimant can work as much they wish while drawing a partial old-age pension. Thus, there are no restrictions on work or earnings. There is the possibility to draw 25 percent or 50 percent of the pension that the person has accrued up to the time the partial pension is taken out. Whereas it is possible to later increase the take-up rate from 25

[309] Lassila, J., Määttänen, N. and Valkonen, T., 2015. *Työeläkeuudistus 2017: vaikutukset työuriin, tulonjakoon ja julkisen talouden kestävyyteen* (*The 2017 pension reform: impacts on work careers, income distribution and the sustainability of public finances*). Valtioneuvoston selvitys- ja tutkimustoiminnan julkaisusarja 1/2015.

percent to 50 percent, it is not possible to do it the other way round. If the claimant takes out a partial old-age pension early, the part they are taking out will be permanently reduced by 0.4 percent for each month from the time when they start drawing the partial pension to the month they reach their personal retirement age. The motivation behind this reform was to replace the previous part-time pension and close early-exit routes by introducing more flexible possibilities to combine partial retirement with employment. The POA has appeared to be popular: as many as 12,500 persons have utilised the possibility in 2017. 87 percent of the claimants have taken out 50 percent of their accrued pensions. The POA is more popular among men (60% of applications) than among women, and more popular among private sector employees (70%) than among public sector employees.[310] Of men born in 1955 and 1956, about 10 percent have taken out a POA. The lucrativeness of the POA may be a trap for those with low incomes: the value of the old-age pension will be reduced in accordance with early take-up, and so the low level of the final old-age pension may be a negative surprise.

In order to qualify for the years-of-service pension in the ERP system, there is a condition of 38 years of work history in arduous work conditions (including up to 3 years of career breaks for parental leave and minor breaks for illness or unemployment). Both physically and mentally strenuous work will be taken into account. The first years-of-service pension started in February 2018 and a couple more have been granted, but payment has not yet started. It will not be very popular, at least for some time, as the lowest eligibility age for the old-age pension is still not much higher than 63, which is the eligibility age for years-of-service pensions.

The rising pensionable age also increases the time that a person can earn pension credits due to earnings-related unemployment benefit. The long-term unemployed receiving unemployment benefit at older ages receive the benefit until they are eligible to old-age pension or at most until the age of 65. In 2016, the government introduced a temporary law to transfer the long-term unemployed to the pension system: in the middle of 2016 there were about 35,000 unemployed people over 60 years of age. About 15 percent of these had been unemployed for more than 5 years. For an older long-term unemployed person it is practically impossible to find a job.[311] The law establishes that all the unemployed who have reached the age of 60 years before 1 September 2016 and have received basic unemployment benefits for longer than 5 years are entitled to a pension subsidy (*eläketuki*) until they qualify for an old-age pension or turn 65 years of age. The pension subsidy has been available from 1 June 2017 at the rate of EUR 760.26 per month. The law will be effective until 2021, when the last benefits will be paid out. Kela is responsible for running the scheme. By November 2017, about 3170 persons were receiving a pension subsidy instead of the labour market subsidy paid to the long-term unemployed.[312]

3. Assessment of adequacy

3.1. Current adequacy

3.1.1. General assessment of current adequacy

The gradual maturation of ERP pensions is mirrored in the relative median income ratios (65+ age group) that have improved from 2008 to 2016, being 0.89 for men and 0.79 for women. The aggregate replacement ratio (ARR) – which shows the proportion of pensions in relation to income a decade prior to retirement – is somewhat lower: 0.51 for both genders. The gender

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310 Eläketurvakeskus (Finnish Centre for Pensions), 2018. https://www.etk.fi/wp-content/uploads/Oven-ensimmainen-vuosi.pdf [retrieved 14 February 2018].
311 Hallituksen esitys (Governmental Bill) HE 226/2016, pp. 4-5.
312 Kaleva, 2017. http://www.kaleva.fi/uutiset/kotimaa/lex-lindstrom-tuli-mutta-elaketuen-hakumaarat-putosivat-alkuinnosta-menee-arvailun-puolelle/771534/. (We got the Lex Lindström but the number of pension assistance applications has decreased) (retrieved 4 November 2017).

gap in pensions is 24 percentage points (p.p.) according to Eurostat (21 p.p. according to national statistics) – rather narrow compared with most of the other Member States.

The picture of old-age poverty depends very much on the indicator we use. The at-risk-of-poverty (AROP) measure in 2016 using the 60 percent poverty threshold depicts a poverty level of 12.3 percent which is somewhat lower than the average for the 28 European Union Member States (the average poverty rate for the EU-28 is 15.5%). However, these figures hide a substantial variation since the headcount poverty measure in the Finnish case is sensitive to the poverty line used. If we use the 50 percent AROP threshold the poverty rate in Finland is among the lowest in the EU (1.7% for men and 3.0% for women). The picture dramatically changes if the poverty line is increased to 70 percent. Then the AROP rate is 18.2 percent for men and as high as 30.1 percent for women. The discrepancy between these numbers indicates that basic pensions in Finland are universal, but their level is not fully adequate to meet the 60 percent or the 70 percent poverty line. When it comes to the material and social deprivation of the elderly population, Finland performs much better (men 2.7% and women 3.6%), not to speak of severe material deprivation (1.4% and 1.9%, respectively).

The amount of earnings-related pension naturally depends on the work history and income. In 2016, the average pension was EUR 1632 a month: EUR 1848 for males and EUR 1453 for females.[313] In Finland, the income package of the elderly almost totally consists of public transfers and therefore the level of total income may be lower than in many countries that provide lower legislated pensions than Finland does.

The European Committee of Social Rights has been of the opinion that the level of basic security benefits is too low in the Nordic countries (as regards pensions, this refers only to the level of guarantee pension). The European Social Charter states that basic benefits should not be lower than 50 percent of median income. In the Finnish case it means that benefits should be about EUR 1000 a month. The Finnish government has responded by referring to the other provisions and benefits that complement pension levels (housing allowance, care allowance, social services, etc.). [314]

In Finland, housing is considered a pension asset ‘by other means’. The housing situation of the Finnish elderly is decent. Overcrowding is a problem for less than 5 percent of pensioners. However, that is a higher percentage than in most comparable countries. The most common form of housing in Finland is owner-occupation and consequently over-burdensome housing costs are seldom a problem.[315] Net wealth (due to owned houses) among the elderly is high, if compared with the younger age cohorts.[316] Owner-occupation, low housing costs, and subsidised services partially explain the discrepancy between the relatively high AROP rates and low material deprivation rates. In the case of functional problems, extra help is available in the form of municipal home services or the Kela-based care allowance for pensioners. The amount of the allowance varies according to the help needed (EUR 62, EUR 154 or EUR 325 a month net in 2017).

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[313] Eläketurvakeskus (Finnish Centre for Pensions), 2017d. http://www.etk.fi/tiedote/keskielake-1-632-euroa-kuukaudessa/ (Average pension EUR 1632) (retrieved 5 November 2017).

[314] ECSR Complaint 88/2012 concerning Finland (the other Nordic countries have not been party to the actual complaints procedure but have received recommendations in connection with the reporting system), Yle 2015. Euroopan neuvostolta sapiskaa Suomelle liian matalasta sosiaaliturvasta. (The European court of social rights blames Finland for too low level of social security). https://yle.fi/uutiset/3-7797709. (retrieved 6 November 2017).

[315] Less than 5% – which is less than e.g. in Denmark, Germany, the Netherlands and Sweden.

[316] Kalliomaa-Puha, L. and Kangas, O., 2015. *Yhteistä ja yksityistä varautumista: vanhusten hoivan tulevaisuus* (*Individual's own and collective savings: the future of old age care*). Helsinki: Kalevi Sorsa säätiö.

3.1.2. Redistributive elements of public pension schemes

As a result of the introduction of the guarantee pension in 2011, the minimum pension amounted to 63 percent of the poverty line in 2015. In contrast to falling basic pension replacement rates, earnings-related pensions have improved generation by generation. While minimum pensions are rather low, earnings-related pensions accrue in proportion to wages and there is no ceiling. Therefore, one would expect that income differences among pensioners would be high in Finland. However, somewhat surprisingly that is not the case. There are several reasons for this. First, in Finland the overall income distribution, reflected in the pension system, is rather equal. Second, due to the absence of ceilings, there are no major occupational schemes or widely spread personal pensions that in other countries break the ceilings and which, as a rule, are more unequal in their accrual rates and benefits levels than the Finnish system covering all employees on equal terms. Third, the gender pay gap in Finland is, comparatively speaking, narrow and, furthermore, the survivor’s pension system is biased in favour of women. Fourth, the previously common and generous pension rules for some occupations (nurses, teachers, public sector employees, etc.) have been abolished and all employees have more or less similar pension schemes. Fifth, the joint effect of income-tested basic benefits, housing allowance and progressive taxation is highly equalising.

In Finland, basic pensions are linked to the cost of living index, and earnings-related pensions are linked to the pension index, in which the weight of the cost of living index is 80 percent and the weight of the wage index is 20 percent. Depending on changes in the cost of living and wages, differences between basic pensions and earnings-related pensions may increase or decrease. In the last years, the cost of living index has decreased leading to cuts in benefits, whereas the earnings-related pension index has somewhat increased. However, differences have not been substantial. Perhaps the government’s decision to freeze the level of the basic benefits has had a more decisive impact on the national and guarantee pensions.

3.2. Retirement conditions for the self-employed and for people in non-standard employment

The trend since the 1990s has been to unify the benefit rules of different pension schemes. In 2007, this resulted in actually unifying three pension acts in the private sector; and in 2017, the main public sector pension acts were also unified as one JuEL. The self-employed have the same pension rules. Unlike employees, the self-employed need to negotiate with their pension institution over a proper level of YEL income base, which should reflect their work input. Many self-employed people end up with the minimum level of income base, minimising their social security contributions, and if this continues for a long time it leads to pensions that are so low they are not necessarily higher than what they would receive via the guarantee pension. Thus, for a self-employed person with low incomes and small other pension accrual the incentives to contribute to the ERP system may be low.

One possible problem in a homogenous pension system is that with different employment categories workers have different possibilities and circumstances to continue in employment or retire. In principle, any employment – be it standard or non-standard employment – accrues pension rights equally. However, it may be that the possible future expansion of the platform and sharing economy will increase the number of cases where employment does not contribute pension rights. The problem is also linked to longer breaks in work careers (see Section 3.3.) and in particular to the health status of the person in question. The homogenous schemes may not be sensitive enough to all these differences. The 2017 reform tried to mitigate the problem by introducing the years-of-service pension, which is not based on any specific occupation (as some of the prior public sector occupation-linked systems), but is instead granted on the basis of the characteristics of the work conducted during the employee’s working career. The years-of-service pension is applied to all ERP pension schemes.

The YEL scheme is under evaluation during 2018 and after that, decisions will be made on possible changes.

3.3. Future adequacy and challenges

Long-term simulations on the effect of the 2017 pension reform predict that the cuts in the accumulation rates of older workers and the impact of the life-expectancy coefficient can be compensated for by working longer, and in fact longer working careers will yield better pensions than the present system.[317] The higher pensionable age raises also the level of disability pensions as the accrual is calculated also for the period remaining to the rising pensionable age. The effect will be stronger in the lowest income quartile than in the highest quartile. The level of pensions of blue-collar workers is expected to increase in particular because of the amelioration in accrual rates of younger cohorts and of disability pensions. The predicted effects are rather gender-neutral, but also here everything depends on the background assumptions.[318] The theoretical replacement rate (TRR) calculations at the average-income levels indicate that after 40 years in service the TRR will be 8 p.p. lower in the year 2056 than now. Due to accrual principles, career breaks and extended part-time work will result in lower replacement rates, e.g. an unemployment period of 3 years will decrease the TRR by 2.1 p.p., and a childcare break of the same length by 1.3 p.p. (for men) or 1 p.p. (for women). A short career of 20 years will accrue a 15.7 p.p. lower pension.

The main future challenge is linked to the adequacy of the basic pension. If intensifying globalisation, digitalisation, and the platform and sharing economy lead to an increase in low-paid jobs, in micro self-employment, and in the precariat, pension protection for more and more people will be dependent on the level of the basic pension.

4. Main opportunities for addressing pension-related challenges

As stated above, the level of basic pensions will be crucial in combating old-age poverty. Finland has been criticised for the unreasonably low level of its basic social security benefits. When it comes to pensions, at the system level, the guarantee pension introduced a small flat-rate element into the pension system. Due to fiscal consolidation it is not likely that increases in the minimum pension will take place by raising the national pension. Rather, increases are more likely to take place in the guarantee pension. It has been calculated that whereas increases in the NP are 10 times more effective in combating old-age poverty than increases in the ERP, raising the GP is 20 times more effective than raising the ERP.[319] Thus, the most cost-effective policy is to increase the GP. However, in addition to possible economic constraints, there are also political, ideological and institutional constraints. Income-tested supplements meant to alleviate poverty can partially erode the income relation.

Nevertheless, the government should consider increasing the level of minimum pensions to properly meet the present and future challenges of the changing labour market as well as the new employment patterns, which are possibly more precarious than previously. In order to increase the overall income level of pensioners, employment among the elderly should be encouraged.

The pension reform of 2017 abolished the need for major changes to the earnings-related pension. However, the government should carefully follow the impacts of the rising pensionable age and, if necessary, make changes to correct possible biases.

[317] Lassila, J., Määttänen, N. and Valkonen, T., 2015.
[318] Kautto, M. and Risku, I., 2015.
[319] Kotamäki, M. and Kärkkäinen, O., 2017. *Mistä lääke eläkeläisköyhyyteen?* (*Where can we find medicine against old age poverty?*) Yhteiskuntapolitiikka 2017: 5, 586-596.

5. Background statistics – Finland

1. Relative incomes of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.83	0.89	0.79	0.11	0.11	0.1
Income quintile share ratio (S80/S20), 65+	3.1	3.2	2.9	-0.1	-0.1	-0.1
Aggregate replacement ratio (ARR)	0.53	0.51	0.51	0.04	0.03	0.02

2. Poverty and material deprivation

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+ (%)	13.6	9.0	17.3	-10.3	-6.9	-12.2
At-risk-of-poverty (AROP), 65+ (%)	12.3	8.1	15.5	-10.2	-7.4	-11.9
Severe material deprivation (SMD), 65+ (%)	1.7	1.4	1.9	-1.5	0.0	-2.5
At-risk-of-poverty or social exclusion (AROPE), 75+ (%)	20.0	13.1	24.3	-12.5	-8.8	-13.9
At-risk-of-poverty (AROP), 75+ (%)	18.2	12.0	22.0	-11.9	-9.5	-12.7
Severe material deprivation (SMD), 75+ (%)	2.1	1.8	2.3	-2.1	1.1	-3.9
Relative poverty gap, 65+ (%)	8.9	9.0	8.6	-2.5	-1.8	-2.9
At-risk-of-poverty (AROP), 65+: 50% threshold (%)	2.4	1.7	3.0	-4.5	-2.4	-5.9
At-risk-of-poverty (AROP), 65+: 70% threshold (%)	24.9	18.2	30.1	-16.3	-13.9	-17.5
				Change 2014-2016		
Material and social deprivation, age 65+ (%)	3.2	2.7	3.6	0.2	0.5	0.1

3. Gender differences

Indicator	2016	Change 2008-2016
	Total	Total
Gender gap in pension income (65-79) (%)	23.74	-0.98
Gender gap in non-coverage (W-M in p.p.) (65-79)	-0.4	-0.2

4. Housing and health situation of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Population 65+ living in overcrowded households (%)	4.3	3.9	4.5	-1.9	-0.8	-2.8
Tenure status among people 65+: share of owners (%)	80.9	83.3	79.1	-0.5	-3.2	1.2
Housing cost overburden, 65+ (%)	4.2	3.1	5.0	-1.0	-0.5	-1.2
Self-reported unmet need for medical care 65+ (%)	7.3	6.1	8.2	6.1	5.6	6.4
Healthy life years at age 65 (years) *		9.3	9.0		1.3	0

5. Pension duration

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Pension payment duration (2012) (years)		20.2	24.4			
Retirement duration (AWG) (years)		19.4	23.5		20.4	23.7

Data source: (1) (2) (3) (4) Eurostat, Sept-Oct 2017 (5) European Commission

*Notes: * - 2015 data.*

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net (%)				Gross (%)			
		2016		*2056*		*2016*		*2056*	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Variant: old base case: 40 years up to 65	67.1				59.8			
	New base case: 40 years up to the SPA	67.1		59.1		59.8		51.8	
	Increased SPA: from age 25 to SPA	67.1		60.8		59.8		53.9	
	AWG career length case	63.9	63.2	63.4	62.5	55.8	55.1	56.9	55.8
	Longer career: 42 years to SPA			61.0				54.1	
	Shorter career: 38 years to SPA			57.1				49.4	
	Deferred exit: 42 years to SPA +2			65.6				59.4	
	Earlier exit: 38 years to SPA -2								
	Career break – unemployment: 3 years			57.0				49.3	
	Career break due to childcare: 3 years			57.8	58.1			50.3	50.6
	Career break caring for family dependant: 3 years			56.6				48.8	
	Short career (20-year career)			43.4				33.1	
	Work 35 years, disabled 5 years prior to SPA			57.2				49.5	
	Early entry in the LM: from age 20 to SPA			65.9				59.7	
	Index: 10 years after retirement @ SPA			54.1				45.9	
	Extended part-time period for childcare			54.2	54.5			46.0	46.3
	Pension rights of surviving spouses				54.2				43.5
Low (66%)	Variant: old base case: 40 years up to 65	72.9				66.4			
	New base case: 40 years up to the SPA	72.9		64.4		66.4		56.4	
	AWG career length case	69.3	69.2	66.3	64.7	60.8	60.7	59.0	58.4
	Career break – unemployment: 3 years			63.4				55.9	
	Career break due to childcare: 3 years			64.8	65.1			57.0	57.3
	Short career (20-year career)			54.2				43.5	
High	New base case: 40 years up to the SPA	55.8		48.6		47.2		39.6	
	Average replacement rate across retirees	71.0				63.0			

7. Sustainability and context

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65 (years)	20.2	18.3	21.9	23.7	22.1	25.3
Old-age dependency ratio (20-64) (%)	35.5	30.4	40.7	52.2	47.2	57.4
Economic old-age dependency ratio (15-64) (%)	44.7	36.7	53.3	60.4	53.0	68.2
Employment rate, age group 55-64 (%)	61.4	59.8	63.0	70.9		
Pension expenditure as % of GDP (ESSPROS)	13.0*					
AWG projections	2016			2055		
Coverage ratio (% of pop aged 65+)						

Data source: (6) Member State and OECD; (7) European Commission, DG ECFIN

*Notes: * - 2015*

Sweden (SE)

Highlights

- The Swedish national retirement pension system includes a pay-as-you-go defined-contribution system (income pension), a funded defined-contribution system (premium pension) and a guarantee benefit (guarantee pension). Occupational pension schemes have very wide coverage and cover all economic sectors. In addition, there is an income-tested housing supplement and benefits for newly arrived elderly persons. Furthermore, the tax system also matters. The result is a comparatively effective anti-poverty instrument for the elderly.
- It can be noted that material deprivation in the elderly population is lower in Sweden than in most other Member States, and that the health status of older people tends to be improving. The at-risk-of-poverty (AROP) rate is higher for women than men, and this applies to elderly women in single households. Finally, high-quality welfare services in the form of healthcare, education, long-term care services for the elderly and childcare, etc., can contribute strongly to a more equitable distribution of welfare. Sweden spends 13.5 percent of GDP on these services which is the highest in the EU.
- Observed gender differences in pensions have brought about a discussion on measures for more gender-equal pensions. In December 2017 the Pension Group (which oversees 'the pension system' and consist of five political parties) agreed on an action plan for gender-equal pensions.
- According to the new pension agreement all pension-related ages will increase. However, the eligibility age for other safety nets, such as social insurance, will also increase to protect and compensate those who have health problems and who cannot work longer. In addition, the Pension Group has agreed on measures to improve the pension and benefit adequacy of the most economically vulnerable, which will reduce the income gap between men and women.

1. General description of the national pension system

The Swedish pension system consists of different tiers. The first tier is the earnings-related national pension which is made up of two components: a pay-as-you-go part (income pension) and a fully funded part (premium pension). In addition, contributions to the pension system are also paid on social benefits (such as parental leave, sickness insurance, unemployment insurance, student grants etc.). The second tier is the guarantee pension, which provides a basic pension for people with no, or a very low, statutory income pension. The third tier consists of occupational pensions schemes by economic sector based on collective bargaining between the unions and the employer federations, with an emphasis on defined-contribution (DC) arrangements. The fourth tier consists of personal pension schemes.

The two components of the statutory pension system are a notionally DC benefit 'income pension' (NDC) and a fully funded DC 'premium pension' (FDC). Both benefits are based on contributions. The total pension contribution is 18.5 percent of pensionable income: 16 percentage points (p.p.) for the income pension and 2.5 p.p. for the premium pension. Contributions are divided between insured persons and employers: employees pay seven percent of eligible earnings up to a ceiling of 8.07 income base amounts (in 2016: 8.07*59,300 = SEK 478,551).

The income pension is a 'notional DC' (NDC) pension based on lifetime earnings. All insured persons have an account with the Swedish Pensions Agency (sv. *Pensionsmyndigheten*) where their contributions are recorded. The notional balance in the account is indexed annually to an 'income index' (sv. *inkomstindex*) based on average real wage growth for wage-earners aged 16-64. At retirement, notional assets in the individual account are converted to an annuity using the 'annuity divisor' (sv. *delningstal*), which is the expected remaining unisex life expectancy for each cohort plus an internal rate of return of 1.6 percent. Later retirement thus increases the pension benefit significantly because the divisor decreases and pension assets increase. The reverse is true for earlier retirement. Benefits are indexed to an 'economic adjustment index' (sv. *följsamhetsindex*) which is the income index minus 1.6. The NDC part of the income pension system is in principle organised as pay-as-you-go, but there are sizeable buffer funds. About 15 percent of pension liabilities in the public system are covered by these funds (Swedish Pensions Agency, 2017, p. 8).

The premium pension is also an individual account at the Swedish Pensions Agency, but unlike NDC accounts, premium pensions are fully funded. Participants may place their premium pension contribution in up to five investment funds from a catalogue. To minimise administrative costs, pension contributions and fund choices are centrally managed by the Swedish Pensions Agency. The capital of non-choosers is invested in a state-run default fund. At the end of 2016, there were more than 800 funds administered by more than 100 different financial companies. All fund balances are annuitised at the time of retirement and can be paid either as a fixed annuity (sv. *traditionell försäkring*) or as a variable annuity (sv. *fondförsäkring*).

For those with insufficient pension income rights, the guarantee pension provides a basic income top-up. The guarantee pension is payable starting at age 65. A full guarantee pension requires Swedish residency of 40 years between the ages 25 and 65. The guarantee pension is reduced proportionally for missing years. Income-tested 'housing supplements' are part of the pension system, being an important source of income for elderly with low incomes, not least those who receive the guarantee pension. The income-tested old-age income support (sv. *äldreförsörjningsstöd*) is the programme of last resort for those 65 and older. It is particularly important for people who have not lived in Sweden for 40 years and hence do not qualify for a full guarantee pension.

For the income pension, retirement is flexible from the age of 61, and can be postponed indefinitely. There is a right to remain in employment only up to the age of 67. There are no restrictions in terms of work income and withdrawing pensions. Pensions can be withdrawn partially. While statutory pensions continue to dominate, the relative importance of private pensions, both occupational and individual, has been increasing for decades. In 2015, statutory pensions corresponded to 68 percent of the total pension income of elderly persons, and the corresponding figures for occupational and private individual pensions were 26 percent and 6 percent, respectively (own calculations based on benefit expenditure data from Statistics Sweden).

The occupational pension sector has been renegotiated to follow the DC formula for the statutory income pension. Nearly 90 percent of employees in the Swedish labour market are covered by collective agreements with supplementary pension rights. Four negotiated agreements cover the majority of Swedish wage-earners (blue-collar private sector workers, white-collar workers in the private sector, state employees and municipal employees). In general, employers in all four sectoral schemes pay a contribution of 4.5 percent of wages below the statutory pension ceiling, and 30 percent of wages above the ceiling. Most private sector negotiated pension schemes operate much like the premium pension.

2. Reform trends

The pension reform of 1994-1998 was in principle fully implemented by 2003 and it has survived the first decade without any major changes. Thus, the basic architecture of the reform remains intact. The new pension system introduced in the late 1990s was supported by 85 percent of parliament. There has been an explicit ambition among the supporting political parties to honour the reform. Any changes to the system should in essence follow the consensus principle based on broad political agreements.

Changes to the system of old-age pensions in Sweden have concentrated on issues where there has been a need for adjustments to the reform. Adjustments and smoothening of the balancing mechanism in the indexing of benefits is one example. Other adjustments have primarily concerned the fully funded component, including strengthened regulation and improved consumer protection. These changes were intensified in 2010 and have continued stepwise. In December 2017, the Pension Group (sv. *pensionsgruppen*) (a multi-party parliamentary working group) presented an agreement on several new reforms aiming to increase and secure pensions in the long term. The aim of the new agreement is to develop the Swedish pension system. The agreement lacks a draft statute but serves as guidelines in the continued drafting work. In addition, also in December 2017 the Pension Group agreed on measures to improve the pension and benefit adequacy of the most economically vulnerable and to reduce the income gap between men and women.

The parties that supported the pension reform in the 1990s form the Pension Group. An important part of the work of this body has revolved around the prevailing differences in pensions between men and women. The Pension Group agreed previously on an action plan for gender-equal pensions. This work builds on work done in 2015, in a review that included analyses of the different components of the pension system from a gender perspective, including the guarantee pension, the housing supplement, elderly support and widows' pensions, as well as compensatory measures such as the transfer of pension entitlements between spouses. Furthermore, the Pension Group agreement also includes several increases in the age-related pension ages, based on the proposals for the government inquiry on retirement age and the declaration of intent, but with minor adjustments. By 2020 the age of first withdrawal is likely to be increased from 61 to 62, and the upper limit for the Employment Protection Acts (LAS) to be raised from 67 to 68. Further increases will be introduced in 2023: the minimum age will increase to 63, the upper limit for LAS will increase to 69, the age limit for the guarantee pension will be raised to 66 years and all associated security systems will be increased to this age. In 2026 the minimum age for early withdrawal will be raised to 64 and this benefit and the guarantee pension will be linked to longevity thereafter. The Pension Group has also agreed on an exemption rule for people with a long working life. For those who have worked for at least 44 years there should remain a possibility to receive a guarantee pension benefit from the age of 65.

The changes with regards to the premium pension have initially been focused on high administrative costs (resulting in lower average benefits), individual risk-sharing (resulting in a wider dispersion of benefits), and the excessively large number of alternative funds to choose from. Over time, misleading marketing and even criminal behaviour among fund managers have also been discussed. Aggressive marketing seems to have made some individuals invest their pension premium contributions in poorly performing funds, some of which are now being investigated for very advanced forms of scam and fraud.

Earlier in 2017, the standing working committee agreed on 30 ways for improving administration of the funded components. The Pension Group has agreed that the premium pension system should be maintained, but reformed to provide better security and higher future pensions.

The tax treatment of pension income versus earned income also affects the number of persons older than 65 at risk of poverty. There was a clear increase in the AROP rate among people older than 65 when the earned income tax credit was being phased in. The government has reduced tax on the income of people older than 65 and has proposed that the remaining differences in tax treatment of work income and pension income shall be abolished in 2020. Currently, pension income is still in certain income intervals taxed at a higher rate than work income.

3. Assessment of adequacy

3.1. Current adequacy

3.1.1. General assessment of current adequacy

The relative median income ratio of the elderly population (aged 65+) is 0.77 on average. It is higher for men (0.84) than for women (0.71). The decrease in the average relative income between 2008 and 2016 was entirely due to the decrease among women, as the relative median income for men is stable. While some EU Member States have mean incomes among the elderly population that are higher than that of the working-age population, Sweden together with most other Member States reports the opposite. The slight decline of relative mean incomes in the Swedish older population since 2008 is probably related to the more favourable tax treatment of work income, and, more importantly, to the price indexation of the guarantee pension. In periods of economic growth, wages typically rise faster than prices. The latter regulates the size of the guarantee pension, where women are overrepresented.

Income inequality among older people in Sweden is modest by EU standards, even if some countries are more equal according to the indicators in the background statistics. The top quintile has 3.8 times the incomes of the lowest quintile. Increased income inequality is probably related to the maturing of the funded components of the pensions system, and primarily to the increased importance of funded occupational plans. Differences are also larger among men (who have a larger share of the occupational pensions) than among women.

The aggregate replacement rate decreased from 0.62 in 2008 to 0.57 in 2016. In 2016, replacement ratios continued to be higher for men (0.59) than for women (0.54) but the differences have not increased. The decline in aggregate replacement rates most likely reflects the real wage growth during the period (which is influencing the denominator for this indicator). Since most of those who have retired over the past decade have earned part of their annual pension benefits in the old defined-benefit (DB) system, the effects of the DC formula in terms of achieving a high replacement rate have been only partly realised. At the same time, there is a clear trend that labour supply is increasing, in terms of both number of hours worked per week (among women) and retirement age (men and women), which will modify the effects of the longevity adjustments.

Poverty rates, as measured by the AROP rate, have increased in Sweden. In 2016, the AROP rate was 16.8 percent for the total population above 65 years of age. It is higher for women (21.7%) than for men (11.1%). The AROP rates are higher for the population above 75 years of age with 24.5 percent for women and men together, and above 30 percent for women aged above 75 years. The government has introduced additional tax cuts for persons older than 65 years of age. In addition, the Pension Group has agreed on measures to improve the pension and benefit adequacy of the most economically vulnerable and to reduce the income gap between men and women.

Severe material deprivation is very low in Sweden, and compared with other European countries. Less than 0.5 percent are severely materially deprived according to the background statistics, irrespective of elderly population category. Since 2008, there have even been small declines recorded for the population above 75 years of age. Other indicators concerning housing and health also indicate that older people in Sweden are doing well, including the proportion of the Swedish elderly that live in overcrowded households, although not all indicators move in a favourable direction. Less than 4 percent of the older population live in overcrowded households, but the proportion has actually increased since 2008. More than 70 percent live in owner-occupied housing. About 12 percent report that costs are overburdening and this proportion is higher among women, although the percentage is declining. Healthy life years at 65 years of age are 15.7 for men and 16.8 for women. Since 2008, they have increased by 2.6 years for men and 2.8 years for women. Less than 1 percent of the older population report unmet needs for medical care, and this proportion is also decreasing. In comparison with many other EU Member States, the welfare indicators for the older population in Sweden point in slightly different directions. While AROP ratios are fairly high, poverty rates calculated on the basis of 50 percent of the median income are comparatively low. Moreover, older people's health status is comparatively high and tends to improve.

Gender differences in pension income are average among the Swedish elderly, 28.26 percent in 2016. This difference did not increase between 2008 and 2016, and from a comparative perspective the difference is modest. The prevailing differences between men and women continue to be a concern of policy-makers and gender equality is clearly an important part of the domestic assessment of the pension system. Gender differences in housing are to a large extent due to compositional factors. Older women are more often living alone than men, and the proportion of women among the oldest old (80+) is higher. For many who live in rented housing there is a recognised problem of incomplete take-up of housing benefits.

Among policy-makers, there appears also to be somewhat of a disappointment that the flexibilisation of the pension age in connection to the late-1990s reform has not resulted in a clearer shift upwards of the actual retirement age. However, differences among citizens in terms of actual age of pension benefit withdrawal have increased.

3.1.2. Redistributive elements of public pension schemes

The targeted housing supplement is an important redistributive benefit directed at those in the lower part of the income distribution. The same also applies to the old-age income support (*äldreförsörjningsstöd*) paid to individuals with fewer years of residency.

Pension contributions are payed by the government for social insurance benefits (such as parental leave, sickness insurance, unemployment insurance, student grants etc.).

Widows' pensions are in the process of being phased out.

On its own, the guarantee pension and the tax system might not be enough to lift recipients above the AROP threshold. It is close to the 50 percent poverty threshold, but it needs to be combined with the housing supplement to lift persons above the AROP threshold. A number of indicators are pointing to a favourable development (e.g. material deprivation and health).

As pointed out elsewhere in this report, the indexation mechanisms differ between the guarantee pension and the income pension, which over time will create tensions unless the guarantee pension is adjusted (upwards). However, during the most recent economic crisis, the indexing of the guarantee pension remained intact, which meant that it was not reduced in nominal terms – contrary to the income pensions that were affected by the 'economic adjustment index'. In addition, tax cuts have been targeted at low-income pensions.

3.2. Retirement conditions for the self-employed and for people in non-standard employment

An important feature of the Swedish pension system is that the same rules apply for all occupational categories and the self-employed. Groups that have small and/or irregular employment income will get a low pension, unless they have been receiving social insurance income. In Sweden, social insurance is taxable and accounted for as pensionable income. In addition to the statutory system, about 90 percent of employees are covered by occupational plans, typically providing more than 10 percent additional replacement (more for higher-income earners). The Swedish experience illustrates that there is an alternative to the separate solutions or special treatment of different groups. Moreover, the special occupational programmes that used to exist in Sweden have been renegotiated over the past 30 years, including the separate pension arrangements for various categories of workers.

3.3. Future adequacy and challenges

When longevity increases individuals need to work longer in a DC system if they are to maintain their replacement ratio. This is illustrated by the theoretical replacement rates (TRR) for 2056 reported in the *Background Statistics*. Continued increases in life expectancy will make it more important to prolong working life in order to achieve a higher replacement rate in old age. Sweden has high levels of employment of older workers and a workforce in good health, so the possibilities for further improvement are good. As an example, healthy life years at age 65 are remarkably high in Sweden, and are increasing among both men and women. It may thus be possible to prolong work careers also in the future. The Swedish set-up to separate disability insurance from the pension system also enables protection and compensation for those who have health problems and low work-capacity while it increases the ability to increase the pension age.

4. Main opportunities for addressing pension-related challenges

The ongoing reforms noted above highlight a number of important issues related to pensions. The guarantee pension will have to increase more than prices to avoid future increases in the risk of poverty. The take-up of income-tested housing benefits needs to increase whenever individuals are eligible for the benefit but where they for some reason do not apply.

When it comes to the expressed ambition to increase the pension age, it should be emphasised that not everyone has the real choice to postpone retirement. Hence the eligibility age for social security (such as sickness compensation and unemployment benefits) needs to be adjusted upward when the pension ages are adjusted. While the focus on occupational safety and preventive measures appear to have been fruitful, health problems are nevertheless unevenly distributed. Women and manual workers continue to experience more health problems during working age. Providing adequate social insurance benefits, including possibilities to earn pension credits on social insurance received during economically active years, is hence a part of the Swedish model.

Pension reforms should be long-term. It is uncertain whether the expected improvement in life expectancy can be matched by a prolonged working life. In addition, while there are other policy instruments available for this purpose (such as benefits-in-kind), the pension system is of great importance.

The success of Swedish social policy institutions in promoting gender equality has been based on a strategy of individualising both social policy programmes and the tax system (abolishing joint taxation). When the individualisation of entitlements has been incomplete, e.g. the parental leave programme where paid leave can be transferred between spouses, the advancement of gender equality has been limited.

5. Background statistics – Sweden

1. Relative incomes of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.77	0.84	0.71	-0.01	0	-0.02
Income quintile share ratio (S80/S20), 65+	3.8	4.0	3.6	0.2	0.3	0.3
Aggregate replacement ratio (ARR)	0.57	0.59	0.54	-0.05	-0.05	-0.04

2. Poverty and material deprivation

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+ (%)	17.0	11.3	21.9	1.5	2.3	1.5
At-risk-of-poverty (AROP), 65+ (%)	16.8	11.1	21.7	1.8	2.3	2.0
Severe material deprivation (SMD), 65+ (%)	0.3	0.3	0.3	-0.5	-0.1	-0.8
At-risk-of-poverty or social exclusion (AROPE), 75+ (%)	24.7	14.9	31.7	2.2	2.8	2.5
At-risk-of-poverty (AROP), 75+ (%)	24.5	14.9	31.3	2.5	2.8	2.9
Severe material deprivation (SMD), 75+ (%)	0.2	0.0	0.4	-0.4	-0.3	-0.4
Relative poverty gap, 65+ (%)	10.9	12.1	10.3	0.4	-1.6	1.1
At-risk-of-poverty (AROP), 65+: 50% threshold (%)	4.9	3.1	6.5	0.2	-0.3	0.8
At-risk-of-poverty (AROP), 65+: 70% threshold (%)	33.9	23.3	43.0	-0.4	-0.2	0.4
				Change 2008-2016		
Material and social deprivation, age 65+ (%)	1.3	1.0	1.5	0.3	0.3	0.3

3. Gender differences

Indicator	2016	Change 2008-2016
	Total	Total
Gender gap in pension income (65-79) (%)	28.26	-2.68
Gender gap in non-coverage (W-M in p.p.) (65-79)	-0.8	0.4

4. Housing and health situation of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Population 65+ living in overcrowded households (%)	3.7	4.4	3.1	1.1	1.3	0.9
Tenure status among people 65+: share of owners (%)	71.1	75.0	67.9	2.2	0.3	3.4
Housing cost overburden, 65+ (%)	11.9	7.2	15.9	-2.1	-0.7	-2.8
Self-reported unmet need for medical care 65+ (%)	0.9	0.3	1.5	-0.4	-1.0	0.3
Healthy life years at age 65 (years) *		15.7	16.8		2.6	2.8

5. Pension duration

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Pension payment duration (2012) (years)		19.0	21.9			
Retirement duration (AWG) (years)		18.2	22.1		21.9	26.0

Data source: (1) (2) (3) (4) Eurostat, Sept-Oct 2017 (5) European Commission

*Notes: * - 2015 data.*

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net (%)				Gross (%)			
		2016		*2056*		*2016*		*2056*	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Variant: old base case: 40 years up to 65	54.9		45.9		58.2		47.8	
	New base case: 40 years up to the SPA	54.9		45.9		58.2		47.8	
	Increased SPA: from age 25 to SPA	54.9		45.9		58.2		47.8	
	AWG career length case	66.2	58.1	53.9	48.8	66.5	62.0	53.8	51.1
	Longer career: 42 years to SPA			47.6				49.8	
	Shorter career: 38 years to SPA			43.6				45.2	
	Deferred exit: 42 years to SPA +2			56.0				53.4	
	Earlier exit: 38 years to SPA -2			41.5				42.8	
	Career break – unemployment: 3 years			44.5				46.2	
	Career break due to childcare: 3 years			45.9				47.8	
	Career break caring for family dependant: 3 years			42.9				44.4	
	Short career (20-year career)			35.5				36.2	
	Work 35 years, disabled 5 years prior to SPA			45.3				47.2	
	Early entry in the LM: from age 20 to SPA			49.6				51.9	
	Index: 10 years after retirement @ SPA			41.8				41.9	
	Extended part-time period for childcare			41.2				42.6	
	Pension rights of surviving spouses								n.a.
Low (66%)	Variant: old base case: 40 years up to 65	62.4		46.0		66.2		47.8	
	New base case: 40 years up to the SPA	62.4		46.0		66.2		47.8	
	AWG career length case	73.0	64.0	54.8	48.7	71.6	68.1	53.7	51.1
	Career break – unemployment: 3 years			44.4				45.9	
	Career break due to childcare: 3 years			47.9				49.9	
	Short career (20-year career)			38.8				36.2	
High	New base case: 40 years up to the SPA	61.8		52.9		63.7		54.1	
	Average replacement rate across retirees	:				:			

7. Sustainability and context

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65 (years)	20.2	18.9	21.5	24.0	22.5	25.4
Old-age dependency ratio (20-64) (%)	34.4	31.1	37.8	45.0	41.9	48.3
Economic old-age dependency ratio (15-64) (%)	37.7	32.6	43.2	49.2	44.2	54.6
Employment rate, age group 55-64 (%)	75.5	77.5	73.5	73.5		
Pension expenditure as % of GDP (ESSPROS)	12.4					
AWG projections	2016			2055		
Coverage ratio (% of pop aged 65+)						

Data source: (6) Member State and OECD; (7) European Commission, DG ECFIN

*Notes: * - 2015*

United Kingdom (UK)

Highlights

- The UK basic state pension, additional state pension (for those who reached state pension age before 6 April 2016), the new state pension (for those who reach state pension age from 6 April 2016 onwards) and pension credit are broadly redistributive although they are comparatively low.
- Pensioner poverty rates have fallen and pension credit (PC) is now 92 percent of the minimum income standard for pensioner couples. 14 percent of pensioners receive a means-tested pension credit (PC) but 39 percent of those eligible do not claim it.
- The state pension age will increase to 65 for women by 2018 and to 66 for men and women by 2020. It will rise to 67 between 2026 and 2028 and there are proposals to increase it to 68 by 2039 in a declared effort to ensure sustainability. The employment rates of those over state pension age and of older workers have been rising. Pensions sustainability is tackled by raising the state pension age and by abolishing state earnings-related provision altogether, rather than reducing indexation or increasing contributions.
- Workplace pensions – either occupational pensions or personal pensions – contributed 43.8 percent of retirement income in 2015/2016. After a long decline, coverage has been rising following the introduction of automatic enrolment in 2012, especially among people aged 22-29.[320]

1. General description of the national pension system

The UK has been described as combining 'one of the least generous state systems in the developed world' with one of the 'most developed' voluntary arrangements.[321]

The current state system includes the following.

1. A contributory basic state pension (bSP) for those reaching state pension age before 6 April 2016 and a new state pension (nSP) for those reaching state pension age thereafter.
2. An earnings-related additional state pension (originally graduated retirement benefit, then the state earnings-related pension scheme (SERPS), and then the state second pension (S2P)) for those reaching state pension age before 6 April 2016.
3. A means-tested, tax-financed pension credit (PC) may be payable to persons who have reached state pension age. (Pensioners are not eligible to claim universal credit.)

The state system accounted for 5.24 percent of GDP, 42 percent of public social protection expenditure and 14.5 percent of total managed public expenditure in 2016/2017.[322]

The wider pensioner package includes funding of the universal winter fuel payment, the Christmas bonus, free television licences (for the over-75s), and exemption from prescription charges, as well as assistance from local authorities in the form of housing benefit, council tax support and the provision of free bus passes. Some of these are available at different ages.

With the introduction of nSP from April 2016, people are no longer able to accrue qualifying years to an additional state pension while working prior to state pension age.

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[320] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/618843/workplace-pension-participation-and-saving-trends-2006-2016.pdf.
[321] Pension Commission (2004), *Pensions: Challenges and Choices. The First Report of the Pensions Commission*, London: TSO.
[322] Table 5.2 Public Expenditure Statistical analysis 2017.
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/630570/60243_PESA_Accessible.pdf

The current level of the bSP is GBP 122.30 (EUR 138.20)[323] per week from April 2017, plus any additional pension award. People with no national insurance (NI) record before 6 April 2016 with 35 qualifying years will receive the full rate of nSP, (GBP 159.55 (EUR 181.89) per week in 2017/2018) when they reach state pension age. If they have an existing national insurance record at 6 April 2016, their new state pension will be calculated under transitional arrangements which take their national insurance record into account. A 'starting amount' is calculated based on their national insurance record to 6 April 2016. If this is less than the full rate (which is likely where someone has been contracted out of the additional state pension into an occupational pension for many years) they will add 1/35th of the full rate to this with each qualifying year from 2016 onwards, until they reach the full amount or their state pension age, whichever comes first. If their starting amount is higher than the full amount, because of previous additional state pensions entitlement, they will keep the higher figure as their starting amount. There are no earnings disregard rules for the state pension; so pensioners can combine work and pension income, and pensioners no longer pay NI contributions.

There is a minimum qualifying period of 10 years to receive any amount of new state pension.[324] The nSP is based on individual contributions and people will not be able to claim on their spouse's (or civil partner's) contributions at state pension age or if they are widowed or divorced.

Individuals without substantial other income or capital may also claim PC, a means-tested, tax-financed payment consisting in part of guarantee pension credit topping up any other income to a weekly income of GBP 159.35 (EUR 181.66) for a single person and GBP 243.25 (EUR 277.31) for a couple in 2017/2018. 1.8 million[325] people (14% of pensioners) in 2017/2018 were receiving PC. Generally income is taken into account in assessing PC eligibility except for example personal independence payment,[326] disability living allowance and attendance allowance (all for the extra costs of disability), and child tax credit and child benefit, which are disregarded in full. Capital under GBP 10,000 (EUR 11,400) is disregarded and GBP 1 is taken into account for every GBP 500 of capital over GBP 10,000. The official Department for Work and Pensions (DWP) estimate is that in 2015/2016 the take-up[327] of PC was 61 percent of eligible people and 67 percent of the expenditure was claimed.

Since the June 2010 Budget, the bSP has been uprated using the 'triple lock' – the highest of CPI inflation or average earnings growth or 2.5 percent each year. This has also applied to the full rate of new state pension since 6 April 2016. The triple lock has resulted in a big improvement in the real level of the pension, and especially in comparison with earnings, since the start of the recession.

People can defer receiving the state pension – for every 9 weeks of deferral, an extra one percent is added to the pension. (Changes in April 2016 reduced this from 1% for every 5 weeks.)

Supplementary pensions: in the UK, workplace pensions are private pension arrangements that are not provided as part of the state benefit system. They fall into two broad types:

- occupational pension schemes – pensions set up by an employer for employees; and
- personal pensions – individual retirement plans possibly facilitated by the employer.

[323] The GBP to EUR exchange rate has been volatile recently and at the time of writing was advertised as GBP 1=EUR 1.14.
[324] Until 2010, a person was not entitled to any basic state pension if they did not have enough qualifying years to be entitled to at least 25 percent of the full rate. This meant 10 years for a woman and 11 for a man, due to the difference in male and female state pension age.
[325] https://www.gov.uk/government/publications/benefit-expenditure-and-caseload-tables-2017.
[326] A disability benefit.
[327] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/645577/income-related-benefits-estimates-of-take-up-2015-16.pdf.

Occupational pensions had been in long-term decline (for example, from a peak of 12.2 million in 1967, membership of occupational pension schemes had declined to 7.8 million by 2012).[328] To reverse this decline, from 2012 the UK began to require all employers to automatically enrol eligible jobholders into a qualifying workplace pension. Eligible jobholders are those who: earn more than GBP 10,000 per year (in 2017/2018); are aged at least 22 and below state pension age; ordinarily work in the UK under a worker's contract; and are not already part of a qualifying pension scheme. Employers are obligated to default eligible staff into a qualifying workplace pension but jobholders can opt out of this arrangement within the first month and get their contributions back. Jobholders can also choose to stop saving at any point after this opt-out period has ended but in such cases contributions are usually held in their pension until they retire. People who earn below the earnings trigger of GBP 10,000 can choose to opt in to their employer's pension scheme and will get a mandatory employer contribution if they earn above the lower earnings limit (GBP 5876 in 2017/2018).

Automatic enrolment has been introduced gradually, starting with the largest employers from 2012 (those with 250 workers or more) and duties will apply to employers of all sizes by the end of February 2018. Indications are that the long-term decline is being reversed – workplace pension scheme membership increased to 68 percent in 2016, from 50 percent in 2013.[329] Following its review of automatic enrolment, *Maintaining the Momentum*[330] in 2017, the government has proposed to lower the entry age for automatic enrolment to 18 to nudge hundreds of thousands of younger people into saving for a pension.[331] Trades unions found pension black spots in industries in which women predominate i.e. they earn too little to be included in automatic enrolment; but DWP analysis shows that women in the private sector without a workplace pension have halved[332] and that there is now gender parity in pension participation between eligible men and eligible women in the private sector. The Resolution Foundation says young adults will have retirement incomes similar to today's pensioners, especially due to automatic enrolment (but not the same housing wealth).[333] Employers are free to choose which type of workplace pension they enrol eligible jobholders in, providing it meets minimum quality criteria. However, to ensure that every employer has access to a 'qualifying scheme', the UK set up a low-cost pension scheme, the national employment savings trust (NEST), which any employer can use to fulfil their duties. Most schemes used for automatic enrolment are defined-contribution (DC) rather than defined-benefit. It is legislating to regulate 'master trusts', set up in significant numbers as a result of automatic enrolment.[334]

The UK does not have and has never had retirement regimes for workers in arduous or hazardous jobs, although individual employers may offer early retirement.[335] Some public occupational pension schemes for the armed forces, police and firemen have earlier retirement ages, which may be related to the nature of their jobs. Employees who are too sick to work may be able to claim statutory sick pay (SSP) from their employers. Workers who become unemployed may claim jobseeker's allowance (JSA) (unemployment benefit). People who are disabled or long-term sick and unable to work may claim employment and support allowance

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[328] *Occupational Pension Schemes Survey 2013:* http://www.ons.gov.uk/ons/rel/fi/occupational-pension-schemes-survey/2013/stb-opss.html.

[329] https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/workplacepensions https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/pensionssavingsandinvestments/bulletins/occupationalpensionschemessurvey/2015.

[330] https://www.gov.uk/government/publications/automatic-enrolment-review-2017-maintaining-the-momentum.

[331] *The Times* 4 December 2017.

[332] *Financial Times* 23 Oct 2017.

[333] *Guardian* 28 Nov 2017.

[334] Pension Schemes Bill [Lords]: Second Reading, House of Commons *Hansard*, 30 January 2017, col. 781.

[335] Bradshaw, J. (2016). *ESPN Thematic Report on Retirement regimes for workers in arduous or hazardous jobs: United Kingdom* 10.13140/RG.2.2.10187.59681: http://ec.europa.eu/social/keyDocuments.jsp?pager.offset=0&langId=en&mode=advancedSubmit&year=0&country=0&type=0&advSearchKey=ESPNwahj.

(ESA). But these are not retirement schemes. They involve tests of willingness or capacity to work.

2. Reform trends

The Pensions Act 1995 legislated to increase the state pension age for women progressively from 60 to 65 by 2020, so that it equalised with men's state pension age. The Pensions Act 2011 accelerated this timetable so women's state pension age reached 65 by 2018. The state pension age will then rise for both men and women to 66 between 2018 and 2020. The Work and Pensions Select Committee heard evidence that confusion is rife, including from some women who realised very late that receipt of their state pension was years further away than they had thought and planned for. Several campaign groups[336] were formed to campaign for better transitional arrangements. It is intended that, in future, the state pension age be reviewed every 6 years in light of the latest life-expectancy projections.[337] Life expectancy, both at birth and at age 65, has increased significantly over recent decades. The latest life-expectancy projections published by the Office for National Statistics show this is projected to continue increasing in the future.

As a result, the government is planning to raise the state pension age from 66 to 67 between 2026 and 2028. A rise from 67 to 68 is currently legislated to take place between 2044 and 2046. However, in July 2017, the Secretary of State for Work and Pensions announced[338] that the government intends to bring this forward 7 years so that it takes place in 2037-2039. This follows the recommendation made in the government-commissioned, independent review of state pension age carried out by John Cridland CBE. This report found that, between 2017 and 2036/2037, annual state pension spending is set to rise by an extra 1 percent of GDP, from 5.2 percent to 6.2 percent. The government claims that its proposed state pension age timetable will reduce the rise in spending by 0.4 percent of GDP in 2039/2040, equivalent to a saving of around GBP 400 (EUR 456) per household based on the number of households today. It will save GBP 74 billion (EUR 84 billion) through to 2045/2046 when compared with current plans, and more than GBP 250 billion (EUR 285 billion) to 2045/2046 when compared with capping the rise in state pension age at 66 in 2020. The intention is to aim for up to 32 percent of adult life spent on the state pension. The Trades Union Congress General Secretary responded:[339] 'Hiking the state pension age risks creating second-class citizens. In large parts of the country, the state pension age will be higher than healthy life expectancy. And low-paid workers at risk of insecurity in their working lives will now face greater insecurity in old age too'. The Institute for Fiscal Studies estimates that women affected by the delays in receiving their state pension will lose GBP 32 per week on average and that these reductions in income lead to the absolute poverty rate of women aged 60-62 who are now under the state pension age increasing by 6.4 percentage points.[340]

Employment rates of older people have been increasing. 10.2 percent of those aged 65 and over were employed in the quarter ending November 2017. In March to May 1992 (when records first began), just 5.5 percent were in employment. The labour market participation of older workers aged 50-64 was 73.8 percent (78.8% for men and 69.0% for women) in the quarter

[336] For instance the WASPI (Women against State Pension Inequality).
[337] Chancellor's *Autumn Statement* 5 December 2013: https://www.gov.uk/government/publications/autumn-statement-2013-documents, p. 89 point 2.72.
[338] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/630065/state-pension-age-review-final-report.pdf.
[339] https://www.tuc.org.uk/economic-issues/pensions-and-retirement/pension-age-hike-risks-creating-second-class-citizens-says.
[340] https://www.ifs.org.uk/publications/9565.

ending November 2017.[341] The government published a new employer-led strategy to increase the length of working lives through retention, retraining and recruitment of older workers.[342]

Though the number of pensioners had been steadily increasing, until the start of the recession spending on the state pension as a proportion of GDP remained steady at around 4 percent. Since the recession, spending has risen to 5.2 percent of GDP as a result of slower GDP growth, relatively generous indexation and a rising number of pensioners. The Office for Budget Responsibility (OBR)[343] forecasts that the share of GDP spent on state pensions will fall from 2012/2013 to 2018/2019, mainly as a result of the increase in the state pension age for women to 65 by 2018. Before the recent decision to bring forward the increase in the state pension age, the OBR's longer-term forecast had spending on state pensions rising from 5.1 percent of GDP in 2019/2020 to 7.3 percent of GDP in 2064/2065, mainly due to the projected rise in the population aged over 65, from 18 percent in 2015 to more than 26 percent in 2065.

From 6 April 2015, the Taxation of Pensions Act 2014 allowed people aged 55 and over to access their DC pension savings when and how they choose, subject to their marginal rate of income tax. Alongside these reforms, the government introduced measures in the Pension Schemes Act 2015 to support and protect those considering these new pension freedoms. These include the provision of free and impartial pension guidance for this cohort, which is delivered through the government-backed Pension Wise service.

In its *Retirement Outcomes Review: Interim report*, published in 2017, the Financial Conduct Authority (FCA) found that consumers had welcomed these reforms, which became known as the pension freedoms. The report noted that of approximately 7 million eligible DC pots, 1.2 million, or 17 percent, had been accessed. The FCA found no evidence of consumers squandering their savings. While the report identified emerging issues around attitudes to leaving pension savings invested, withdrawing savings without taking advice and a lack of product innovation by industry, the FCA acknowledged the market is still developing and firms and consumers are continuing to adjust to the reforms. A quantitative service evaluation conducted by Ipsos MORI on behalf of Pension Wise found that the customer experience was highly positive: 97 percent either already had, or said they were likely to, recommend Pension Wise to others.

As part of its reforms, the government also introduced the advice requirement, which applies to those with safeguarded benefits, such as defined-benefit pension savings, valued at over GBP 30,000. These individuals must demonstrate they have taken advice from a financial adviser authorised by the FCA before they surrender these benefits by transferring or converting them into DC pension savings. In the autumn, the FCA made proposals to clarify its expectations of advisers and improve the quality of this advice.

The Financial Lives survey of 13,000 consumers by the FCA, the biggest of its kind, found that 31 percent of UK adults have no private pension provision and will have to rely entirely on the state in their retirement. Of particular worry is the group of people aged over 50 who are not paying into a pension and have few years left to build one up before they reach their 60s. When the FCA asked why they had made no provision, 32 percent said it was too late to set one up, 26 percent said they could not afford it and 12 percent said they were relying on their partner's pension. Auto-enrolment has brought millions of people into pension saving for the first time, but millions of self-employed and part-time workers are not in the scheme. The figures reveal a

[341] https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/bulletins/uklabourmarket/latest.
[342] https://www.gov.uk/government/publications/fuller-working-lives-a-partnership-approach.
[343] Office for Budget Responsibility (2014). *Welfare trends report*, October 2014.

big gap between men and women: 33 percent of men expect to retire with just the state pension, but that rises to 53 percent among women.[344]

3. Assessment of adequacy

3.1. Current adequacy

3.1.1. General assessment of current adequacy

The figures on the UK provided by Eurostat are in Table in the appendix. Given the break in series in EU-SILC it is probably better to use national statistics to monitor pensioner poverty over time, though the Eurostat figures generally confirm the national data. The overall proportion of elderly people at risk of poverty (AROP) has significantly declined since 1998/1999 and also since 2007/2008 but there has been a slight rise in the most recent period. There remains a gender gap – in 2015/2016, the AROP rate for the 65+ group was 14.4 percent for men and 19.4 percent for women. The AROP rate also varies with age – it is 17.1 percent for the 65+ group and 21.4 percent for the 75+ group. The percentage of pensioners aged 65 and over in severe material deprivation according to Eurostat is 1.2 percent (almost identical to that observed in 2008); the proportion living in material and social deprivation is about three times higher (3.2%).

The 2017 minimum income standard (MIS) for couple pensioners was 69 percent of 2015/2016 median income before housing costs (BHC). In April 2017, PC for a couple was GBP 247.09 per week compared with the MIS for a couple pensioner of GBP 253.98. So PC income was 97 percent of MIS – a gap of GBP 6.89 per week. This compares with a gap of 36 percent for a single adult of working age or 59 percent for a couple with two children if they are on minimum out-of-work benefits.[345]

A decomposition analysis of pensioner incomes by quintile group[346] reveals that wages and salaries contributed very little to gross income in 2015/2016 – 2.2 percent on average, slightly more for the highest quintile. Private and occupational pensions contributed 43.8 percent on average in 2015/2016, up from 36 percent in 2007/2008, and the contribution is larger for richer quintile groups. The state pension share of gross income is 37.1 percent on average but 66.8 percent for the bottom quintile; its share of gross income changed very little between 2007/2008 and 2015/2016. Direct taxes are broadly progressive and indirect taxes very regressive; the bottom quintile pays 36.2 percent of gross income in direct and indirect taxation and the top quintile pays 29.4 percent.

Analysis of EU SILC data shows that since the start of the financial crisis the UK, as with almost all countries in the EU, has shifted resources away from families with children and towards pensioners.[347] In 2009/2010, pensioners in the UK had 75 percent of the net income of families with children. By 2015/2016, this ratio had increased to 85.6 percent and pensioners have been largely protected from the austerity cuts since 2010.[348] The Eurostat figures also show that replacement rates have improved since 2008.

[344] https://www.theguardian.com/money/2017/oct/21/uk-retirees-state-pension-financial-future.
[345] file:///Y:/MIS/mis_2017_final_report_0.pdf Table 4.
[346] Bradshaw, J. (2017). Trends in pensioner incomes, Blog: http://jonathanbradshaw.blogspot.co.uk/2017/12/trends-in-pensioner-poverty.html.
[347] Bradshaw, J. & Chzhen, Y. (2015). *The outcome of the crisis for pensioners and children, Belgisch tijdschrift voor Sociale Zekerheid*, 1, 37-49:
http://socialsecurity.fgov.be/docs/nl/publicaties/btsz/2015/btsz-1-2015-bradshaw-chzhen-nl.pdf.
[348] Bradshaw, J. (2017) Trends in pensioner incomes, Blog: http://jonathanbradshaw.blogspot.co.uk/2017/12/trends-in-pensioner-poverty.html.

3.1.2. Redistributive elements of public pension schemes

The basic state pension is paid on the basis of earnings-related NI contributions (NICs). Employees pay no NICs on earnings below GBP 157 (EUR 179) per week but are treated as having paid them as long as they are earning GBP 113 (EUR 129) per week or more, in 2017/2018. They pay 12 percent NICs on earnings of GBP 157-886/week (EUR 179-1010) and 2 percent on earnings above that, and employers pay basic contributions of 13.8 percent of earnings. The basic state pension is flat-rate and the nSP has no earnings-related element. There was always some redistribution in the NI system, including within the earnings-related element. Employers' contributions can be seen as deferred wages. But as an allowable expense for employers, they are not subject to progressive income tax.

The NICs scheme allows for contributions to be credited for people outside the labour market and in receipt of disability, unemployment and carers' benefits. In addition, if someone is caring for a child under 12, they are awarded credits so their childcare responsibilities do not prevent them from accessing a full new state pension in the future (though the eligible age for a child has been reduced in recent years). Removing the additional pension makes private pensions the only means of securing wage replacement. Ginn[349] has suggested that consideration should be given to subsidised care credits within NEST, or retaining a state earnings-related pension with care credits as a voluntary auto-enrolment option – otherwise, care responsibilities will not be recognised.

Part of the redesign of pension provision has been prompted by the low savings for pensions amongst many employees, especially because of the decline in defined-benefit pension schemes. The replacement of state earnings-related provision entirely by auto-enrolment into personal pension provision, for those who do not already belong to a company scheme, is likely to mean less redistribution towards the low-paid in future; and employers are not obliged to offer auto-enrolment to part-time workers who earn under the qualifying threshold, though as highlighted above, those who earn under the earnings threshold can choose to opt in and will receive a mandatory employer contribution if they earn over the lower earnings limit. The recent review of automatic enrolment considered this issue and concluded that the qualifying earnings threshold continues to strike the right balance between managing affordability for employers and ensuring that those enrolled are people for whom it would make most economic sense to save. It is being retained at GBP 10,000 for the 2018/2019 tax year and this threshold is subject to annual review. However, as a result of the review, *Maintaining the Momentum*, the government has proposed to remove the lower earnings limit so that pension contributions start at the first pound of earnings and that everyone can now access a workplace pension which would attract an employer contribution.

PC is highly redistributive to those on low incomes as it is tax-funded and means-tested.

3.2. Retirement conditions for the self-employed and for people in non-standard employment

The self-employed[350] have rather generous treatment in relation to NICs. They currently have to pay GBP 2.85 (EUR 3.25)/week NICs on profits of GBP 6025 (EUR 6869)/year or more, nine percent on profits of GBP 8164-45,000 (EUR 9307-51,300)/year and two percent on profits above that. Payment of flat-rate NICs is voluntary if profits are less than GBP 6025 a year. It was intended to abolish flat-rate NICs for the self-employed in April 2018 but this has

[349] Ginn, J. (undated). *Gender Effects of the Single Tier Pension and Associated Reforms*, Institute of Gerontology.
[350] See also Bradshaw, J. and Bennett, F. (2017). *ESPN Thematic Report on Access to Social Protection of People Working as Self-employed or on Non-standard Contracts – United Kingdom*: http://ec.europa.eu/social/BlobServlet?docId=17716&langId=en.

now been postponed until April 2019. The self-employed would instead be able to access contributory benefit through profit-related contributions (which do not currently attract benefit entitlement), with a new zero-rate band for those with profits between GBP 6025 and GBP 8164 (EUR 6869-9307). The government has been consulting on alternative means for those with profits below GBP 6025 (EUR 6869) a year to access contributory benefits including the state pension.

Individuals, including the self-employed or part-time workers, without an adequate contribution record for the state pension and without substantial other income or capital may claim PC, which in 2017/2018 is only slightly less than the nSP and higher than the bSP**.** The nSP is an individual entitlement but eligibility for PC for members of couples depends on the resources and needs of the partner, and may be paid to them.

Automatic enrolment does not include the self-employed as there is no employer to default them into a pension scheme (self-employed people may also have personal pensions but their participation in pension saving is falling[351]). However, NEST has a public service obligation: since 1 March 2018 the trustee 'must' accept self-employed members (prior to this date it was discretionary). The recent review of automatic enrolment considered how to better enable the self-employed to save for their retirement and set out that, following feasibility work, the government intends to test a series of targeted interventions from 2018 to understand what will best work for increasing retirement saving among this population.

3.3. Future adequacy and challenges

The main question about the future adequacy of the state pension concerns how it will be indexed.[352] For the bSP and the nSP, there is a statutory requirement to index at least in line with earnings. The legislative requirement is that the standard minimum guarantee in PC is increased at least in line with earnings. However, in recent years where this would have meant that the increase in the standard minimum guarantee would be less than the cash increase in the full rate of the basic state pension, there has been an above-indexation increase to meet that cash value increase in the basic state pension. In the 2017 election manifesto, the Conservatives promised to maintain the triple lock until 2020 and then replace it with a double lock (prices or earnings rises). However, the 26 June 2017 agreement between the Conservative and Democratic Unionist Parties said both parties had agreed that there would be 'no change to the pensions triple lock'. The House of Commons Library estimates[353] that in 2015/2016 the basic state pension was 14 percent higher in nominal terms than in 2011/2012, and by 2022/2023 it might be 39 percent higher, as a result of the triple lock. The triple lock ensures adequacy but it comes at some cost and may not be sustainable. [354] [355] [356]

The OECD report *Preventing Ageing Unequally*[357] highlighted three main challenges for the future adequacy of UK pensions. First, lower-educated 50-64-year-olds are much less likely to be in work, especially women. Second, bad health and obesity are major reasons why people leave the labour market early. Third, many older people with long-term care needs have to pay high costs.

[351] https://www.gov.uk/government/publications/automatic-enrolment-review-2017-maintaining-the-momentum.
[352] http://researchbriefings.parliament.uk/ResearchBriefing/Summary/SN05649.
[353] http://researchbriefings.parliament.uk/ResearchBriefing/Summary/CBP-7812#fullreport.
[354] http://budgetresponsibility.org.uk/fsr/fiscal-sustainability-report-january-2017/.
[355] http://www.pensionspolicyinstitute.org.uk/press/press-releases/what-level-of-pension-contribution-is-needed-to-obtain-an-adequate-retirement-income.
[356] https://www.parliament.uk/business/committees/committees-a-z/commons-select/work-and-pensions-committee/news-parliament-2015/triple-lock-withdrawal-comment-16-17/.
[357] http://www.oecd.org/unitedkingdom/PAU2017-UK-En.pdf.

4. Main opportunities for addressing pension-related challenges

The following recommendations are chosen because they present the proposals that exist that might be best for reducing poverty in old age in the short term.

From 2016, with the end of contracting out, everybody under pension age pays the full rate of NICs, which has resulted in a big increase in contribution income for the NI Fund. The probable net cost to the NI Fund of paying the nSP to those already over pension age would be between GBP 1 and 2 billion (EUR 1.14-2.28 billion) per year, reducing year by year as a new generation of workers reaches pension age. This sum does not take into account the administrative savings from no longer having to means-test a diminishing group of elderly pensioners.

Maintain efforts to increase the take-up of PC. Pensioner poverty is mainly driven by the non-take-up of PC. If every pensioner eligible claimed PC, it would close a substantial proportion of the pensioner poverty gap and lift many above the AROP threshold. Non-take-up is an enduring problem of means-tested benefits. Much effort was made to increase the take-up of PC after it began in 2001 with varying degrees of success; but those funded efforts have since dissipated to be replaced with low-cost activity such as local press articles, and the latest estimates are that nearly two fifths (39%) of those eligible are failing to claim. A report from the Joseph Rowntree Foundation sets out recommendations for increasing take-up.[358]

[358] Finn, D. and Goodship, J. (2014). *Take-up of benefits and poverty: an evidence and policy review:* www.cesi.org.uk/publications/take-benefits-and-poverty-evidence-and-policy-review.

5. Background statistics – The United Kingdom

1. Relative incomes of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.89	0.91	0.86	0.15	0.15	0.13
Income quintile share ratio (S80/S20), 65+	4.5	4.6	4.4	-0.2	-0.1	-0.3
Aggregate replacement ratio (ARR)	0.53	0.58	0.51	0.10	0.13	0.07

2. Poverty and material deprivation

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+ (%)	18.0	15.1	20.4	-10.5	-10.3	-10.5
At-risk-of-poverty (AROP), 65+ (%)	17.1	14.4	19.4	-10.2	-10.0	-10.3
Severe material deprivation (SMD), 65+ (%)	1.2	1.0	1.3	-0.2	-0.3	-0.3
At-risk-of-poverty or social exclusion (AROPE), 75+ (%)	22.1	19.2	24.3	-10.1	-10.3	-9.8
At-risk-of-poverty (AROP), 75+ (%)	21.4	18.8	23.4	-9.8	-9.8	-9.7
Severe material deprivation (SMD), 75+ (%)	0.9	0.4	1.2	-0.2	-0.8	0.1
Relative poverty gap, 65+ (%)	20.8	21.2	20.8	1.6	4.4	0.1
At-risk-of-poverty (AROP), 65+: 50% threshold (%)	10.0	8.3	11.5	-5.3	-4.0	-6.2
At-risk-of-poverty (AROP), 65+: 70% threshold (%)	28.2	25.4	30.7	-11.8	-11.5	-11.8
				Change 2014-2016		
Material and social deprivation, age 65+ (%)	3.5	2.6	4.3	-2.8	-3.3	-2.3

3. Gender differences

Indicator	2016	Change 2008-2016
	Total	Total
Gender gap in pension income (65-79) (%)	34.77	-7.40
Gender gap in non-coverage (W-M in p.p.) (65-79)	0	-0.3

4. Housing and health situation of older people

Indicator	2016			Change 2008-2016		
	Total	Men	Women	Total	Men	Women
Population 65+ living in overcrowded households (%)	1.3	0.8	1.7	0.7	0.1	1.2
Tenure status among people 65+: share of owners (%)	80.8	81.9	79.8	3.7	2.5	4.6
Housing cost overburden, 65+ (%)	7.8	7.7	7.9	-8.7	-5.6	-11.2
Self-reported unmet need for medical care 65+ (%)	1.1	1.2	1.0	0.3	0.6	0.1
Healthy life years at age 65 (years) *		10.2	10.4		-0.5	-1.3

5. Pension duration

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Pension payment duration (2012) (years)		24.5	26.5			
Retirement duration (AWG) (years)		18.9	22.6		21.7	24.5

Data source: (1) (2) (3) (4) Eurostat, Sept-Oct 2017 (5) European Commission

*Notes: * - 2015 data.*

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net (%)				Gross (%)			
		2016		2056		2016		2056	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Variant: old base case: 40 years up to 65	85.0	89.0	33.2		70.0	72.0	28.8	
	New base case: 40 years up to the SPA	85.0	87.0	62.7		70.0	71.0	59.2	
	Increased SPA: from age 25 to SPA	85.0		65.1		69.0		61.8	
	AWG career length case	95.0	93.0	39.2	38.1	77.0		34.0	33.1
	Longer career: 42 years to SPA			64.3				60.9	
	Shorter career: 38 years to SPA			61.2				57.6	
	Deferred exit: 42 years to SPA +2			69.6				66.7	
	Earlier exit: 38 years to SPA -2			31.3				27.1	
	Career break – unemployment: 3 years			60.1				56.8	
	Career break due to childcare: 3 years			60.0				56.6	
	Career break caring for family dependant: 3 years			60.8				57.4	
	Short career (20-year career)			47.5				44.8	
	Work 35 years, disabled 5 years prior to SPA			59.8				56.4	
	Early entry in the LM: from age 20 to SPA			70.2				66.2	
	Index: 10 years after retirement @ SPA			58.4				55.1	
	Extended part-time period for childcare			57.0				53.9	
	Pension rights of surviving spouses								
Low (66%)	Variant: old base case: 40 years up to 65	94.0	104.0	31.3		80.0		28.8	
	New base case: 40 years up to the SPA	94.0	100.0	76.7		80.0	83.0	74.9	
	AWG career length case	103.0		36.9	36.0	87.0	89.0	34.0	33.1
	Career break – unemployment: 3 years			74.2				72.5	
	Career break due to childcare: 3 years			74.0				72.3	
	Short career (20-year career)			62.0				60.5	
High	New base case: 40 years up to the SPA	59.0		46.7		44.0	46.0	35.4	
	Average replacement rate across retirees	:				:			

7. Sustainability and context

Indicator	2016			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65 (years)	19.8	18.6	20.8	23.9	22.5	25.3
Old-age dependency ratio (20-64) (%)	30.6	27.9	33.3	46.2	42.4	50.1
Economic old-age dependency ratio (15-64) (%)	34.6	28.6	41.4	50.8	44.6	57.5
Employment rate, age group 55-64 (%)	63.4	69.6	57.4	70.7		
Pension expenditure as % of GDP (ESSPROS)	11.8					

Data source: (6) Member State and OECD; (7) European Commission, DG ECFIN

*Notes: * - 2015*

European Union (EU)

Background statistics – European Union

1. Relative incomes of older people

Indicator	2016 (EU-28)			Change 2008-2016 (EU)		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.93	0.96	0.90	0.08	0.08	0.07
Income quintile share ratio (S80/S20), 65+	4.1	4.2	4.1	-0.1	-0.1	0.0
Aggregate replacement ratio (ARR)	0.58	0.61	0.55	0.09	0.13	0.03

2. Poverty and material deprivation

Indicator	2016 (EU-28)			Change 2008-2016 (EU)		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+ (%)	18.3	15.1	20.7	-5.0	-4.3	-5.5
At-risk-of-poverty (AROP), 65+ (%)	14.7	12.1	16.8	-4.2	-3.5	-4.6
Severe material deprivation (SMD), 65+ (%)	5.9	4.8	6.8	-1.7	-1.3	-1.9
At-risk-of-poverty or social exclusion (AROPE), 75+ (%)	19.9	15.5	22.9	-6.0	-5.5	-6.3
At-risk-of-poverty (AROP), 75+ (%)	16.2	12.6	18.7	-5.2	-4.5	-5.5
Severe material deprivation (SMD), 75+ (%)	6.1	4.5	7.2	-1.7	-1.6	-1.7
Relative poverty gap, 65+ (%)	16.9	16.8	17.0	-0.2	0.3	-0.6
At-risk-of-poverty (AROP), 65+: 50% threshold (%)	7.2	5.9	8.3	-2.3	-1.6	-2.7
At-risk-of-poverty (AROP), 65+: 70% threshold (%)	24.7	20.9	27.7	-5.4	-5.0	-5.6
				Change 2014-2016 (EU-28)		
Material and social deprivation, age 65+ (%)	12.8	10.4	14.6	-2.7	-2.4	-3.0

3. Gender differences

Indicator	2016 (EU-28)	Change 2008-2016 (EU)
	Total	Total
Gender gap in pension income (65-79) (%)	37.22	3.88
Gender gap in non-coverage (W-M in p.p.) (65-79)	5.7	7.2*

4. Housing and health situation of older people

Indicator	2016 (EU-28)			Change 2008-2016 (EU)		
	Total	Men	Women	Total	Men	Women
Population 65+ living in overcrowded households (%)	6.6	5.6	7.4	-1.0	-0.6	-1.3
Tenure status among people 65+: share of owners (%)	78.1	80.1	76.5	-1.2	-1.9	-0.7
Housing cost overburden, 65+ (%)	10.5	8.1	12.5	-0.4	0.1	-0.6
Self-reported unmet need for medical care 65+ (%)	3.5	2.8	4.1	-0.6	-0.6	-0.5
Healthy life years at age 65 (years) ***		9.4	9.4		0.7**	0.6**

5. Pension duration

Indicator	2016 (EU-28)			Projections for 2056		
	Total	Men	Women	Total	Men	Women
Pension payment duration (2012) (years)	:	:	:			
Retirement duration (AWG) (years)	:	:	:	:	:	:

Data source: (1) (2) (3) (4) Eurostat, Sept-Oct 2017 (5) European Commission

*Notes: 2008 data for EU-28 – not available; * - 2008 data with breaks in time series; ** - EU-28: 2010-2015; *** - 2015 data; : – not available*

6. Sustainability and context

Indicator	2016 (EU-28)			Projections for 2056 (EU-28)		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65 (years)	19.7	17.9	21.2	:	:	:
Old-age dependency ratio (20-64) (%)	32.0	27.4	36.5	56.6	50.4	63.0
Economic old-age dependency ratio (15-64) (%)	42.2	:	:	63.5	:	:
Employment rate, age group 55-64 (%)	55.2	62.0	48.9	:	:	:
Pension expenditure as % of GDP (ESSPROS)	12.7*					
AWG projections	2016			2055		
Coverage ratio (% of pop aged 65+)	X			X		

Data source: (6) Member State and OECD; (7) European Commission, DG ECFIN

*Notes: * - 2015*

Annex: Background statistics

The list of indicators for the Country Profiles was agreed at the Indicators Sub-group of the Social Protection Committee (SPC ISG). The set of indicators aims at measuring: 1) the relative incomes of older people; 2) poverty and material deprivation; 3) gender differences; 4) the housing and health situation of older people; 5) pension duration; 6) the adequacy of pensions; and 7) sustainability.

1) Relative incomes of older people

Relative median income ratio (65+) is the ratio of the median equivalised disposable income of persons aged 65 or more compared with the median equivalised disposable income of persons in the age group 0 to 64. Including all sources of income, and not just pensions, the indicator measures the overall income situation of older people relative to the income of the younger age group – those aged 64 or below (source: Eurostat, EU Statistics on Income and Living Conditions (EU SILC)).

Inequality of income distribution – income quintile share ratio (S80/S20) (65+). This is the ratio of total income received by the 20 percent of the population with the highest income (top quintile) to that received by the 20 percent of the population with the lowest income (lowest quintile). Income must be understood as equivalised disposable income (source: Eurostat, EU Statistics on Income and Living Conditions (EU SILC)).

Aggregate replacement ratio (ARR) is the ratio of (i) the median individual gross pension of people aged 65-74 to (ii) the median individual gross earnings of people aged 50-59. The ARR is based on income data from EU-SILC. By measuring the level of retired persons' pensions relative to income from work of people in the decade before retirement, the ARR reflects the overall adequacy of pensions in the transition from work to retirement. It should be noted that the ARR indicator is not calculated at household level, but based on individual gross incomes. Several other factors, such as household composition and size and the taxes/social contributions paid on gross pensions can hence have a strong influence on disposable incomes and the actual living standards of individuals. It should also be taken into account that the ARR compares the income situation of two different cohorts (before and after retirement in the survey year) (source: Eurostat).

2) Poverty and material deprivation

At-risk-of-poverty or social exclusion rate (AROPE) (for age groups 65+ and 75+). The Europe 2020 strategy promotes social inclusion, in particular through the reduction of poverty, by aiming to lift at least 20 million people out of the risk of poverty and social exclusion. This indicator corresponds to the sum of persons who are: at risk of poverty or severely materially deprived or living in households with very low work intensity. Persons are only counted once even if they are present in several sub-indicators. Data are expressed as a percentage of the total population by age groups (65+ and 75+) (source: Eurostat, EU Statistics on Income and Living Conditions (EU SILC)).

At-risk-of-poverty rate (AROP) (for age groups 65+ and 75+). Those at risk of poverty are persons with an equivalised disposable income below the at-risk-of-poverty threshold, which is set at 60 percent of the national median equivalised disposable income (after social transfers) (source: Eurostat, EU Statistics on Income and Living Conditions (EU SILC)).

Severe material deprivation (SMD) (for age groups 65+ and 75+). Material deprivation covers indicators relating to economic strain and durables. Severely materially deprived persons have living conditions severely constrained by a lack of resources, and experience at least 4 out of 9 of the following deprivations items – they cannot afford to: i) pay rent or utility bills; ii) keep their home adequately warm; iii) meet unexpected expenses; iv) eat meat, fish or a protein equivalent every second day; v) a week holiday away from home; vi) a car; vii) a washing machine; viii) a colour TV; or ix) a telephone (source: Eurostat, EU Statistics on Income and Living Conditions (EU SILC)).

The relative median at-risk-of-poverty gap (65+) shows the intensity of poverty. It is calculated as the difference between the median equivalised total net income of persons below the at-risk-of-poverty threshold and the at-risk-of-poverty threshold, expressed as a percentage of the at-risk-of-poverty threshold (cut-off point: 60% of median equivalised income). The EU aggregate is a population-weighted average of individual national figures. In line with decisions of the European Council, the at-risk-of-poverty rate is measured relative to the situation in each country rather than applying a common threshold to all countries (source: Eurostat, EU Statistics on Income and Living Conditions (EU SILC)).

At-risk-of-poverty rate (AROP) (65+): 50 percent and 70 percent threshold. Those at risk of poverty are persons with an equivalised disposable income below the at-risk-of-poverty threshold, which is set at 40 percent, 50 percent or 70 percent of the national median equivalised disposable income (after social transfers) (source: Eurostat, EU Statistics on Income and Living Conditions (EU SILC)).

Material and social deprivation (65+). The new deprivation indicator is based on 13 items whose selection results from a systematic item-by-item robustness analysis. Since 2014, these items are collected annually in each country. Seven deprivations relate to the person's household and six to the person themselves. The seven household deprivations are as follows – the inability for the household to: 1) face unexpected expenses; 2) afford 1 week of annual holiday away from home; 3) avoid arrears (in mortgage, rent, utility bills and/or hire purchase instalments); 4) afford a meal with meat, chicken or fish or vegetarian equivalent every second day; 5) afford to keep their home adequately warm; 6) afford a car/van for personal use; and 7) replace worn-out furniture. The six additional personal deprivations are the inability for the person to: 8) replace worn-out clothes with some new ones; 9) have two pairs of properly fitting shoes; 10) spend a small amount of money each week on oneself ('pocket money'); 11) have regular leisure activities; 12) get together with friends/family for a drink/meal at least once a month; 13) have an internet connection (source: Eurostat).

3) Gender differences

Gender gap in pension income, percent (65-79). This is computed by comparing average male and female pensions. This indicator shows how far women's pensions lag behind men's in the central age group. It is women's average pension income divided by men's average pension income subtracted from one. This ratio is then multiplied by 100 to give the percentage by which women's average pension is lower than men's (source: Eurostat).

Gender gap in non-coverage rate (W-M) (65-79). This is the extent to which women have less access to the pension system than men, in percentage points (p.p.) (source: Eurostat).

4) Housing and health situation of older people

Population living in overcrowded households (65+). This indicator is defined as the percentage of the population living in an overcrowded household. A person is considered as living in an overcrowded household if the household does not have at its disposal a minimum of rooms equal to: one room for the household; one room by couple in the household; one room for each single person aged 18 and more; one room by pair of single people of the same sex between 12 and 17 years of age; one room for each single person between 12 and 17 years of age and not included in the previous category; one room by pair of children under 12 years of age (source: Eurostat).

Tenure status among people 65+: share of owners. Owners can be: i) with a mortgage or loan; or ii) with no outstanding mortgage or housing loan (source: Eurostat).

Housing cost overburden rate (65+). The percentage of the population living in a household where the total housing costs (net of housing allowances) represent more than 40 percent of the total disposable household income[359] (net of housing allowances) presented by age groups (source: Eurostat, EU Statistics on Income and Living Conditions (EU SILC)).

Self-reported unmet need for medical care (65+). Self-reported unmet needs for medical care concern a person's own assessment of whether they needed examination or treatment for a specific type of healthcare, but did not have it or did not seek it because of the following three reasons: 'financial reasons'; 'waiting list'; or 'too far to travel'. Medical care refers to individual healthcare services (medical examination or treatment excluding dental care) provided by or under the direct supervision of medical doctors or equivalent professions according to national healthcare systems. Data are collected from the European Statistics of Income and Living Condition survey and refer to such needs during the previous 12 months (source: Eurostat).

Healthy life years at age 65. The indicator measures the number of years that a person at age 65 is still expected to live in a healthy condition. It is a health-expectancy indicator which combines information on mortality and morbidity. The data required are the age-specific prevalence (proportions) of the population in healthy and unhealthy conditions and age-specific mortality information. A healthy condition is defined as the absence of limitations in functioning/disability. The indicator is calculated separately for males and females. The indicator is also called disability-free life expectancy (DFLE) (source: Eurostat).

5) Pension duration

Pension payment duration (2012) (years). This is computed as life expectancy at age 65 less the average age when first receiving a pension. Life expectancy is from Eurostat (code demo_mlexpec) and the pension age from 2012 LFS ad hoc module on the transition to retirement (Eurostat code lfso_12agepens).

Retirement duration (AWG) (years). This is computed as life expectancy at age 65 less the average exit age from the labour market. Life expectancy is from Eurostat (code demo_mlexpec) and the exit age from the Ageing Report assumptions.

6) Adequacy of pensions: Theoretical Replacement Rates (TRRs)

Theoretical replacement rates (TRRs) are case study-based calculations of the level of pension income in the first year after retirement, measured as a percentage of individual earnings at the moment of retirement. The TRR provides a proxy for the (change in the) standard of living at the very transition from work to retirement. However, TRRs are not based on economy-wide averages, but calculated on an individual basis for an assumed hypothetical worker, and including for each country those schemes that are mandatory, typical or have a wide-reaching coverage (source: Member States and the OECD).

TRRs are calculated for an assumed hypothetical worker in a base case and a given set of variant cases (see Table 1).

[359] Disposable household income includes: all income from work (employee wages and self-employment earnings); private income from investment and property; transfers between households; and all social transfers received in cash including old-age pensions.

Table 1: Theoretical Replacement Rates

TRRs	Description
Base cases	
Variant: old base case: 40 years up to 65	In the old base case calculations, a 40-year career is typically calculated with a person retiring at the national standard pensionable age. With the 'old base case' variant, the individual begins work at age 25 in 2016 and retires at age 65 in 2056. This calculation is not possible for all countries as retirement will not be possible at age 65 in the future.
New base case: 40 years up to the SPA	In the base case calculations, a 40-year career is typically calculated with a person retiring at the national standard pensionable age.
Increased SPA: from age 25 to SPA	The starting-point of the career is 25, thus the career length changes as the retirement age changes. The impact of retirement age reforms can be analysed.
AWG career length case	In the base case calculations, a 40-year career is typically calculated with a person retiring at the national standard pensionable age. However, this entry and retirement age may not reflect the situation that occurs within a particular country. For this variant the entry age will be the national effective entry age with the retirement age being the national effective exit age. Thus the career length will vary between countries.
Variant cases	
Different career lengths. The dynamics of work incentives can be studied by comparing a base case worker who retires at national standard pensionable age with one that retires either 2 years earlier or later, thus decreasing and increasing respectively the seniority/number of contributory years of the worker.	
Longer career: 42 years to SPA	The starting-point of the career is 2 years earlier than the base case, thus retirement in 2056 for prospective TRR.
Shorter career: 38 years to SPA	The starting-point of the career is 2 years later than the base case, thus retirement in 2056 for prospective TRR.
Deferred exit: 42 years to SPA +2	The starting-point of the career is as in the base case, now with a 42-year career, retirement in 2058.
Earlier exit: 38 years to SPA -2	The starting-point of the career is as in the base case, now with a 38-year career, retirement in 2054.
Early entry in the LM: from age 20 to SPA	The starting-point of the career is 20.
Career breaks. To what extent social protection systems protect not only the current loss of income due to career breaks (for care responsibilities or in the event of unemployment), but also protect future incomes in the form of pension entitlements.	
a) Career breaks for childcare years	
Career break due to childcare: 3 years	The assumption for this case is that the typical earner is considered to be an average earner (both male and female) retiring at the country-specific standard pensionable ages who entered the labour market at the base case age. The exercise assumes a childcare-covering period of 3 years of absence. For the modelling it is assumed that two children are born 2 years apart. The first child is assumed to be born 3 years after the start of the career. The assumption is that the highest full benefits can be received by the individual. The childcare credits are typically placed for two children born.
Extended part-time period for childcare	Part-time work for 10 years after a 3-year break for childcare. The assumption for this case is that the typical earner is considered to be an average earner (both male and female) retiring at the country-specific standard pensionable ages who entered the labour market at the base case age. The exercise assumes a childcare-covering period of 3 years of absence as for the standard childcare case (first child born 3 years after career start, second child 2 years later). After the 3-year break, there follows a period of 10 years of part-time work at 66 percent of average earnings before full-time work resumes until the standard pensionable

TRRs	Description
	age.
b) Periods of unemployment	
Career break – unemployment: 3 years	The typical earner is considered to be an average earner (both male and female) retiring at the country-specific standard pensionable ages who entered the labour market at the base case age. 3 consecutive years of unemployment are assumed to take place, when the individual is allowed the highest full unemployment benefits that they are entitled to under legislation during the entire unemployment period (10 years after career start). Although several countries have early-retirement schemes, the effects of such schemes are not taken into consideration in these calculations.
Short career (20-year career)	20 non-contributory years out of the labour market. This variant is defined as an average-earner worker, both male and female, who retires at the national retirement age and who entered the labour market at the base case age. They work for 10 years, then have a 20-year career break and then work 10 years until national standard pensionable age. During the 20-year break the worker is assumed to not contribute to the pension system at all and not receive any social benefit or contribution credits, but remains resident in the Member State.
c) Career breaks for family care years	
Career break caring for a family dependant: 3 years	In this case the typical earner is considered to be an average earner (both male and female) retiring at the country-specific standard pensionable age who entered the labour market at the base case age. 3 consecutive years of family care are assumed to take place, when the individual is 10 years from standard pensionable age.
Other cases	
Work 35 years, disabled 5 years prior to SPA	Early retirement due to disability. In this case the typical earner is considered to be an average earner (both male and female) leaving the labour market 5 years prior to national standard pensionable age and who entered the labour market at the base case age. Disability is classed as 100 percent and the individual is eligible for the maximum level of credit. The individual claims the pension at the earliest possible point through any early-retirement schemes. However, the replacement rate is calculated at the national standard pensionable age, indexing benefits in payment where required.
Pension rights of surviving spouses	The assumption for this case is that only one partner (the man) has a career history. The exercise assumes the man was an average earner throughout his career while the woman has no career history. This working partner retires at the country-specific national standard pensionable age, having entered the labour market at the base case age. For the modelling it is assumed that the man dies immediately after reaching standard pensionable age.
Index: 10 years after retirement @ SPA	A pension-wage ratio after 10 years of retirement is calculated considering the value of an individual's pension 10 years after retirement, divided by the income of another average-earner worker retiring 10 years later than the previous one after a 40-year career up to the national standard pensionable age in 2056 (thus, the two retirees are in different cohorts, with 2016-2026 as the relevant entry years for the calculation of the prospective replacement rates). This helps to provide an assessment of the evolution of the relative position of the individual, typically reflecting pension indexation.
Average replacement rate across retirees	The average replacement rate based on real administrative date which accounts for differences in career lengths, wages and retirement age amongst others.
Current and prospective TRRs. Current TRRs describe the situation of people who retire today (people who retired in 2016 in the base case); prospective TRRs describe the foreseen situation of people retiring in the future (people retiring in 2056 in the base case).	
Gross and net replacement rates. The gross replacement rate is defined according to the pre-taxed income (after employer contributions, but including employee contributions). The net replacement rate is calculated as	

TRRs	Description
net of income taxes and employee contributions and including means-tested benefits. The comparison between gross and net allows an assessment of how different tax treatments of income from work and pensions may affect the income replacement provided by pension provision; or in other words, the effect of tax systems on pensions' adequacy.	
Different earning profiles. The analysis of variant cases should be considered with respect to earning profiles, thus considering a low-income earner and a high-income earner (as compared with the average-income earner of the base case). A low-income earner has 66 percent of the average earning profile each year. For a high-income earner, it is assumed that earnings grow linearly every year from 100 percent of average earnings to 200 percent.	

7) Sustainability and context indicators

Life expectancy at 65+ (years). The projections are made on the basis of Eurostat's population projection – EUROPOP2015 (source: Eurostat, code proj_15npms).

Old-age dependency ratio (20-64) shows people aged 65 or above relative to the population aged 20-64 (source: The 2018 Ageing Report).

Economic old-age dependency ratio (15-64) is an important indicator to assess the potential impact of ageing on social expenditure, particularly relevant for pay-as-you-go pension systems. This indicator is calculated as the ratio between the inactive elderly (65+) and total employment (15-64) (source: The 2018 Ageing Report).

Employment rate of older workers (age group 55-64) is calculated by dividing the number of persons in employment and aged 55 to 64 by the total population of the same age group. The indicator is based on the EU Labour Force Survey (source: Eurostat). Employment projections for 2056 are provided by the 2018 Ageing Report.

Pension expenditure as percentage of GDP (ESSPROS). The pensions aggregate comprises part of periodic cash benefits under the disability, old-age, survivors' and unemployment functions. It is defined as the sum of the following social benefits: disability pension, early-retirement due to reduced capacity to work, old-age pension, anticipated old-age pension, partial pension, survivor's pension, early-retirement benefit for labour market reasons (source: Eurostat, European System of integrated Social Protection Statistics (ESSPROS)).

Coverage ratio (percentage of population aged 65+). This is the number of pensioners divided by the population aged 65 and above; the source is the Ageing Report assumptions**.**

Abbreviations

AROP	At-risk-of-poverty
AROPE	At-risk-of-poverty or social exclusion
ARR	Aggregate replacement ratio
AWG	Ageing Working Group (of the EPC)
BR	Benefit ratio
DB	Defined benefits
DC	Defined contributions
DG ECFIN	Directorate-General for Economic and Financial Affairs
DG EMPL	Directorate-General for Employment, Social Affairs and Inclusion
EC	European Commission
EPC	Economic Policy Committee
ESPN	European Social Policy Network
EUROPOP	Eurostat demographic projections
EU-SILC	European Union Statistics on Income and Living Conditions
GDP	Gross Domestic Product
ISG	Indicators Sub-group of the Social Protection Committee (SPC)
NDC	Notionally defined contributions
OECD	Organisation for Economic Co-operation and Development
PAR	Pension Adequacy Report
p.p.	Percentage points
PAYG	Pay-as-you-go pension scheme
SMD	Severe material deprivation
SPA	Standard pensionable age
SPC	Social Protection Committee
TRR	Theoretical replacement rate
WG-AGE	Working Group on Ageing Issues (of the SPC)

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The 2018 edition of the triennial Pension Adequacy Report, published in two volumes, analyses how current and future pensions help prevent old-age poverty and maintain the income of men and women for the duration of their retirement.

Volume I is devoted to comparative analysis of pension adequacy in the EU-28. It examines the current living standards of older people and how they are shaped by pension systems, proceeds with an overview of recent pension reforms and concludes by analysing the main challenges to the adequacy of future pensions and ways of tackling them. Among other issues, the report highlights the gender differences in pension entitlements, the pension adequacy of persons in non-standard or self-employment and the role of supplementary pensions.

Volume II provides a more detailed description of the pension system and pension adequacy in each of the 28 Member States.

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