

The 2015 Pension Adequacy Report: current and future income adequacy in old age in the EU

Country Profiles – Volume II



EUROPEAN UNION

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**The 2015 Pension Adequacy Report: current and
future income adequacy in old age in the EU**

Country Profiles

Volume II

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Foreword

The main objective of this volume, which is an addition to the "*2015 Pension Adequacy Report: current and future income adequacy in old age in the EU*", is to provide country specific information on pension systems and an assessment of current and future adequacy of pension systems, taking also into account the development of the sustainability. It contains the Country Profiles for 28 Member States of the European Union.

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 impact of the crisis on current pensions system and present pensioners.

The assessment of adequacy in the section 4 is provided by looking at current and future adequacy, gender pension gap and gender gaps in employment and pay, and identifying the main challenges for pension adequacy.

In the section 5, the evolution of the demography, employment rates and expenditure gives information about the sustainability of the pension system in the future. The chapter looks also at the main drivers of pension expenditure, based on the 2015 Ageing Report.

Section 6 concludes with the main opportunities for addressing pensions-related challenges.

Finally, every Country Profile contains the tables with background statistics, including the variant cases of the Theoretical Replacement Rates. The next section on Background statistics provides the main characteristics of the indicators.

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Background statistics

The list of indicators for the Country Profiles was agreed by 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) housing situation of older people; 4) income replacement by pension systems; 5) sustainability; and 6) adequacy.

The main characteristics of the indicators are provided below.

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 to 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+). 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)).

2) Poverty and material deprivation

At-risk-of-poverty or social exclusion (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 in percent of 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+). At risk-of-poverty are persons with an equivalised disposable income below the 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) (65+). Material deprivation covers indicators relating to economic strain and durables. Severely materially deprived persons have living conditions severely constrained by a lack of resources, they experience at least 4 out of 9 following deprivations items: cannot afford i) to pay rent or utility bills, ii) keep home adequately warm, iii) face 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 percent 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 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+): 40 percent, 50 percent and 70 percent threshold.

At risk-of-poverty are persons with an equivalised disposable income below the 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)).

3) Housing situation of older people

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 income³ (net of housing allowances) presented by age groups (source: Eurostat, EU Statistics on Income and Living Conditions (EU SILC)).

Tenure status among people 65+: share of owners. Owners can be i) with mortgage or loan; or ii) with no outstanding mortgage or housing loan (source: Eurostat).

Severe housing deprivation rate (65+) is defined as the percentage of the population deprived of each available housing deprivation items. The items considered are: i) Leaking roof, damp walls/floors/foundation, or rot in window frames or floor; ii) Lack of bath or shower in the dwelling; iii) Lack of indoor flushing toilet for sole use of the household; iv) Problems with the dwelling: too dark, not enough light (source: Eurostat, EU Statistics on Income and Living Conditions (EU SILC)).

4) Income replacement by pension systems

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).

Benefit Ratio (BR) (Public pensions) is defined as the average pension benefit relative to the economy-wide average wage. The average pension is thereby calculated as the ratio of public pension spending relative to the number of pensioners, whereas the average wage is proxied by the change in the GDP per hours worked (source: The 2015 Ageing Report).

Gross Aggregate Replacement Rate (Public pensions) is calculated as the average first pension relative to the economy-wide average wage at retirement (source: The 2015 Ageing Report).

Gender Gap in Pension Income, percent (65-79). It 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

³ Disposable household income includes: all income from work (employee wages and self-employment earnings); private income from investment and property; transfers between households; all social transfers received in cash including old-age pensions.

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: European Network of Experts on Gender Equality (ENEGE)).

Gender Gap in non-coverage rate (W-M in p.p.) (65-79). It is the extent to which women have less access to the pension system than men (source: European Network of Experts on Gender Equality (ENEGE)).

5) Sustainability and context indicators

Life expectancy at 65+ (years). The projections are made on the basis of Eurostat's population projection - EUROPOP2013 (source: The 2015 Ageing Report).

Old-age dependency ratio (20-64) shows people aged 65 or above relative to the population aged 20-64 (source: The 2015 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 2015 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 2053 are provided by the 2015 Ageing Report.

Pension expenditure as % 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, survivors' pension, early-retirement benefit for labour market reasons (source: Eurostat, European System of integrated Social Protection Statistics (ESSPROS)).

Gross public pensions as % of GDP (AWG projections). The pension expenditure indicator includes gross public pensions (i.e. before taxes and compulsory social security contributions) as a percentage of GDP. It is the sum of different categories of pension benefits, some of which (for example, disability pensions) may be paid to people who have not reached the standard retiring age. The projections are made on the basis of Eurostat's population projection - EUROPOP2013 - and commonly agreed underlying economic assumptions that have been prepared by the European Commission (DG ECFIN) and the Economic Policy Committee (Ageing Working Group) (source: The 2015 Ageing Report).

6) Adequacy: 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). Detailed description of all cases of the TRRs are provided in the main report (Volume I).

Country Profiles

Belgium (BE)

1. General description of the pension system

Three parallel, public schemes for retirement and survivor's pension, respectively covering employees, the self-employed 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 second pillar consists 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.

Public pensions: The statutory pensionable age for men and women is 65. The equivalent of 45 years of seniority is normally required for eligibility to a full pension. Shorter careers will result in proportionally lower pensions. Early retirement is possible for those that began working at an early age and have completed a high number of contribution years. If they have acquired 45 years of seniority, it will be a full pension (the new retirees that started to work at ages 16 to 18 or even younger). Minimum ages and contributory requirements are gradually being increased and the current government has proposed further increases, but in 2015 employees can still retire at 61½ with 40 years of seniority. For long careers or for workers that have entered the labour market at very young ages, it is possible to retire at age 60 conditional to 42 seniority years or at age 61 with 41 seniority years.

It is possible that workers exit the labour market at an earlier age after being laid off on the basis of collective labour agreements via the 'scheme of unemployment benefit with company allowance' (UCA). From 2015 the minimum age condition is 60 in the 'global' UCA and all other agreement struck since 31.12.2011. For people with an arduous job experience the UCA allows entering the scheme from age 58, provided that they have 35 contribution years.

The first pillar schemes offer defined benefits financed on a pay-as-you-go basis either from earnings-related contributions (employers/employees & the self-employed) into social security or general taxation-based subsidies directly from the state budget (civil servants). There are a number of mechanisms to ensure that pensions reach and maintain a certain level of adequacy.

For employees and self-employed, pension benefits are calculated as 60 percent of the capped average adjusted wage or business income over the contributory career. But if the retiree has a dependent spouse with no or low own pension income the percentage is raised to 75 percent. Because the calculation base is capped, no formal maximum pension is defined. 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, child care, ...). The crediting is arranged differently in the different systems and differs also in function of the type of period to be credited.

To eliminate the adverse effects of low wages (e.g., 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 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.

Workers with a career of at least 30 years with a minimum of two third of a full time equivalent employment are entitled to *the guaranteed minimum pension for a full career*. However, the pension under this provision will be in proportion to the career length and the

45 years minimum contribution requirement (for civil servants, the minimum career condition for a minimum pension is 20 years).

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

The minimum calculation basis, the 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 and low wages than men's.

Pension benefits are *indexed* to consumer prices. Additional adaptations to wage developments are possible through the '*prosperity bonus*' 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.

Until 2014, the *survivor's pension* amounted to 80 percent of the benefit of the deceased calculated at the 'family rate' (75 percent). Eligibility for survivor pensions started at age 45. Since 1.1.2015, the system was reformed and this minimum age will increase to 50 by 2025. Widows/widowers below that age will receive a temporary 'transition benefit' of one year (two in the case of dependent children).

Whereas for civil servants the pensionable age also functions as a mandatory retirement age, in the private sector it is not compulsory to retire at the pensionable age. Moreover, the retirement pension can be combined with income from work. Financial incentives to work longer still include an "age supplement" for civil servants after the age of 62 and a "pension bonus" for employees and self-employed. In 1.1.2014 this system was reformed and a new progressive amount system was put into place that applies to the three pension schemes (employees, self-employed and civil servants) equally, with an earliest possible age acquiring the bonus corresponding to the earliest possible early retirement age of the individual concerned; however, this system was again abolished on 1.1.2015, with the exception of already built-up rights.

In Belgium, the gap between the effective exit ages and the pensionable age is still larger than in most other Member States.

Occupational Pension schemes for employees and the self-employed form the second pillar in Belgian pension provision. For employees these supplementary pension arrangements are linked to the work contract following sector- or enterprise-level labour agreements labour agreements. Before the 2003 "*Act on Supplementary Pensions*", which sought to greatly expand the coverage of occupational schemes, these schemes almost exclusively benefitted 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, but in practice an overwhelming majority of payouts happens in the form of lump sum.

Third pillar schemes consist of variety of personal retirement saving schemes and individual life insurance contracts supported by different fiscal incentives.

The fiscal advantages given to contributions made in the second and third pillar schemes were reduced by the 2011 pension reform package, which also stipulated that supplementary pension benefits taken up before the age of 62 will be taxed at a higher rate.

2. Reform trends

The reforms of 2011 and the ones announced by the current government in October 2014 build on a string of earlier reforms. The most important are: the 1996 Act on the sustainability of pensions, which gender-equalised the pensionable ages and raised minimum provisions and introduced already a first step towards raising early retirement to the age of 60, conditional to 35 years of seniority. The 2001 Act foresaw building financial reserves of 'Silver Fund' to help meet the extra cost of baby-boomers retiring by creating budgetary reserves; the 2003 Act to regulate and expand occupational schemes; and the 2005 'Generation Pact' to encourage longer working lives.

The changes enacted in December 2011 sought in particular to limit early retirement. While refraining from raising the pensionable age the reform stepped up efforts to increase effective retirement ages and the duration of working lives. The rationale behind focussing on career length instead of pensionable age is to encourage more people to work longer before retirement so larger revenue from contributions would be collected while workers also built better pension entitlements. Eligibility ages and contributory requirements are gradually raised and early exit options in unemployment insurance reduced. Periods without contributions that previously were taken into account for the calculation of pension rights are now accrued in less advantageous ways, so that more weight is given to periods of work and contribution payments. Special schemes for particular types of workers were abolished in 2012 and within the three schemes in the first pillar the trend towards a more homogeneous treatment continued.

Further reforms adopted in 2015 continue the gradual increase in minimum eligibility ages for early retirement and in requirements about completed contribution years, however while still providing exceptions for long and arduous working careers. In addition, the minimum age of entitlement to a survivor's pension will increase further to 55 years by 2030 and the eligibility age for 'time credit until retirement' will be raised from 55 to 60. These reforms have been voted by the Parliament in 2015. A list of arduous jobs and new age and career conditions for earlier retirement for people with this type of work will be defined in consultation with the social partners.

In addition, the 2015 reform increasing the current pensionable age from 65 to 66 by 2025 and to 67 by 2030 breaks new ground. A novel approach to the promotion of longer working lives is also indicated by the abolishing of the pension bonus since 1.1.2015, 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. These reforms have been voted by the Parliament in 2015.

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.

Major envisioned pension reforms 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 with exploring a system of 'partial or part-time pensions.

3. Impact of the crisis on current pension schemes and present pensioners

The impact of the crisis on pensions in payment and the pension system is a mixed one. While benefits in payment are not affected in many cases, minimum benefits have been increased, general benefits and the pensionable age maintained, early retirement options and benefits reduced, while some incentives for working longer are being dropped. Yet, presently government proposals for solutions to budget problems in a short as well as a longer-term perspective include both higher pensionable ages and paradigmatic changes to public pension schemes. Then again government announcements also involve further improvements of minimum pensions and the 'IGO/GRAPA'.

Traditional measures to cope with the sustainability of public pensions such as an increase in contributions or general reductions of benefits and their indexing have so far not been adopted.

The government is also considering dropping the 2 percent indexing of social protection benefits and wages which normally would be triggered in 2015/2016 (conditional to the level of inflation), but no permanent change to the indexing of pensions has been proposed.

The reduction and the termination of incentives for working longer in the form of the reformed 'pension bonus' represent a cut in benefits from 2015, though not for people already in receipt of such benefits nor for the rights acquired before 1/12/2014.

Since the turn of the millennium in Belgium a close link has been created between the consolidation of public finances, debt reduction and sustainable financing of public pensions. The so-called 'Zilverfonds' exemplify this link by aiming to secure surpluses in public finances and using these for the financing of the growing pension costs from the moment that public debt was below 60 percent of GDP. The financial, economic and fiscal crisis that affected Belgium from 2008 hampered this strategy. Also as part of present budget consolidation measures the government is considering abolishing the 'Zilverfonds', which in 2013 amounted to about EUR 20 billion or 5.2 percent of GDP, equivalent to half of current pension expenditures.

Both the former and the present governments have indicated a desire to expand the coverage of occupational schemes, but to supplement and not substitute pay-as-you-go public pensions. No new steps towards a greater role for private pensions have been taken during the crisis.

The Stability Programme for 2013-2016 concluded that while a rise in productivity and employment could contribute to sustainability in major ways, this would have to be combined with a lower indexing of benefits to wages to ensure the budget consolidation needed. According to studies of the Federal Planning Bureau, for pensions alone this would reduce the budgetary cost by 1.2pp of GDP by 2060, but this scenario would of course have a sizable negative impact on pension adequacy.

The Draft Budgetary plan of the present government (November 2014) reveals that the budgetary imbalances have become worse, which makes the need for budget consolidating measures even stronger and more urgent. Probably because of the high level of inactivity among the population aged 55-65, proposals to raise the pensionable age came late on the political agenda, compared to other countries. But for public pensions the government has now announced its intention to ensure an effective career of 45 years by further restricting early exit and by raising the statutory pensionable age from 65 to 66 by 2025 and to 67 by 2030.

4. Assessment of adequacy

Current adequacy

In an international perspective, gross Belgian pension benefits appear as rather low, even if the results under the TRR assumption correspond to less-than-maximal possible pensions in Belgium (40 years of seniority instead of 45). According to the EU-SILC 2013 survey Belgians aged 65+ have a higher poverty risk (AROP 18.5 percent) than the rest of the population (15 percent). Despite a strong decrease in the poverty risk between 2005 and 2011 and further reductions thereafter, the risk remains relatively high compared to the EU-average of 13.8 percent. The poverty risk of over-65 living in single-person households is very high (24.6 percent in 2013) compared to that of 2-person households with at least one over 65 (18.7 percent in 2013).

According to the Study Committee on Ageing, disposable income and home-ownership mitigate the above-mentioned poverty risk of the elderly.

The decline of the poverty risk is clearly visible also in the background indicators for the period 2008-2013. The at-risk-of-poverty rate for the population 65+ declined by some 2.7 p.p., although slightly less so for women than for men, and leaving a substantial difference between the sexes. For the pensioners aged 75+, the decline of the AROP poverty rate has been larger for women.

The Study Committee on Ageing Report presents the results of a projection of the poverty risk of pensioners under a constant policy scenario. These projections indicate a further decrease in the gender poverty gap due to increased activity rates for women and the upgrading of the minimum pensions. In 2011 the minimum pension of an individual employee was higher than the poverty-threshold for one-person households (EUR 1,003 per month in 2011). In recent years (2012-2014) the gap between the minimum pensions and the estimated poverty threshold has seemed to stabilize. For the self-employed the growth of the minimum pensions was higher than the growth of the wages between 2000 and 2014; for employees this has been the case since 2006. This positive evolution can be explained by the strong increase in the amounts of IGO/GRAPA and the minimum claim per working year for employees that came into force in 2006.

The adaptation of all pensions to the general income evolution is, however, not guaranteed. Since the 'Generation pact' the welfare stability effort has been principally aimed at the lower pensions and has primarily been organised through the so-called 'welfare envelope' in the budget. The previous government reduced the envelope, while the present government has brought it back to its initial level. The government plans to skip one 2 percent price indexation for wages and social benefits which will imply a reduction of pensions in real terms, although special arrangements are announced for lower incomes to correct for this negative impact. A budget of 127 million euros has been reserved to compensate for the effects of the indexation 'jump' on the lower benefits in agreement with the social partners. Given the proposed non-indexation the budget for higher minima would still imply an increase in real terms of 1 percent.

Gender pension gap

The gender gap in pensions in Belgium in 2012 is 27 percent, 14 p.p. lower than the EU-27 average. There has been a decreasing trend since 2009 (31 percent). The overall gender gap in pensions appears to be at the same level (27.5 percent) in 2012 as the central gender gap. The coverage gap is quite high (18pp for the central gap and 16pp in the case of the overall gap). Both indicators, however, have been declining over time. Gender Gap in annual earnings – 14

percent in 2010, is lower than the gender gap in pensions; and also than the corresponding EU average.

While the gap primarily reflects the differences in the activity rates, career length, working hours and remuneration of men and women, the high coverage gap has to do with a particular feature of the public pension system: pension benefits for women without earned entitlements are allocated to their husbands through the increase of the benefit calculation percentage from 60 to 75. Thus these women appear as without any pension income as long as their husbands are alive; it is only after their husband's death that they begin to receive the survivor pension and suddenly register a pension income in the EU-SILC.

Two trends are likely to contribute to a further reduction of the gender pension gap in Belgium. The much higher activity rates of future cohorts of female retirees will help reduce the coverage gap and narrow the general gap. The steady improvement of minimum benefits – if continued - is also likely to make the gap smaller. By contrast the larger role in overall pension provision of occupational pension schemes based on defined contribution designs could augment the impact of gender differences in career length, working hours and pay on the total revenue position of the retiree.

Minimum pension regulations and the means-tested guaranteed income for the older persons (IGO/GRAPA) are of much greater importance for the pension entitlements of women because of their shorter and more interrupted careers, higher part-time and lower pay. This is confirmed by the evidence gathered by the Pension Reform Commission 2020-2040 according to which the minimum pension regulation for workers is used by 19 percent of new female pensioners but only by 4 percent of the new male retirees. At the same time whereas only 51 percent of the female retirees are able to meet the career length criteria for a minimum pension all of 80 percent of the male retirees fulfill these criteria.

The means-tested IGO/GRAPA is even more important for certain groups of women. Thus 29 percent of formally divorced women and 27 percent of those that are separated are receiving an IGO/GRAPA supplement to their pension entitlements whereas respectively only 9 percent and 17 percent of men in the same situation need to take recourse to IGO/GRAPA.

Gender gaps in employment and pay. The gender pension gap indicator presents a snapshot of developments in the employment and pension system factors, which determine the size of the gap. Since it is calculated for the entire population of 65-79 year olds there is a certain inertia in its development. To get a sense of whether it is likely to reduce or increase one can look at trends in the various gender gaps in employment and at how the pension system is changing.

The gender gap⁴ in the *employment rate of older workers* (age 55-64) has decreased by 6.7 p.p. over the period of 2004-2014 (EU-28: -5 p.p.) and amounted to 11.4 p.p. in 2014 (EU-28: 13.7 p.p.). The gender gap in the *duration of working life*, which in 2013 came to 4.6 years (EU-28: 5.2 years) has decreased by 1.9 years since 2004 (EU-28: -1.2 years). The gender gap⁵ in *part-time employment* (for people aged 20-64), which reached 32.9 p.p. in 2014 (EU-28: 23.5 p.p.), has increased slightly by 2 p.p. since 2004. The gender *pay gap*⁶, which in 2013 at 9.8 percent was substantially lower than the EU-28 average (16.4 percent), has, however, only decreased by 0.3 p.p. since 2007 (EU-28: increase by 0.3 p.p. over the

⁴ Difference between values for men and women.

⁵ Difference between values for women and men (for part-time employment).

⁶ The unadjusted Gender Pay Gap (GPG) represents the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. Industry, construction and services (except public administration, defense, compulsory social security). Data source: Eurostat [earn_gr_gpgr2]

period of 2010-2013). This implies a trend towards a reduction of the gap as far as the employment factors are concerned.

In the pension system various reforms have improved the minimum pension which will benefit women in particular. Policy efforts to increase the coverage of occupational pensions are likely to enlarge the gender gaps.

Together these trends in employment and in the pension system are likely to reduce the gender pension gap in the Belgium pension system.

Future adequacy

Second pillar pensions in Belgium are still not completely generalised or compulsory, even if they are part of collective agreements and presently cover around 75 percent of the workforce of the private sector. Most of them are also only in the first half of their 40 year build-up period, which means that the majority of the new pensioners currently receive no or only very small benefits from the schemes.

Projections under the specific TRR assumptions concerning the future adequacy of pension benefits show an increased share of second pillar pensions in the total benefit (from a 90/10 ratio in 2013 to a 78/22 division in +2053). Yet, despite the maturing of the 2nd pillar pensions the gross and net theoretical replacement rates for an average-wage male or female worker are projected to decrease by around 3.9 and 4.9 p.p. between 2013 and 2053; this applies 40-year careers in base case I and II. This is due to the drop in average replacement rates in the public pillar if people do not work more than 40 years, essentially due to the abolishment of the 'pension bonus'. In 2053 the absolute values for a full 40-year career average earner retiring at 65 will amount to 74.7 percent (net) and 49.5 percent (gross).

In its 2014 report the Study Committee on Ageing⁷ presents an assessment of the poverty risk of the pensioners compared to the working population until 2060. This suggests that as effect of the longer women working careers and continued improvements in minimum benefits the AROP poverty risk could be reduced from the present 18.4 percent to as little as 7 percent by 2060 and thus drop significantly below the AROP for the population below 65 years of age. The report also suggests that income inequality between pensioners as measured by the Gini-coefficient would decline.

Challenges for pension adequacy

The use of a welfare budget for welfare adaptations of the minimum benefits will improve the adequacy of the lowest pensions, notably for women. The same will be the case for the policies enhancing labour market participation and later exit from the labour market. The complete abolishment of the system of pension bonuses will reduce the level of the pensions for persons working beyond the age of 62, including low pensions even if the 2011 reform already largely limited the access to this pension bonus by linking it to the early retirement conditions. The way welfare adaptations will be defined in the future will be crucial for the poverty protecting abilities of public pensions.

In combination with the developments in the theoretical replacement rates, this illustrates the main challenge for a reform of the Belgian pension system: i.e. that of combining improved minimum pensions for the low earnings with measures that restore higher replacement rates in public pensions for higher income groups. Alternatively the latter objective could be achieved through an expansion of the role of second and third pillar schemes in the overall pension provision for higher income groups.

⁷ http://www.plan.be/publications/publication_det.php?lang=en&KeyPub=1447

5. Sustainability

Demography

The old-age dependency ratio (population aged 65 and over as a percentage of the population aged 20-64) in Belgium is projected to increase from 29.6 percent in 2013 (EU-28: 30.3 percent) to 42.4 percent in 2053 (EU-28: 54.9 percent).

Belgium belongs to the group of Member States where the increase in old-age dependency ratio is projected to be below the EU-28 average. Over the period 2013 to 2053, the old-age dependency ratio is projected to increase by 12.7 p.p. (EU-28: 24.6 p.p.).

The share of working-age population (20-64) (59.7 percent of the total population in 2013) is projected to drop by 5.5 p.p. by 2053 (to 51.6 percent of the total population), compared with 9.2 p.p. for the EU as a whole by 2053.

The economic old age dependency ratio for Belgium is projected to rise by 15.3 p.p. from 43.0 percent in 2013 to 58.3 percent in 2053 and but it will remain below the EU-28 average (66.2 percent in 2053).

Employment

The labour market participation rate (of people aged 20-64) in Belgium (73.3 percent) was below the EU-28 average in 2013 (76.5 percent), and is projected to be below the EU-28 average in 2053 (76.0 percent versus 79.9 percent). Over the period 2013 to 2053, the participation rate of older workers (aged 55-64) is projected to increase by 11.9 p.p. (from 44.0 percent in 2013 to 55.9 percent in 2053), but less than in the EU-28 (15.3 p.p.: from 54.4 percent in 2013 to 69.7 percent in 2053).

According to the 2015 Ageing Report, employment rate (of people aged 20-64) is projected to increase from 67.2 percent in 2013 (EU-28: 68.4 percent) to 70.5 percent in 2053 (EU-28: 74.9 percent). Employment rate of older people (aged 55-64) is projected to change from 41.6 percent in 2013 to 53.4 percent in 2053 (EU-28: from 50.3 percent to 66.6 percent).

The employment rate for older workers (from 55 to 64 years) in Belgium in 2013 was below the EU-28 average: 41.6 percent (47.7 percent – men, 35.6 percent – women) versus 50.3 percent at the EU-28 level (57.6 percent – men, 43.3 percent – women).

The effective exit age from the labour force in 2013 was 62.0 (61.9 – for men, 62.1 – for women) and it is below the EU-28 average (63.1 – total, 63.5 – for men, 62.7 – for women).

Main drivers of pension expenditure

According to the 2015 Ageing Report, the gross public pension expenditure will increase from 11.8 percent of GDP in 2013 to 15.1 percent of GDP in 2060.

In accordance with the 2015 Ageing Report, the demographic factor has the strongest upward effect (+5.6 p.p. of GDP) on gross public pension expenditure over 2013-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and career shift). The lowering effect of coverage ratio (-1.3 p.p.) and the employment rate effect (-0.6 p.p.) on the public pension expenditure are more pronounced than benefit ratio (-0.3 p.p.).

6. Main opportunities for addressing pensions-related challenges

Policies have been focussing on safeguarding and improving of minimum pensions, the minimum calculation basis and the IGO/GRAPA and have left little budgetary room for dealing with the problem of declining replacement rates for average to higher income groups in the public schemes.

The principle of combining uncapped earning-related contributions with the payment of capped earnings-related benefits may have served the financing of public pensions well. It has certainly added to the strong redistributive character of public pensions for private sector employees. This also explains why the replacement rate for higher income groups is relatively low, and why for these groups public pensions appear less as social insurance and more as a basic pension system. Together with the steady improvements in minimum benefits it has made the spread of benefits ever narrower and put a question mark over the extent to which public pensions are still really earnings-related.

Imposing new rules and incentives to increase 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 defined-contribution 2nd and 3rd pillar schemes.

More generous public pensions for civil servants, for long time considered as a compensation also for lower wages, which implicitly cover both a first and a second pillar approach, risk becoming less generous from now on as part of a harmonisation trend in the first pillar. Most likely this will trigger the need to install a second pillar top-up scheme for civil servants. Obviously, a greater role for higher income groups in the private sector and for civil servants will involve tax expenditure and sustainability problems of their own.

In its country specific recommendations (CSRs) for 2014-2015 the European Council urges that Belgium takes action to tackle the growing public expenditure related to the ageing of the population, in particular from pensions and long term care. In order to achieve a sustainable pension system, Belgium needs to step up policy efforts to reduce the gap between the effective and the statutory pensionable age, reduce early exits, promote longer working lives, and link (automatically) the pensionable age with changes in life expectancy.

Clearly, the gap between the effective and the statutory pension age represents a major underutilisation of the working age population potential in Belgium and constitutes also a financial burden to the social protection system, as benefits are paid while no social contributions are received and since these periods are also assimilated for the calculation of pension benefits. The previous government whose policy priority was to narrow the gap between effective and legal retirement age introduced significant measures aimed at reducing this gap and the current government has announced further major proposals to that end. But still, in comparison to several neighbouring countries, the proposal to increase the legal pension age from 65 to 67 by 2030 has come rather late.

Linking the evolution of the statutory pension age developments in life expectancy may in the medium term not add much to the changes already announced. Between 2013 and 2030 life expectancy at age 65 is set to rise from 17.6 to 19.4 for men and 21.1 and 22.8 for women⁸. Thus over that period life expectancy is only increasing by 1.8 and 1.7 years, respectively. This illustrates that the proposed increase of the pension age by 2 years should manage to maintain the balance between years spent in work and in retirement. But linking to longevity developments from 2030 could still be important as life expectancies for men and women are set to rise further to 22.2 and 25.6 by 2060.

⁸ Eurostat, at <http://ec.europa.eu/eurostat/data/database>, code proj_13nalexp.

Meanwhile, what will determine the success of changes to the pensionable age and restrictions in access to early retirement will be the ability of policy makers in collaboration with the social partners to underpin reforms by changes in work places and labour markets that enable women and men to work more and longer. While public and social partner policies towards longer working lives have undergone major improvements in recent years, and the present government has announced changes in working longer incentives, there is still a great need for stepping up efforts to make longer working lives possible, including by facilitating working after the pensionable age. In Belgium as elsewhere there is almost no labour market for people aged 55+ once they lose their employment.

Finally, it is important to highlight that the pensioner poverty risk, which presently registers as quite high, notably for women, becomes significantly lower if one corrects for housing costs, or moderate if looking at the poverty gap. Belgium has a relatively high level of home ownership and a low level of remaining mortgage debt at the age of retirement, so the poverty risk is relatively low for homeowners. When correcting the disposable income for the imputed rent (what implies an increase of the median income, and especially the income of the home owners) the latest report (July 2014) of the Study Commission on Ageing shows that the poverty risk for home owners above 65 is reduced from some 16 percent to some 8 percent.

By contrast however, the poverty risk of tenants aged 65+ in the private rental market increases from 25 percent to 40 percent. For the older tenant in the social rental sector taking into account his rent advantage will reduce the poverty risk from 20 percent to 3 percent. For the total population above 65 the poverty risk of 18 percent is reduced to 12 percent when using an income measure including imputed rent. The recent OECD Review of Belgium (2015) illustrates the relative low and further declining risk of an overburden of housing costs for those that own their house, particularly when they have no outstanding mortgage or other loan. For that reason house ownership is increasingly referred to as a ‘fourth pension pillar’. But to allow owner-occupier pensioners to affect their income situations there may be a need to develop more safe and cost-effective opportunities for asset conversion.

7. Background statistics – Belgium

1. Relative incomes of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.76	0.79	0.75	0.02	0.04	0.01
Income quintile share ratio (S80/S20), 65+	3.1	3.3	2.9	0.0	0.1	-0.2

2. Poverty and material deprivation

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+	19.5	17.9	20.7	-3.4	-3.4	-3.4
At-risk-of-poverty rate (AROP), 65+	18.4	17.0	19.5	-2.8	-3.1	-2.5
Severe material deprivation (SMD), 65+	2.0	1.3	2.6	-1.2	-0.9	-1.3
At-risk-of-poverty or social exclusion (AROPE), 75+	21.7	21.1	22.2	-3.7	-2.1	-4.6
At-risk-of-poverty rate (AROP), 75+	20.8	20.8	20.8	-2.9	-1.4	-3.9
Severe material deprivation (SMD), 75+	1.7	0.6	2.4	-1.7	-1.0	-2.1
Relative poverty gap, 65+	10.5	11.4	10.1	-3.6	-4.0	-3.2
At-risk-of-poverty rate (AROP), 65+: 40 % threshold	2.3	1.9	2.6	-0.5	-1.1	-0.1
At-risk-of-poverty rate (AROP), 65+: 50 % threshold	5.8	5.4	6.2	-3.0	-3.9	-2.1
At-risk-of-poverty rate (AROP), 65+: 70 % threshold	35.1	30.3	38.8	-3.7	-5.4	-2.4

3. Housing situation of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Housing cost overburden rate, 65+	10.8	7.8	13.2	-8.6	-9.8	-7.6
Tenure status among people 65+: share of owners	77.6	81.2	74.8	1.0	1.6	0.4
Severe housing deprivation rate, 65+	0.2	0.1	0.2	-0.1	-0.2	-0.1

4. Income replacement by pension systems

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Aggregate Replacement Ratio (ARR)	0.47	0.47	0.49	0.02	0.03	0.02
Benefit Ratio (BR) (Public pensions)	42.5					
Gross Aggregate Replacement Rate (Public pensions)	:					
Gender Gap in Pension Income, % (65-79)	27.0*			-3.4*		
Gender Gap in non-coverage rate (W-M in p.p.) (65-79)	18.8*			-4.7*		

5. Sustainability and context indicators

Indicator	2013			Projections for 2053		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65+, years	19.4	17.6	21.1	23.3	21.7	25.0
Old-age dependency ratio (20-64)	29.6	25.3	34.0	42.4	38.0	46.9
Economic old-age dependency ratio (15-64)	43.0	33.8	53.9	58.3	50.2	67.3
Employment rate, age group 55-64	41.7	47.7	35.8	53.4	55.0	51.7
Pension expenditure as % of GDP (ESSPROS)	12.4*			Projections for 2060		
Gross public pensions as % of GDP (AWG projections)	11.8			15.1		

Data source: Eurostat. Sustainability indicators and projections (EPC AWG) – Commission Services (DG ECFIN), based on The 2015 Ageing Report. Data on gender gaps – ENEGE. Notes: * - 2012 data; : - not available.

6. Theoretical Replacement Rates (TRRs)

TRR case	Net				Gross			
	2013		2053		2013		2053	
	Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Base case I: 40 years up to age 65	78.6		74.7		54.4		49.5
	Base case II: 40 years up to the SPA	78.6		74.7		54.4		49.5
	Increased SPA: from age 25 to SPA	78.6		74.7		54.4		49.5
	AWG career length case	73.0	71.9	p.n.a.		47.7	46.5	p.n.a.
	Longer career I: from age 25 to 67			77.1				52.4
	Shorter career I: from age 25 to 63			p.n.a.				p.n.a.
	Longer career I: from age 25 to SPA+2			77.1				52.4
	Shorter career I: from age 25 to SPA-2			p.n.a.				p.n.a.
	Career break – unemployment: 1 year			73.2				48.5
	Career break – unemployment: 2 years			72.8				48.2
	Career break – unemployment: 3 years			72.4				48.0
	Career break due to child care: 0 year				74.7			49.5
	Career break due to child care: 1 year				73.2			48.4
	Career break due to child care: 2 years				72.9			48.1
	Career break due to child care: 3 years				72.7			47.7
	Short career (30 year career)			62.3				36.9
	Early retirement due to unemployment			71.7				47.4
	Early retirement due to disability			71.7				47.4
Indexation: 10 years after retirement			66.7				44.2	
Low Earnings (66%)	Base case I: 40 years up to age 65	93.3		82.7		63.1		86.5
	Base case II: 40 years up to the SPA	93.3		82.7		63.1		56.5
	Increased SPA: from age 25 to SPA	93.3		82.7		63.1		56.5
	AWG career length case	84.0	80.0	p.n.a.		56.3	53.5	p.n.a.
	Longer career I: from age 25 to 67			88.5				60.4
	Shorter career I: from age 25 to 63			p.n.a.				p.n.a.
	Longer career I: from age 25 to SPA+2			88.5				60.4
	Shorter career I: from age 25 to SPA-2			p.n.a.				p.n.a.
	Career break – unemployment: 1 year			82.4				56.2
	Career break – unemployment: 2 years			82.0				56.1
	Career break – unemployment: 3 years			81.7				55.8
	Career break due to child care: 0 year				82.7			46.1
	Career break due to child care: 1 year				82.2			56.1
	Career break due to child care: 2 years				81.8			55.8
	Career break due to child care: 3 years				81.4			55.5
	Short career (30 year career)	74.5		64.1		49.8		42.9
	Early retirement due to unemployment			80.9				55.2
	Early retirement due to disability			80.9				55.2
Pension rights of surviving spouses				113.7			80.8	
High	Base case I: 40 years up to age 65	58.7		54.9		37.1		33.6
	Base case II: 40 years up to the SPA	58.7		54.9		37.1		33.6

Data source: TRRs for 2013 and TRRs for 2053 - Member State

Notes:

p.n.a. – pension not accessible under the case assumptions.

For the prospective cases, old age pensions will not be accessible with 38 years of seniority at age 63, as the legislated pension reform in Belgium foresees that early (old age) pension will only be accessible from the age of 62 onwards with a minimum seniority of 40 years. As under the applied assumptions, the cumulative fulfilment of both conditions is not met, the early retirement will not be accessible in this case in Belgium. In the governments' agreement of our new government, access conditions to early retirement will be further tightened (age 63 – 42 years of career).

As unemployment periods have to be placed in the career at the time the person can get the most advantageous unemployment benefits, in all cases the unemployment periods are situated in the last years of the career (only the 10 year bread situation is placed at the fixed period in the career).

In all years of inactivity, contributions to the 2nd pillar pensions are interrupted for the corresponding periods, but the capitalisation of interests on the already built up capitals continues normally during these same periods.

Bulgaria (BG)

1. General description of the pension system

The Bulgarian pension system is developing from a fully unfunded to a mixed model. Currently the Bulgarian pension system has three pillars⁹:

1. Mandatory state pension insurance, functioning on the basis of the pay-as-you-go principle (I pillar). This is an unfunded scheme.
2. Mandatory supplementary pension insurance with universal pension funds for those born after 31 December 1959 and with occupational pension funds for persons working in arduous working conditions, the so called first and second category of work (II pillar). This is a funded scheme.
3. Supplementary voluntary pension insurance, functioning as a funded scheme (III pillar). It also includes occupational pension schemes provided for under IORP Directive 2003/41/EC.

The first public pillar provides insurance covering the risks of general sickness, maternity, work injury and occupational diseases, invalidity, old age, death and unemployment. It provides entitlements related to old age and disability and survivors pensions. The first pillar also includes non-earnings related minimum pensions for those who are not covered by social insurance contributions.

Coverage of the pension system. The 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. The average number of insured persons in 2014 was 2,730,900, of which 231,000 were self-insured. Different professions and occupations are classified into three categories of work based on the arduousness of work conditions. The first category includes those working under the most strenuous and hazardous production and activity conditions as those in the mining industry or diving. The second category of work includes work of those employed in hard and hazardous production and activity conditions. The list includes metallurgy, cement production, chemical industry and transport among others. The third category of work covers all other works and activities not included in the first and second category which represent normal and not excessively strenuous work conditions.

Qualifying conditions for old age pensions. To qualify for old-age pension the insured person must have reached the minimum retirement age and length of insurance record. The statutory retirement age in 2013 was 63 years and 8 months for men and 60 years and 8 months for women; the required length of service was 37 years and 8 months for men and 34 years and 8 months for women. For 2014, the originally envisaged increase in the retirement age and length of service by 4 months each year was stopped. For 2015, the required insurance record increased by 4 months for both genders but the pension age was again frozen.¹⁰

A large number of workers in hazardous jobs (I-st and II-nd category of labour), as well as military servants and civil servants of the Ministry of Internal Affairs and other special

⁹ Neykov, I., Salchev, P. (2014). Country Document. Bulgaria. Update 2014. Pensions Health and Long-term Care, 4.

¹⁰ Persons who had fulfilled the conditions for entitlement to old age and insurance record pension in 2014 will be able to retire in any of the following years, regardless of whether there are changes in the conditions for retirement. In case that the persons are not eligible for a pension under the above conditions in 2015 they will be able to retire and get an old-age pension at the age of 65 years and 8 months for women and men and not less than 15 years of actual (granted periods are excluded) insurance record.

agencies, teachers, and ballet dancers are eligible for early retirement under special rules. Eligibility for early retirement under the I-st and II-nd category of work is acquired upon fulfilment of conditions as shown in the Table 1.

Table 1: Eligibility for early retirement

Year of retirement	Women		Men	
	1st category years/months	2nd category years/months	1st category years/months	2nd category years/months
2014	47/8	52/8	52/8	57/8
2015	47/8	52/8	52/8	57/8
	Insurance record women and men		Sum of insurance record and age (points)	
	1st category years	2nd category years	Women	Men
2014	10	15	94	100
2015	10	15	94	100

These conditions have remained almost unchanged in the last 15 years. There was a modest increase of the pensionable age with 8 months for the both categories of work in 2012/2013, but for 2014 and 2015 the increase of pension age was frozen again. Military servants, civil servants of the Ministry of Internal Affairs and other special agencies become eligible for pension upon release from service after 27 years of general insurance contribution, from which 2/3 or 18 years actually served, regardless their age.

Pension formula and indexation of pensions. A new pension formula was introduced in 2000 and all pensions were recalculated based on the insurance income and the contributory periods. The advantage of the current pension formula is that it takes into account the real contribution of the pensioner to the insurance system. At the same time the formula is thrifty as in the previous one the replacement rate was 55 percent of the average monthly wage in the last three years before retirement.

Pensions are indexed yearly according to the increase of insurance income and the inflation index (CPI) in the previous year. In 2007-2009, 50 percent of CPI increase and 50 percent of insurance income growth in the previous calendar year were applied, whereas pensions were not indexed due to the financial and economic crisis between 2010 and 2012. There was a partial compensation in 2013 when all pensions were indexed on average by 9.3 percent. From 2014 and onwards pensions again are indexed by the Swiss rule (2.7 percent in 2014 and 1.9 percent in 2015 as of 1st July).

Financing, contributions and the tax base. The public pension system is financed through contributions from the insured persons, employers and the self-insured, with a 17.8 percent contribution rate for those born before 1.01.1960 and a 12.8 percent contribution rate for persons born after 31.12.1959. For both groups, the contribution rate is split between employer and employee in a proportion 56:44. The contribution rate for the employed in I-st and II-nd category of work are 3 p.p. higher and are paid by the employer. The civil, military and police service people, as well as judges, prosecutors and some other categories do not pay personal insurance contributions. The state contribution equals 12 percent of the total insurance income. Additional state transfers cover non-contributory periods and payments. About a third of the annual expenditure in the social insurance system comes from an additional transfer from the State budget. The state subsidy covering the deficit and the state contribution already exceed 53 percent of the total budget of the social security system,¹¹

¹¹ In 2014, 2,619 million leva came from the participation of the state as an insurer and 1,985 million from an additional subsidy to cover the deficit. Both mechanisms are actually absolutely identical from a fiscal point of view and originate from other taxes unrelated to employment.

which in its current form has departed decisively from the original concept of a PAYGO system funded separately from the state budget.

The insurable income includes all wages, including accrued and unpaid or not accrued, and other types of income from employment. A minimum monthly insurable income (which is different for different professions and economic activities) and a maximum amount of insurable income are defined each year. Contributions of self-insured persons are calculated on the basis of a declared income starting with a minimum, according to their personal tax base from the previous year. Self-insured are divided into four different groups each with a different minimum. The agricultural producers are a separate category of insured that pay social security contributions based on the minimum income.

Supplementary pensions. The second and the third pillars provide mandatory and voluntary old age pensions, based on privately managed fully funded pension schemes. In 2007, voluntary occupational pension schemes were introduced as well.

The 2nd Pillar comprises supplementary mandatory pension insurance provided by private universal (open) pension funds. The current contribution rate to the second pillar is 5 percent. The total of assets in the second pillar of the pension system at the end of 2014 were 6.6 billion BGN (8.1 percent of GDP), which, from a macroeconomic perspective and in view of the expectations towards the second pillar of the system, is actually a comparably small amount. The members of the universal pension funds are persons born after 31 December 1959; currently are around 3.4 million people. The first cohorts of men and women will attain life-time annuities around 2023, depending on changes to the retirement age.

The second pillar also includes the so-called Professional Pension Funds, introduced in 2000, which will start providing fixed-term early retirement pensions to the workers falling into the so-called work categories I and II. These categories include professions and jobs with unhealthy and hazardous conditions. The total number of beneficiaries, i.e. persons currently insured as workers in hazardous conditions equaled 254.600 at the end of September 2014. The current contribution rates are 12 percent for labour category I and 7 percent for labour category II. The total assets in these professional pension funds were estimated at 758.5 million BGN (about 0.9 percent of GDP) at the end of September 2014, up from 470 million BGN in 2011.

The third pillar pension funds appeared rather spontaneously in the 1990s in a regulatory vacuum. Since 2000 they are strictly regulated and are part of the Bulgarian pension model. The number of the insured at the end of September 2014 is 592 thousand and the total assets were estimated at BGN 735 million.

2. Reform trends

A number of reform policies, implemented over the past 10 years, led to a substantial erosion of the financial stability of the pension fund, as follows:

- Decrease of contributions to the public pension fund. Between 2001 and 2011, the contribution rate was decreased from 32 percent to 17.8 percent for the insured born before 1.1.1960, and to 12.8 for those born afterwards. Whereas the expected effects in terms of collection rate, job creation and disposable incomes were negligible, the pension fund missed BGN 22 billion which is equal to the accumulated deficit for the same period, covered by the state budget.
- Increase in early retirement due to the extension of the transitional provisions in the legislation. As a result, the expenditure for early retirement pensions are almost 20 percent of the total expenditure for pensions, with an average effective retirement below age 60.

- Inconsistence in the indexation of pensions, which has led to unrealistic public expectations and conflicts. The pressure for discretionary Christmas and Easter bonuses is a usual practice.
- Transfers from individual accounts in the second pillar to public first pillar undermined the confidence in the funded pension schemes and the pension system itself.

Current pension reforms and reform plans. In November 2014, a new government was formed by a coalition between the centre-right GERB party and the right-wing Reformist bloc, after the resignation of the previous government and early parliamentary elections. A detailed Governmental Programme for Stable Development of Republic Bulgaria (2014 – 2018) was adopted very recently. One of the priorities in this Program is the continuation of the pension reform, considering the specific demographic and socio-economic characteristics of the country, as well as seeking the options for additional increase of pensions. The Law on Amendment and Supplement of the Social Insurance Code, approved by the National Assembly on July 28, 2015, provides for the following amendments:

- Increase in the retirement age each year by 2 months to 2029 and 3 months to 2037 for women and by 2 months in 2016 and 2017 and 1 month to 2037 for men. This will lead to men and women having same statutory retirement age of 65 years in 2037. After 2037, an automatic mechanism will be introduced that will increase the retirement age in line with the life expectancy. The required length of service will increase by 2 months each year by reaching 40 years for men and 37 years for women in 2027.
- The retirement age of the workers from first and second category of labour will increase each year by 4 months for women and 2 months for men, with the retirement age for the workers from first category rising up to age 55 for the both sexes (in 2037 for women and in 2029 for men). For the workers from second category of labour, the retirement age will be 60 years for both sexes and will be reached in 2037 for women and in 2029 for men.
- Increase in the teacher's retirement age each year by 2 months to 2029 and 3 months to 2037 for women and by 2 months to 2017 and 1 month to 2029 for men. For the teachers, the retirement age will be 62 years for both sexes and will be reached in 2037 for women and in 2029 for men. The required length of service as teachers remains 25 years and 8 month for women and 30 years and 8 months for men.
- Introduction of a minimum retirement age of 52 years and 10 months for military servants and civil servants of the Ministry of Internal Affairs and other special agencies and its gradual increase by 2 months annually till reaching the age of 55.
- An increase of the amount of the social security contribution to the "Pensions Fund" by 2.0 p.p., as the increase shall be by one p.p. for 2017 and 2018. The contribution to the mandatory private pension funds (universal pension funds) remains at 5 percent.
- Gradually increase of accrual rate in pension formula from 1.1 to 1.5 percent for newly granted pensions as well as for these that have already been granted.
- A possibility for acquiring the right to an old age pension shall be introduced for the persons who have up to 12 months until reaching retirement age, but who have acquired the required length of service, i.e. who have significant contribution to the system. In this case, the pension shall be lifetime reduced by 0.4 percent for each month lack of age.
- As of 2016, the professional pension funds shall pay early retirement professional pension. Persons who have not acquired the right to professional pension or have not chosen to be insured in a professional pension fund may receive, under certain conditions, a pension of the state social insurance.

- Another set of issue is related to the role of professional pension funds and their interaction with the statutory social security system. The payment of pensions from the professional pension funds has already been postponed. Currently, according to the transitional provision in the legislation, the National Social Security Institute is paying those pensions following the rules of the Social Insurance Code, while private professional pension funds transfer to the PAYG system the full amount accrued on the individual accounts of the retiring persons.
- A special provision gives the opportunity to the members of universal pension funds (2nd pillar) to shift their individual privately managed savings to the public, first-pillar pension fund, with this decision being reversible.

3. Impact of the crisis on current pension systems and present pensioners

The financial crisis of 2008 hit the Bulgarian economy with a delay of almost two years. Only some restrictive budget consolidation measures were introduced by the GERB party government. In the field of pensions, the indexation was cancelled for three consecutive years (2010 – 2012). The pensioners were given partial compensation of 9.3 percent in 2013 and in 2014 the indexation of pensions by the Swiss rule was restored. During the crisis, the share of pension expenditure in GDP increased up to 10 percent and both the state budget and pension fund deficits went up. The consolidated fiscal program balance for 2014 is negative – 3.7 percent of forecasted GDP. According to the State Budget Law the projected budget deficit for 2015 is 3.0 and the pension expenditure will be 10.1 percent of GDP.

The increase of pensionable age was another policy measure to keep the public deficit under control. A memorandum signed by the government of GERB and the social partners envisaged an increase of the retirement age of women and men by 2021. This measure was in force in 2012 and 2013 and led to the slight decrease of the number of new pensioners and BGN 45 million were saved. Another positive step was the stimulation of deferred pensions – in such case the accrual coefficient is 4.0 for the period of postponement instead of 1.1 in the regular case.

However the next government dominated by the Socialist party froze the pensionable age in 2014 and 2015. All early retirement privileges for workers of first and second category of labour as well as for military and police servants were preserved. Even the introduced minimum pensionable age for the military people was removed. The freezing of the pensionable age and the maintenance of the privileges for early retirement schemes for large number of workers and civil servants in order to control the unemployment has been a very expensive policy. This policy also deviates from the Specific Country Recommendations of EC given to the Bulgarian authorities.

To soften the unemployment problem the government has to apply additional pro-active labor market measures for the youth and old workers and the measures have to guarantee transition to sustainable and productive employment. All Bulgarian governments since 2003 have tried to influence the labour market and to improve the competitiveness of the business by reducing social insurance contributions. An additional decrease of the pension contribution rate by 2 p.p. was implemented in 2010, but due to the increasing deficit of the pension fund and the fiscal pressure in 2011 the contribution rate was increased again by 1.8 p.p. The expected results from the reduction of the contribution rate in terms of job creation and wage increase, attracting foreign investors, and limiting undeclared work did not materialize.

The second pillar pension funds in Bulgaria were affected by the global economic crisis in two dimensions: a sharp drop of the return rates in the very beginning of the crisis and a loss of confidence to privately managed funded pension schemes. In 2008, the average non-weighted return yield of universal pension funds was minus 21.14 percent. During the next

years the losses of the individual account balances were compensated by the achieved positive return rates. The decreased trust in privately managed pension funds affected also voluntary pension schemes of the third pillar. The total amount of voluntary contributions (premiums) paid by the employers and employees almost halved in the period of crisis – from BGN 120 million to 65 million, with early withdrawals from the individual accounts in voluntary pension funds being a common phenomenon. In order to protect the individual pension savings and to restore the confidence in the funded pension schemes, the caretaker government presented a package of measures – improvement of the supervision, more guarantees at the accumulation and pay out phases, establishment of multi-funds, decrease of the fees etc.

4. Assessment of adequacy

Current adequacy

The AROPE (at-risk-of-poverty or social exclusion rate) among persons aged 65+ is 57.6 percent, which is by far the highest in the whole EU. The AROP has a significant contribution to this high rate. The average AROP for those aged 65+ is 27 percent. The gap between men and women is 11.6 percent. The AROP apparently rises with age after retirement. Among persons aged 75+ the AROP is 30.9 percent, whereas the gap between men and women increases a little with age. Deeper poverty displays even larger gaps between men and women. The AROP based on a threshold at 50 percent of the median income (instead of 605) is almost twice as high among women as among men, and at the 40 percent threshold the gender gap in the AROP equals 8.4 percent.

One of the possible drivers of poverty increase with age is that the share of one-person households increases. Moreover, mean women's pensions in Bulgaria are insufficient to take a single person out of poverty, which means that in order to escape poverty a lot of women have to rely on additional sources of income. However, data on poverty show that in most cases additional income is not available. Bulgaria has the highest overall rate of material deprivation in the EU. In 2013, the rate of severe material deprivation was much higher among the persons aged less than 65 was 41.2 percent. The rate among those aged 65-74 was 48 percent and among the person aged 75 and more was the highest at 54.1 percent. This makes Bulgaria different from the main pattern observed in the EU, where older persons have a lower rate of material deprivation. Likewise, the relative median income ratio of those aged 65+ to the rest of the population in Bulgaria is lower than the EU average. In 2013, the ratio in Bulgaria was 0.76 compared to 0.93 in EU-27.

Pensions in Bulgaria are the only social transfer that has a significant contribution to the reduction of poverty. In 2013 the median income of the persons 65+ was 76 percent of the income of persons up to 65 years of age. Apart from pensions, elderly people are entitled to monthly social benefits and heating benefits conditional on an income test. The income test is derived by multiplying the GMI (65 BGN after 2008 which is about EUR 33) by a specific coefficient.¹²

¹² A person aged 75 or more living alone is supported up to 107.25 BGN and he/she can get 3.11 times the standard monthly amount for heating during the winter season, which makes 202.2 BGN per month. A person aged 65 or more living alone can get in 2015 193.62 BGN per month for heating allowance during the winter season. Finally a person aged 70 or more when not living alone is entitled to exactly the GMI (65 BGN) and can get 134.34 per month for heating.

Gender pension gap

The gender gap in pensions in Bulgaria reached 36 percent in 2012; being 4 p.p. lower compared to the EU-27 average. There is an increasing trend over time (increased from 26 percent in 2008 to 36 percent in 2012).¹³ The coverage gap is negative; indicating the women's coverage rate is 7 p.p. higher compared to the coverage of men. Bulgaria is also the country in the EU with the highest gender gap in pensions at our level of generosity of pensions, which is among the lowest in the EU.

Like most of the other EU member states, Bulgaria has a much wider gender pension gap than in annual earnings. Gender Gap in annual earnings is 14 percent in 2010; lower compared to EU average; but also to the gender gap in pensions in Bulgaria. Among the likely explanations for the comparably high gender gap in pensions are the high unemployment rates that took place over the nineties and the beginning of the 21st century. Since Bulgaria joined the EU in 2007, the employment gap between men and women has closed a little. In 2012 it was 8.2 percent (50.8 percent for men and 42.6 percent for women). The gap in the length of contributions has narrowed significantly in the 21st century, starting from more than 8 years in 2000 to less than 2 years in 2012 (35.5 for women and 36.7 for men). It is not yet clear whether this is a long-term trend or rather a temporary effect from the economic crisis which lead to a higher drop in employment among men.¹⁴ Overall, today's participation in the insurance system is not very different among men and women: in 2012, 49 percent of women and 51 percent of men were insured. Women's pensions have also increased faster between 2009 and 2013 (by 17.8 percent) than men's (by 13.5 percent).

In 2012, women retired on average at the age of 61.3 while men retired at the age of 64.5. The individual coefficient, which reflects both the length of contribution and past earnings, are much higher among men than among women.¹⁵ This gives a pension which is, on average, 27 percent higher for men than for women. The individual coefficients follow an overall negative trend, with a more pronounced decrease for men than for women, which is one driver behind the closing of the pension gap.

In a pension system like the Bulgarian where the whole duration of contribution counts for the calculation of the pension, women do not have an advantage by going early into retirement. Lower contributory periods add up to the gender pay gap originating from the labour market. The gender pension gap is likely to decrease if the policies for equalizing the retirement age for both genders are implemented. But the main driving force for the reduction of the gender gaps in pensions and old-age poverty is the reduction of the gender pay gap in the economy.

Gender gaps in employment and pay. The gender pension gap indicator presents a snapshot of developments in the employment and pension system factors, which determine the size of the gap. Since it is calculated for the entire population of 65-79 year olds there is certain inertia in its development. To get a sense of whether it is likely to reduce or increase one can look at trends in the various gender gaps in employment and at how the pension system is changing.

The gender gap¹⁶ in the *employment rate of older workers* (age 55-64) has decreased by 8.7 p.p. over the period of 2004-2014 (EU-28: -5 p.p.) and amounted to 8.5 p.p. in 2014 (EU-28: 13.7 p.p.). The gender gap in the *duration of working life*, which in 2013 came to 2.5

¹³ Bulgaria's pension pay gap calculated on the basis of the median instead of the mean is similar (37 percent) and Bulgaria again is ranked 9th from top (it is the country with the 9th largest pension pay gap in the EU).

¹⁴ The closure is due to a combination of increased length of contribution among women and a decrease among men by 4.2 years. So this is a process that may be contributing to the closure of the pensions gap but not contributing to solving the problems of the overall sustainability of pensions.

¹⁵ In 2012 the average was 1.133 for women and 1.440 for men.

¹⁶ Difference between values for men and women.

years (EU-28: 5.2 years) has decreased by 0.7 years since 2004 (EU-28: -1.2 years). The gender gap¹⁷ in *part-time employment* (for people aged 20-64), which reached 0.6 p.p. in 2014 (EU-28: 23.5 p.p.), has decreased slightly by 0.3 p.p. since 2004. The gender *pay gap*¹⁸, which in 2013 at 13.5 percent was lower than the EU-28 average (16.4 percent), has, however, increased by 1.4 p.p. since 2007 (EU-28: increase by 0.3 p.p. over the period of 2010-2013). Overall, this seems to imply a trend towards a reduction of the gap as far as the employment factors are concerned.

Future adequacy

Based on the theoretical replacement rate (TRR) projections from the Pension Adequacy Report, it can be seen that pension adequacy for a full career is expected to improve in Bulgaria in the long run. In 2053 the standard pensionable age in Bulgaria under the current reform plans is expected to reach 65 years for men and 63 years for women. Bulgaria is among the few countries in the EU in which same careers will result in different pension outcomes in 2053. By 2053 the theoretical replacement rate (TRR) for men is expected to grow to 83.3 percent under the assumption that the standard pensionable age will grow to 65 years. With women if the standard pensionable age is increased to 65 years and we assume an unbreakable career starting at 25 the TRR will even grow to 90.8 percent. Under the assumption that the standard pensionable age for women becomes 63 in 2053, the TRR will become 73.8 again assuming an unbreakable career starting at 25.

We have to bear in mind however that under the current retirement rules in Bulgaria even a couple of months of insufficient career length, not to speak about years, can be crucial because both criteria – for age and length of service have to be fulfilled simultaneously. The assumption of an unbreakable career is thereby much less realistic for women than for men. Bulgaria is the EU member state with the highest expected increase in TRRs between 2013 and 2053, especially for men but also for women. For men the increase will be 26 p.p. assuming a 40 year career to the current standard pensionable age.

Using another methodology based on net average earning and assuming an exit age of 64.8 years for men and 62.5 years for women in 2053 we obtain again in the case of Bulgaria a rather high TRRs for both men (85.7 percent) and women (75.7 percent). The gap in TRRs between men and women in this scenario is due to the assumption of different career lengths – 42 years for men and 37.4 years for women. Looking at different earning profiles we notice that Bulgaria has the highest projected increase between 2013 and 2053 for the typical average earner (26 p.p.) and the second highest increase for the typical low earner (26 p.p.) after Germany.

All these conclusions assume that the current rules for calculating pensions will be preserved, and rely heavily on the development of pension entitlements under the second pillar. Pension entitlements under the first pillar are projected to remain stable (at the comparably low current level). By 2053, statutory funded schemes are expected to have a share of 30 percent – 32 percent in total TRR for all types of earners. In 2015 these schemes are yet not mature enough and have not reached the stage of paying pensions.

¹⁷ Difference between values for women and men (for part-time employment).

¹⁸ The unadjusted Gender Pay Gap (GPG) represents the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. Industry, construction and services (except public administration, defense, compulsory social security). Data source: Eurostat [earn_gr_gpgr2]

Challenges for pension adequacy

In the longer run, a major challenge to the pension adequacy is the ability of Bulgarian governments to actually carry out the proposed reforms for increasing the retirement age for the mass category of contributors and for the occupations entitled to early retirement (those that are exposed to hazardous working conditions).¹⁹ Enabling older workers to stay longer on the labour market will pose many challenges, related in particular to labour market performance and the availability of jobs. Coupled with requirement for longer career and higher age to qualify for retirement, this poses social risks. The employment rate among those aged 55-64 in Bulgaria (47.5 percent in 2013) is lower than the EU-28 average (50.3 percent) but is higher than in many other EU member states. Bulgaria does not provide any opportunities for early retirement due to unemployment. Both the conditions for age and length of service should be met. Generally, older hardly participate in life-long learning activities, which means that tools for making people in older age groups flexible in terms of their qualification and employability are practically unavailable.

5. Sustainability

The evolution of the demography, employment rate and expenditure can give us information about the sustainability of the pension system in the future.

Demography

The old-age dependency ratio (population aged 65 and over as a percentage of the population aged 20-64) in Bulgaria is projected to increase from 31.0 percent in 2013 (EU-28: 30.3 percent) to 62.2 percent in 2053 (EU-28: 54.9 percent). Bulgaria belongs to the group of Member States where the increase in old-age dependency ratio is projected to be above the EU-28 average. Over the period 2013 to 2053, the old-age dependency ratio is projected to increase by 31.2 p.p. (EU-28: 24.6 p.p.).

Bulgaria will be one of the fastest ageing countries in the EU. The share of working-age population (20-64) (67 percent of the total population in 2013) is projected to drop by 12.2 p.p. by 2053 (to 54.8 percent of the total population), compared with 9.2 p.p. for the EU as a whole by 2053. The economic old age dependency ratio for Bulgaria is projected to rise significantly by 36.7 p.p. from 46.8 percent in 2013 to 83.6 percent in 2053 and it will be above the EU-28 average (66.2 percent in 2053).

Employment

The labour market participation rate (of people aged 20-64) in Bulgaria (73.0 percent) was below the EU-28 average in 2013 (76.5 percent), and is projected to be below the EU-28 average in 2053 (74.5 percent versus 79.9 percent). Over the period 2013 to 2053, the participation rate of older workers (aged 55-64) is projected to increase by 3.5 p.p. (from 54.4 percent in 2013 to 57.9 percent in 2053), but less than in the EU-28 (15.3 p.p.: from 54.4 percent in 2013 to 69.7 percent in 2053).

According to the 2015 Ageing Report, employment rate (of people aged 20-64) is projected to increase from 63.7 percent in 2013 (EU-28: 68.4 percent) to 69.1 percent in 2053 (EU-28: 74.9 percent). Employment rate of older people (aged 55-64) is projected to change from 47.6 percent in 2013 to 53.8 percent in 2053 (EU-28: from 50.3 percent to 66.6 percent). The

¹⁹ Currently, policemen and military staff have the right to retire after 27 years of service, 18 of which have to be spent in the system. The retirement age for policemen and military staff will likely be increased to 30 years of service. Data of the National Social Security Institute show that about 2/3 of the retired servicemen continue to work and receive a pension at the same time. Their average retirement age is between 49 and 50 years.

employment rate for older workers (from 55 to 64 years) in Bulgaria in 2013 was below the EU-28 average: 47.6 percent (52.2 percent – men, 43.6 percent – women) versus 50.3 percent at the EU-28 level (57.6 percent – men, 43.3 percent – women). The effective exit age from the labour force in 2013 was 62.9 (63.8 – for men, 62.0 – for women) and it is below the EU-28 average (63.1 – total, 63.5 – for men, 62.7 – for women).

Main drivers of pension expenditure

According to the 2015 Ageing Report, the gross public pension expenditure will decrease from 9.9 percent of GDP in 2013 to 9.4 percent of GDP in 2060. In accordance with the 2015 Ageing Report, the demographic factor has the strongest upward effect (+6.7 p.p. of GDP) on gross public pension expenditure over 2013-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and career shift). The lowering effect of coverage ratio (-3.1 p.p.) and benefit ratio (-2.5 p.p.) on the public pension expenditure are more pronounced than the employment rate effect (-0.9 p.p.).

6. Main opportunities for addressing pensions-related challenges

Carrying out pension reforms in Bulgaria will be very difficult politically. Bearing in mind the high AROP rates it is important to carry out a social impact assessment of all pension reforms instead of just making actuarial calculations, as is the usual practice. Unfortunately the postponing of painful reforms reduces the time horizon within which they have to be situated. This means that people will have less time to adapt and protests and opposition will be much stronger. Political determination and continuity beyond government mandates will be required.

Populations affected by the reforms need to be consulted either through their representative organizations or by involving persons belonging to these groups in the public discussions. This can be part of the process of social impact assessment. The conditions for combining old-age pensions with work income include appropriate legal arrangements and statutory arrangements but also other necessary conditions, which can be influenced by different policy instruments.

Labour market conditions will be very important. To be able to have longer careers, older workers and retired persons demand an economy that needs, and is capable of utilizing, their potential on the labour market. Conditions related to health and lifestyle are no-less important. Longer working lives will require longer years in good health. Currently the average years in good health are roughly equal to the retirement age, which means that there will be a lot of persons in the lower tail of the distribution who will be disabled or chronically ill before statutory retirement.

7. Background statistics – Bulgaria

1. Relative incomes of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.76	0.81	0.72	0.10	0.12	0.08
Income quintile share ratio (S80/S20), 65+	4.6	4.2	4.8	0.6	0.5	0.7

2. Poverty and material deprivation

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+	57.6	51.0	62.1	-7.9	-12.7	-4.7
At-risk-of-poverty rate (AROP), 65+	27.9	21.0	32.6	-5.9	-5.8	-6.0
Severe material deprivation (SMD), 65+	50.7	45.1	54.5	-10.3	-14.4	-7.5
At-risk-of-poverty or social exclusion (AROPE), 75+	61.1	54.9	64.8	-10.0	-13.6	-7.8
At-risk-of-poverty rate (AROP), 75+	30.9	22.6	35.9	-9.5	-7.0	-11.2
Severe material deprivation (SMD), 75+	54.1	48.7	57.3	-11.9	-15.2	-10.1
Relative poverty gap, 65+	20.6	17.5	21.8	2.4	3.0	1.6
At-risk-of-poverty rate (AROP), 65+: 40 % threshold	6.2	3.8	7.8	0.3	-0.4	0.6
At-risk-of-poverty rate (AROP), 65+: 50 % threshold	16.5	10.9	20.3	-1.8	-1.0	-2.4
At-risk-of-poverty rate (AROP), 65+: 70 % threshold	39.1	32.7	43.5	-8.5	-9.9	-7.5

3. Housing situation of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Housing cost overburden rate, 65+	24.2	18.6	28.1	7.4	3.8	9.8
Tenure status among people 65+: share of owners	90.7	92.9	89.2	1.1	1.6	0.8
Severe housing deprivation rate, 65+	5.2	4.3	5.9	-6.7	-5.0	-7.7

4. Income replacement by pension systems

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Aggregate Replacement Ratio (ARR)	0.39	0.46	0.37	0.05	0.09	0.01
Benefit Ratio (BR) (Public pensions)	34.2					
Gross Aggregate Replacement Rate (Public pensions)	29.5					
Gender Gap in Pension Income, % (65-79)	36.2*			9.8*		
Gender Gap in non-coverage rate (W-M in p.p.) (65-79)	0.2*			0.1		

5. Sustainability and context indicators

Indicator	2013			Projections for 2053		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65+, years	15.7	14.0	17.3	21.0	19.4	22.5
Old-age dependency ratio (20-64)	31.0	25.0	37.1	62.2	54.8	69.9
Economic old-age dependency ratio (15-64)	46.8	35.5	59.5	83.6	67.7	102.5
Employment rate, age group 55-64	47.4	51.9	43.4	53.8	61.9	45.7
Pension expenditure as % of GDP (ESSPROS)	8.5*			Projections for 2060		
Gross public pensions as % of GDP (AWG projections)	9.9			9.4		

Data source: Eurostat. Sustainability indicators and projections (EPC AWG) – Commission Services (DG ECFIN), based on The 2015 Ageing Report. Data on gender gaps – ENEGE. Notes: * - 2012 data.

6. Theoretical Replacement Rates (TRRs)

TRR case	Net				Gross				
	2013		2053		2013		2053		
	Men	Women	Men	Women	Men	Women	Men	Women	
Average Earnings	Base case I: 40 years up to age 65	62.3	69.3	83.3	90.8	48.5	54.3	62.5	68.1
	Base case II: 40 years up to the SPA	57.3		83.3	78.7	44.9		62.5	59.9
	Increased SPA: from age 25 to SPA	55.3	51.1	83.3	75.7	43.4	40.0	62.5	56.7
	AWG career length case	59.2	57.8	85.7	75.7	46.4	45.3	64.3	56.7
	Longer career I: from age 25 to 67			96.9	106.2			72.7	79.7
	Shorter career I: from age 25 to 63			n.a.	73.8			n.a.	55.3
	Longer career I: from age 25 to SPA+2			96.9	78.7			72.7	59.0
	Shorter career I: from age 25 to SPA-2			n.a.				n.a.	
	Career break – unemployment: 1 year			83.3	73.8			62.5	55.3
	Career break – unemployment: 2 years			77.4	71.7			59.6	55.2
	Career break – unemployment: 3 years			73.4	67.8			57.9	53.7
	Career break due to child care: 0 year				73.8				55.3
	Career break due to child care: 1 year				73.8				55.3
	Career break due to child care: 2 years				73.8				55.3
	Career break due to child care: 3 years				73.8				55.3
	Short career (30 year career)			38.0	33.6			38.0	34.1
	Early retirement due to unemployment			n.a.				n.a.	
	Early retirement due to disability			80.8	75.3			60.6	56.4
	Indexation: 10 years after retirement			71.8	63.8			56.3	50.0
	Low Earnings (66%)	Base case I: 40 years up to age 65	62.9	70.0	83.3	90.8	49.3	54.9	62.5
Base case II: 40 years up to the SPA		57.9		83.3	78.7	45.4		62.5	59.9
Increased SPA: from age 25 to SPA		55.9	50.6	83.3	75.7	43.8	40.4	62.5	56.7
AWG career length case		59.8	58.4	85.7	75.7	46.9	45.8	64.3	56.7
Longer career I: from age 25 to 67				96.9	106.2			72.7	79.7
Shorter career I: from age 25 to 63				n.a.	73.8			n.a.	55.3
Longer career I: from age 25 to SPA+2				96.9	78.7			72.7	59.0
Shorter career I: from age 25 to SPA-2				n.a.				n.a.	
Career break – unemployment: 1 year				83.3	73.8			62.5	55.3
Career break – unemployment: 2 years				77.4	71.7			59.6	55.2
Career break – unemployment: 3 years				73.4	67.8			57.9	53.7
Career break due to child care: 0 year					73.8				55.3
Career break due to child care: 1 year					73.8				55.3
Career break due to child care: 2 years					73.8				55.3
Career break due to child care: 3 years					73.8				55.3
Short career (30 year career)		43.4		38.0	33.6	34.0		38.0	34.1
Early retirement due to unemployment				n.a.				n.a.	
Early retirement due to disability				80.8	75.3			60.6	56.4
Pension rights of surviving spouses					103.6				81.3
High		Base case I: 40 years up to age 65	54.0	61.3	38.1	37.1	43.2	48.0	38.2
	Base case II: 40 years up to the SPA	50.6		38.1	36.2	39.7	39.7	38.2	36.3

Data source: TRRs for 2013 – Member State; TRRs for 2053 – OECD. Note: n.a. – not applicable

Czech Republic (CZ)

1. General description of the pension system

The Czech pension system is based on three distinct pillars, with the first pillar, operated by the state, playing a dominant role. The second, statutory funded pillar is based on voluntary partial opt-out from first pillar. The third pillar consists of supplementary pension insurance with state contribution and other forms of individual security for old age consisting of products offered by commercial insurance companies. The current Government is taking steps to get the statutory funded pillar abolished by the end of 2015.

The first pillar is based on compulsory pension insurance as a defined benefit pay-as-you-go scheme. This pillar is universal for the various groups of participants, e.g. employees and self-employed persons, and also allows restricted voluntary participation. It covers three main benefits: old age, disability and survivor's pensions. The contributory principle is reflected only to a limited extent due to application of the principle of income solidarity. 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 personal calculation basis for each year of contribution. The personal calculation basis is computed based on the personal assessment base reduced in accordance with defined reduction thresholds. There are two reduction thresholds – the first one at 44 percent of the national average wage, up to which 100 percent of the reference income is considered, and the second one at 400 percent of the average wage, up to which only 26 percent is considered. The personal assessment base is computed as the average monthly earnings of the insured person during his/her reference period which covers the whole career earnings, but only back to 1986. Generally, pensions in payment are indexed on an annual basis; the increase matches the consumer price index growth plus one third of the growth in real wages. Except very high pensions, pensions are not subject to taxation. Contributions are paid by employees, employers and the self-employed. The contribution rate is 28 percent and is split between employees (6.5 percent) and employers (21.5 percent).

The flexible retirement option with actuarial adjustment exists in this pillar (early or deferred retirement). The early retirement penalization 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 few individuals retired earlier than 360 days before reaching their SPA. Deferred old-age pensions represented only 1 percent of newly granted pensions in 2011-2013.

The late retirement bonus consists in an increase of the old-age percentage amount by 1.5 percent of the calculation basis for every completed 90-day period (calendar days) of gainful activities performed after the regular pensionable age without drawing the pension.

Due to an on-going review of the degree of disability the Czech Republic has experienced a decrease in the number of third degree disability pensions²⁰ in recent years. The number of first and second degree disability pensions²¹ has stagnated.

It is possible to combine old-age pension with income from work without any limitations with the exception of early retirement pensions. In such a case, the working pensioner can periodically apply for an increase in the earning-related component of pension. There is no special treatment of arduous jobs within the first pillar of the pension system.

²⁰ Third degree disability pension corresponds to the former full disability pension.

²¹ I.e. partially reduced working capacity

The third pillar consists principally of a voluntary supplementary pension savings scheme which is a defined-contribution (DC) fully funded with direct state contribution. In addition to the state contribution, the Government also provides tax incentives for private saving (see OECD, 2013: 173). The system is administered by pension companies. The participation is over 70 percent of the economically active population. The average rate of return on pension assets for these pension companies was historically around the rate of inflation. Contributions to the system can be made by participants themselves, employers or others. Participant contributions are supplemented by a state contribution up to a certain threshold. Roughly 25 percent of participants receive a contribution to their supplementary pension plan 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. Since 1st January 2013, it has been possible, within the third pillar, to claim benefits up to 5 years before reaching the pensionable age. Early drawing of the third pillar benefit does not trigger subsequent reduction of the pension paid under the first pillar. However, in the years in which a person receives this benefit, he/she might not earn any pension rights for the first pillar pension scheme. It is envisaged that this measure will decrease the risk of poverty of persons performing arduous jobs in the case they lose their job just a few years before their statutory retirement age. This scheme has not been used much; only 613 individuals received this benefit by Q3 2014.

2. Reform trends

The most visible parametrical reform of the first pillar was the introduction of gradually increasing pensionable age, with the baseline ages being 60 years for men and 53-57 for women (according to the number of children raised) in 1996. According to the Pension Act (and its subsequent legislative amendments), the pensionable age will be 65 years for men and women with no or one child born in 1965, and 67 years for all individuals born in 1977 . According to the current legislation, there is no ceiling on the pensionable age increase. At the same time, the time spent in receipt of old age pension is projected to remain stable for men. As for women, it should drop down closer to the figures for men. The Pensions Committee established by the MLSA in 2014 recently proposed to introduce a semi-automatic procedure of regular revisions of the pensionable age. The basic idea is to start revision procedures every five years based on latest demographic and economic projections and to ensure that the relative time spent in pension will not drop below 25 percent of the life span of the average pensioner. This procedure is the result of debates whether the pensionable age increase should be legislatively linked with regularly updated life expectancy forecasts as it has been recommended by the Council in the European Semester.

Legislative amendments since 2008 have reduced the extent of non-contributory periods counted towards the insurance record. Since some non-contributory periods (studies after the age of 18) were reduced only for new labour market entrants, the Ministry of Labour and Social Affairs (MLSA, 2012: 102-103) expects the impact of this change only after 2040. In parallel with these changes a gradual extension of the minimum insurance period to establish the right to an old-age pension from 25 to 35 years was needed. At the same time, the reference period for calculating pensionable earnings was increased from 30 years to the full career period while maintaining that only earnings obtained after 1986 will be taken into account.

The government has recently agreed on the way how to abolish the fully funded statutory pillar. This voluntary, fully funded, defined-contribution pillar was opened in 2013 and has attracted less than 2 percent of the labour force so far. The closure process has already been

prepared by the Pensions Committee, based on which this pillar will be closed by the end of 2015. The current participants will be given back all their savings in order that the likelihood of individual legal actions is reduced.

In December 2011, a reform of the third pillar was approved by the Government, with the aims of improving the security of the participants' capital and of encouraging people to increase their contributions to the system. A further major change, effective from 1st January 2013, is the separation of the accumulated capital of participants from the assets of pension institutions. For contracts signed after 1st January 2013 there will no longer be a guarantee of at least zero returns since strict state regulation will come to an end. Pension companies will be allowed to offer new investment strategies with higher volatility in terms of rates of return.

3. Impact of the crisis on current pension systems and present pensioners

The pension system is shaped by multiple factors that mostly act in parallel: apart from demographic changes and economic factors they also include reforms/institutional changes within the system. Performance of the pension system is largely influenced by demographic pressures and economic uncertainties, which create pressure on changes to the system. Therefore it is hard to disentangle and isolate the effects of financial crisis on the pension system balance and adequacy of the benefits.

The Czech Republic experienced a prolonged economic crisis, expressed in a decline in GDP in 2009, 2012 and 2013. It was not until Q3 2014 that the real GDP value returned to the level where it had last been in Q3 2008. The crisis had a negative impact on public finances, with the general government sector deficit falling from 0.7 percent of GDP in 2007 as low as to 5.5 percent of GDP in 2009. The government responded with a public budget consolidation scheme as from 2010. The crisis made itself felt in the pension system largely through changes in labour market developments (see below).

Table 1: Labour market outcomes (in thousands)

Indicator	2006	2007	2008	2009	2010	2011	2012	2013
Total employment	4 828.1	4 922.0	5 002.5	4 934.3	4 885.2	4 904.0	4 872.4	4 890.1
of which 65+	58.7	66.1	69.0	77.0	75.6	76.2	76.3	79.7
Unemployed	371.3	276.3	229.8	352.2	383.7	353.6	350.6	366.9

Source: Czech Statistical Office (CZSO, 2014)

Table 2: Average wage and pensions indicators (percent) and the crisis

Indicator	2006	2007	2008	2009	2010	2011	2012	2013
Inflation	2.5	2.8	6.3	1.0	1.5	1.9	3.3	1.4
Annual change in average real wage	4.0	4.3	1.4	2.3	0.7	0.6	-0.8	-1.4
Proportion of average old-age pension to average wage	40.8	40.6	40.2	41.6	41.2	42.0	41.6	42.3

Source: Czech Statistical Office (CZSO, 2015)

As is shown in Tables 1 and 2, both the average wage and employment figures were on the increase before 2008. This contributed to improving the pension system balance, turning it from red to black figures (see Table 3). The situation changed after 2008; the crisis led to a decline in total employment and to a stagnation or reduction of real wages. The revenue side of the pension system was affected in the same way – it also faced decline and stagnation.

Table 3: Pension system (1st Pillar) expenditure and revenues (in billion CZK)

	2006	2007	2008	2009	2010	2011	2012	2013
Revenues from SSC	276.9	304.9	320.0	310.3	317.9	328.0	332.1	332.6
Pension expenditure	277.8	295.0	317.4	347.1	353.5	373.4	387.1	387.7
System balance	-0.9	9.9	2.6	-37.9	-35.6	-45.4	-55.0	-55.1

Source: Ministry of Finance (MoF, 2007-2014)

The expenditure side of the system went through major growth in 2009. This was in part due to the impact of the indexation of pensions that reflected previous, essentially pre-crisis, years' inflation rates and changes in the average real wage²² (see Table 2). Another determining factor was the negative development in the labour market, expressed particularly in the increase in the number of newly granted early retirement pensions. The pension indexation in 2009 and the stagnation or decline in real average wages in 2010-2013 helped maintain, or even slightly improve, the ratio of average pension to average wage (see Table 2). Another partial moderating labour market factor was a stagnation of the number of employees aged 65+ (see Table 1).

Table 4: The crisis and number of new pensioners

	2006	2007	2008	2009	2010	2011	2012	2013
Number of new old-age pensions	97 584	97 042	100 011	118 711	107 553	147 614	71 401	83 398
of which early pensions	34 665	31 212	34 414	48 622	30 088	76 563	20 815	27 917
of which at age 65+	992	1 039	1 264	1 433	1 532	536	667	646
of which old-age pensions transformed from disability pensions at age 65	0	0	0	0	7 654	10 011	10 746	9 809
Number of new disability pensions	48 925	50 286	47 627	47 183	28 115	27 290	28 615	27 856
of which at age 55-59	13 130	13 106	12 490	12 903	7 580	7 288	7 411	7 345

Source: Czech Social Security Administration (CSSA, 2007-2014)

Table 4 shows that disability pensions did not serve employees as an escape route from the labour market during the economic crisis. On the contrary, the revision of entitlements to disability pensions, legislated in 2008 and effective from 2010, resulted in a fall in the number of newly granted disability pensions. The change between 2009 and 2010 should also be interpreted cautiously, as the final number of new disability pensions is subject to a methodological shift, when a change in disability level stopped being a reason for granting a new pension (i.e. the final number is lower by the extent of existing disability pension changing to a different degree of disability). The above also applies to the 55-59 age group, which is generally more vulnerable to the adverse impacts of the economic crisis.

The tables above show the effect of the sharp increase in the number of new early retirements in 2009 and 2011. While the increase of 2009 can be mostly attributed to the onset of the crisis, the one in 2011 tells a different story. The underlying factor behind this development was increased penalisation of early retirement in effect from the beginning of 2012. This change was part of the reform package of 2011 which was the government's response to the Constitutional Court's ruling that abolished parts of the Pension Act. The vast majority of early pensions were granted in the third and fourth quarter of 2011 when the claimants opted for the penalty in the calculation of their early retirement pension, rather than for retiring in due course after 2011 when their pension would be calculated according to the new rules (see MLSA, 2012: 26).

Table 5: The crisis and adequacy of pension benefits

Indicator	2006	2007	2008	2009	2010	2011	2012	2013
AROP (65+)	5.9	5.5	7.4	7.2	6.8	6.6	6.0	5.8
Relative median income ratio (65+)	0.82	0.81	0.79	0.78	0.82	0.82	0.84	0.85
Material deprivation rate (65+)	8.0	6.5	6.4	5.7	4.3	5.4	6.0	5.3

Source: Eurostat (2015)

While the pension system suffered in terms of financial balance and sustainability as a result of the crisis, it performed very well in acting as an automatic stabilizer and ensuring the adequacy of pension benefits. As Table 5 shows, the pension system, along with other social

²² See MLSA (2012: 24): „In 2009, there were still after-effects of the second indexing in August 2008; in addition, there was another indexing in January 2009 which, while set at the minimum level required by the law, was based on the development of the average wage in 2007, which was, however, 4 percent higher than the average wage growth in 2009 (which naturally affected the amount of contributions collected).”

protection schemes, managed to contain the AROP rate for older persons. The decline in AROP was unaltered from the onset of the crisis in 2008, returning to pre-crisis levels by 2013. Similarly, the relative median income ration of people 65+ improved ever since 2008. Material deprivation of the elderly has had ups and downs throughout the crisis but on the overall it remained visibly below the pre-crisis values. Most of the parametric changes introduced during the crisis years have not been brought about (solely) by the crisis. The only measure in the pension system that can be directly linked to the budgetary problems caused by the economic crisis is the adjustment of the pension indexation scheme. A temporary indexation arrangement was legislated in 2012. The standard mechanism links pension indexation fully to the Consumer Price Index (CPI) increase and partially (1/3) to the real wage growth. This standard mechanism was temporarily replaced with a reduced mechanism (1/3 to both the CPI and the real wage growth). This change had been planned for the years 2013-2015. Since it was heavily criticized for not preserving the purchasing power of pensions, the present government decided to abandon the reduced mechanism one year earlier.

In summary, the impact of the crisis on the pension system development was rather minimal. Nevertheless, it still weakened the system's economy and may have generated sufficient pressure for further reform steps.

4. Assessment of adequacy

Current adequacy

According to the Eurostat, just 10.4 percent of the population over the age of 65 years were at risk of poverty or social exclusion (AROPE) in 2013, which represents an improvement of 2.1 p.p. compared to 2008. Moreover, the proportion is stable across different age groups; only 11.0 percent of the population over the age of 75 years were AROPE in 2013, compared to 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. Even though the AROPE level for the population aged 0-64 is low too (15.5 percent), the values for both groups of pensioners are always lower. 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 2013. Furthermore, AROPE values decreased for both genders within the selected period.

The proportion of population in severe material deprivation (SMD) remains stable across different age categories (i.e. 0-64, 65+ and 75+). The only difference is that between men and women, yet both these figures are below the EU average. Moreover, the Czech Republic experienced slight improvement in this indicator between 2008 and 2013.

The at-risk-of-poverty (AROP) indicator for people aged 65 and over was 5.8 percent in the Czech Republic in 2013. At the same time, this value is 8.6 p.p. lower than the EU-27 average. The Czech Republic is in the top 5 countries with the lowest risk of monetary poverty in the EU-27. The main reason for this is the historically low rate of income inequality and the relatively high level of effectiveness of social transfers. Even though the level of the AROP indicator is higher for women than for men, the Czech Republic still ranks among the five countries with the best values. Moreover, there was a significant decline in poverty in the reference period, particularly in the case of women. Again, there is no significant difference in the AROP indicator level between the population over the age of 65 years and the population over the age of 75 years. Even if the indicator AROP (50 percent) is used, the poverty rate is rather low – 1.4 percent for the population aged 65+ in the Czech Republic. One of the reasons for the declining level of AROP indicators is the construction of the pension scheme in conjecture with the economic crisis. The value of pensions is being protected by indexation according to the CPI and (partially) real wage growth. The basic

amount is increased by the average wage growth; i.e. faster than the percentage-based component. This measure contributes to the protection of individuals with lower pensions against poverty. Due to the gender gap in pensions, this is especially true for women and for older pensioners. The economic crisis and the related worse labour market outcomes have led to people in receipt of pensions growing relatively richer compared to the average population. While the value of the poverty threshold increased by 14.8 percent between SILC (2008) and SILC (2013), the earnings-related component of the pension was indexed by 13.5 percent in the same period (i.e. income between 2007 and 2012 according to the SILC surveys), and the basic amount (flat rate) even by 44.6 percent. This development obviously led to a higher income protection of persons with the lowest pensions. The above-described explanation could be well documented through the development of the relative median income ratio (65+) that improved from 0.79 (2008) to the value of 0.85 in 2013.

Gender pension gap

The Czech Republic is among six countries with the lowest values of the Gender Gap in Pensions indicator (65-79). While the EU-27 average was 40.2 percent in 2012, the level of the Gender Gap in Pensions indicator (GGP) was only 14.3 percent in the Czech Republic. Even though there are currently no in-depth analyses explaining the reasons for such a good outcome, we can identify several drivers that can influence current and future gender pension gap in both ways. These are: gender pay gap, income redistribution in the pension formula, credited non-contributory periods, .e.g. for child rearing, lower pensionable age for women, share of part-time jobs or broken careers and existence of survivor's pensions.

Gender gaps in employment and pay. The gender pension gap indicator presents a snapshot of developments in the employment and pension system factors, which determine the size of the gap. Since it is calculated for the entire population of 65-79 year olds there is a certain inertia in its development. To get a sense of whether it is likely to reduce or increase one can look at trends in the various gender gaps in employment and at how the pension system is changing.

The gender gap²³ in the *employment rate of older workers* (age 55-64) has decreased by 6.1 p.p. over the period of 2004-2014 (EU-28: -5 p.p.) and amounted to 21.0 p.p. in 2014 (EU-28: 13.7 p.p.). The gender gap in the *duration of working life*, which in 2013 came to 6.2 years (EU-28: 5.2 years) has thereby increased by 0.1 years since 2004 (EU-28: -1.2 years). The gender gap²⁴ in *part-time employment* (for people aged 20-64), which reached 0.7 p.p. in 2014 (EU-28: 23.5 p.p.), has increased slightly by 0.7 p.p. since 2004. The gender *pay gap*²⁵, which in 2013 at 22.1 percent was higher than the EU-28 average (16.4 percent), has, however, decreased only by 1.5 p.p. since 2007 (EU-28: increase by 0.3 p.p. over the period of 2010-2013).

The gender pay gap in the Czech Republic is one of the biggest in the whole EU, which negatively affects the subsequent pension entitlement. On the other hand, this is to a large extent mitigated by the income-equalising nature of the pension formula. The existence of the basic amount of pension and reduction thresholds (see part 1 – General description) causes lower differentiation of newly granted pensions compared to the wage differentiation. Periods of care for a child under four years of age (mostly performed by women) count, as non-contributory insurance periods, for the calculation of the earnings-related component of pension. The lower pensionable age of women extends the time they spend in receipt of

²³ Difference between values for men and women.

²⁴ Difference between values for women and men (for part-time employment).

²⁵ The unadjusted Gender Pay Gap (GPG) represents the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. Industry, construction and services (except public administration, defense, compulsory social security). Data source: Eurostat [earn_gr_gpgr2]

pension. At the same time, it reduces the level of newly granted pensions, due to the shorter contribution period. Faster rise in women's retirement age will therefore further reduce the gender pension gap in the future. The economic activity rate of Czech women is in line with the EU average, but below the level of economic activity of Czech men. The full compulsory employment during the communist era has contributed to the high median value of working careers for women aged 65-79 (38 years, among the highest in the EU) and the low proportion of women with a working career spanning less than 15 years (only 1 percent). Another reason behind the rather low GGP is the low proportion of part-time employment among women, which means that, for a majority of women, the personal calculation basis is computed based on their full earnings. The gap does not vary greatly by educational attainment; increasing the proportion of educated women therefore not likely to significantly affect the value of GGP in the future. Finally, the existence of the survivor pension positively influences the level of the GGP by approximately 5 p.p., which is almost the same value as the EU average. According to CSSA (2014: 14), 533 thousand widow's pensions were paid out each month to women eligible for old age pension in 2013, but only 91 thousand widower's pensions are paid to men eligible for old age pension. Survivor pensions, which supplement old age pensions, naturally mostly increase the incomes of women.

Future adequacy

Regarding the adequacy projections, Theoretical Replacement Rates (TRR) are expected to slightly rise. Although TRR are markedly low in the Base Case I scenario, this is due to the assumption of retirement at age 65. This age was far beyond SRA in 2013; therefore the individual concerned receives a bonus for having his/her pension deferred (TRR 62.2/72.2 percent for men/women, respectively). Quite a different situation would arise in the year 2053 when the statutory retirement age will have reached 68.3 years and an individual at the age of 65 years will therefore receive a reduced early retirement pension (TRR 50.9 percent for both men and women, due to a unified statutory retirement age).

With regard to increasing the pensionable age, the Increased SPA scenario is more relevant. This case represents a significant extension of career length, resulting in the growth of TRR from 52.2/48.9 percent for men and women, respectively, to 61.4 percent for both.

With the gradual increase of SPA and the reduction of credited periods, the ability of future retirees to achieve full insurance record will increasingly depend on their labour market performance and the capacity to work until the increased SPA. According to the Labour Force Survey, the employment rate of workers aged 60-65 years increased by 12.4 p.p. to 32.9 percent in the past 10 years (Q4 2004 – Q3 2014). In the case of workers aged 55-59 years, it was even by 18 p.p. to 77.7 percent. The aspect of longer working lives is tackled by the AWG career length scenario. According to it, the value of TRR will be 57.9 percent in 2053, which is the same value as in 2013. The results of this scenario are very close to the Base Case II scenario that predicts TRR at 58.1 percent in 2053.

Since there are no other gender-relevant differences in the pension system apart from the unification of the statutory retirement age, there are no differences in TRR between men and women in 2053. At the same time, a career break due to childcare doesn't influence TRR in 2053. This is no longer true in the case of a shorter working career break scenario. In this case, the individual is expected to proportionally reduce the amount of pension by approx. 2-3 p.p. for each year of the career break. Similar cuts can be expected in the case of early retirement due to labour market reasons. There is no reduction in pension rights in the case of early retirement due to disability.

Challenges for pension adequacy

Considering the current level of the adequacy indicators, the Czech Republic's outcomes have been relatively favourable. The Czech pension system design has thus proven relatively effective in protecting individuals from the impacts of the economic crisis. The lower indexation might increase the AROP rates. On the other hand, the overall impact will be weakened by higher indexation applied in 2015 and also by the slow CPI and real wage development in 2013 and 2014 which will mitigate the negative effect of the temporary austerity measure. Economic recovery, decreased unemployment rates and growth in income from work might be reflected in increased poverty thresholds in the 2014 SILC data, which is likely to show worsened poverty indicators for persons aged 65+ and 75+. As regards the gender dimension, the outcomes will be slightly worse for women. This is because 15.4 percent of women were not AROP (60 percent) in the Czech Republic in 2013, but were AROP (70 percent), compared to mere 4.8 percent of men. This is the group that will be most affected by possible change in the poverty threshold.

Recent reference documents drawn up for the Pensions Committee (MLSA, 2014: 11-14) expect the AROP rates to rise from the current low levels up to 20 percent in 2040. The main causes for this expected development can be traced to increasing diversity in wages, which will in the longer run translate into a higher diversity in pensions, and to shorter insured periods due to abolishing some non-contributory periods and due to more fractioned careers. This can be well documented using the concept of TRR. In the scenario of an increased SPA and a working career that is two years shorter the level of TRR is reduced by 6.6 p.p. compared to the standard scenario without a shorter career. The decline is even more significant in the case of a short career (30-year career) scenario, in which case the replacement rate is reduced by 23.9 p.p. for an individual with average earnings and even by 29.7 p.p. for an individual with low earnings.

The future situation of persons who are currently self-employed and will start retiring over the next years is fundamentally important, but as yet not fully analysed. Given their relatively low assessment base a drop in their pension levels can be expected compared to today when those self-employed persons who now retire had been employed for longer periods preceding their self-employment. A similar situation can be expected in the case of individuals with extremely low assessment bases and repeatedly interrupted working careers. In their case, the shorter period of pension insurance will affect the level of their pension, as was described above. This will be cushioned by the pension formula that allows for income redistribution. The Czech pension system is universal and does not allow special treatment of selected occupational groups. Some stakeholders in the Czech Republic are concerned that increasing the pensionable age may therefore negatively impact mainly workers performing arduous jobs. Therefore, currently a discussion has started about the range of these jobs and the possibility to favour them in the pension system.

The pension indexation rule protects retirees against a decline in the value of their pension. An individual with average earnings can expect a drop in TRR by only 4.3 p.p. ten years after retirement. Due to the fact that the basic amount of pension is indexed according to wages, the pension indexation rule better protects individuals with lower earnings. A certain impact on pension adequacy, although difficult to predict in the present situation, can also be expected in connection with an increase of part time work that is more than likely in the near future. In assessing all of the above-described partial factors, it must be taken into account that the current Pensions Committee has been holding discussions on the future pensions indexation formula, on setting the proportions between the basic and the percentage-based pension components and on the possibility to introduce a joint calculation base for spouses. Any partial adjustments in these areas might have a major impact on future pension adequacy.

The abolition of the second pillar will not affect the current adequacy outcomes as this pillar was only established in 2013 and has not yet matured. At the same time, the participation rates are so low that impact assessment appears pointless.

At present, the third pillar is used to a small extent for the purpose of purchasing life-type annuity. Even though after 20 years of this pillar the coverage of the private pension scheme comes to more than 60 percent of working age population (15-64 years), the volume of assets in the pension funds is rather low – 6.5 percent of GDP (OECD, 2013: 189, 195). The termination of the second pillar thus presents the Government with the question of how to reform the third pillar so that it (1) attracts more employers to contribute towards the savings plans of their employees and (2) motivates individual participants to increase the volume of contributions. Because the average monthly contribution to the third pillar is lower than 10 percent of average payment to the first pillar, one can expect rather low future annuity even when individual participated during his/her whole professional career. Once these questions are resolved, the third pillar of the pension system could counterbalance, in a more significant manner, the weaker element of contributory principle in the first pillar.

5. Sustainability

The evolution of the demography, employment rate and expenditure can give us information about the sustainability of the pension system in the future.

Demography

The old-age dependency ratio (population aged 65 and over as a percentage of the population aged 20-64) in Czech Republic is projected to increase from 27.0 percent in 2013 (EU-28: 30.3 percent) to 54.5 percent in 2053 (EU-28: 49.9 percent).

Czech Republic belongs to the group of Member States where the increase in old-age dependency ratio is projected to be above the EU-28 average. Over the period 2013 to 2053, the old-age dependency ratio is projected to increase by 27.5 p.p. (EU-28: 24.6 p.p.).

Czech Republic will be one of the fastest ageing countries in the EU. The share of working-age population (20-64) (63.5 percent of the total population in 2013) is projected to drop by 12.3 p.p. by 2053 (to 51.2 percent of the total population), compared with 9.2 p.p. for the EU as a whole by 2053.

The economic old age dependency ratio for Czech Republic is projected to rise by 28.4 p.p. from 35.3 percent in 2013 to 63.7 percent in 2053 but it will be below the EU-28 average (66.2 percent in 2053).

Employment

The labour market participation rate (of people aged 20-64) in Czech Republic (77.9 percent) was just above the EU-28 average in 2013 (76.5 percent), and is projected to remain above the EU-28 average in 2053 (81.7 percent versus 79.9 percent). Over the period 2013 to 2053, the participation rate of older workers (aged 55-64) is projected to increase by 19.9 p.p. (from 55.1 percent in 2013 to 75.0 percent in 2053), more than in the EU-28 (15.3 p.p.: from 54.4 percent in 2013 to 69.7 percent in 2053).

According to the 2015 Ageing Report, employment rate (of people aged 20-64) is projected to increase from 72.6 percent in 2013 (EU-28: 68.4 percent) to 77.0 percent in 2053 (EU-28: 74.9 percent). Employment rate of older people (aged 55-64) is projected to change from 51.9 percent in 2013 to 71.6 percent in 2053 (EU-28: from 50.3 percent to 66.6 percent).

The employment rate for older workers (from 55 to 64 years) in Czech Republic in 2013 was above the EU-28 average: 51.9 percent (62.8 percent – men, 41.6 percent – women) versus 50.3 percent at the EU-28 level (57.6 percent – men, 43.3 percent – women).

The effective exit age from the labour force in 2013 was 61.9 (63.1 – for men, 60.7 – for women) and it is below the EU-28 average (63.1 – total, 63.5 – for men, 62.7 – for women).

Main drivers of pension expenditure

According to the 2015 Ageing Report, the gross public pension expenditure will increase from 9.0 percent of GDP in 2013 to 9.7 percent of GDP in 2060.

In accordance with the 2015 Ageing Report, the demographic factor has the strongest upward effect (+6.8 p.p. of GDP) on gross public pension expenditure over 2013-2060.

The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and career shift). The lowering effect of coverage ratio (-3.6 p.p.) and the benefit ratio effect (-1.0 p.p.) on the public pension expenditure are more pronounced than employment rate (-0.6 p.p.).

6. Main opportunities for addressing pensions-related challenges

Although no conceptual design of a further pension reform exists at the moment, the established Pension Committee has discussed some principles. Any reform of the pension system will still rely on the complementary-pillars arrangement, the goals and parameters of which should be grounded on society-wide consensus. Since the first pillar of the pension scheme will remain the key element of the system, the setting of the following parameters of the pillar should be discussed.

Firstly, it is the question of pensionable age changes, mainly with regards to inter-generational equity, ensuring that the pensionable age adjustments match the real changes in life expectancy and leave scope for measures promoting employability of people nearing the retirement age.

Then the current design of the earnings-related component does not ensure a significant level of pension differentiation. How to strike more balance between solidarity and contributory principles by making the pension benefits more tightly linked to individual historical earnings should be considered.

The extent of the discussed modifications must be in line with the changing role of the third (and any other future) pillar. While this pillar enjoys broad public support at present (and rather large tax incentives), the question is to what extent it meets the objectives on which it is based. Upon reaching the retirement age, the clients rarely opt for the life-time annuity. Instead, the dominant strategy is a single lump sum withdrawal. The signing of a new contract, which frequently follows, and the drawing of further public support suggest that this pillar is regarded as an attractive form of saving rather than as a form of security for old age.

7. Background statistics – Czech Republic

1. Relative incomes of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.85	0.88	0.83	0.06	0.08	0.05
Income quintile share ratio (S80/S20), 65+	2.4	2.3	2.5	0.1	0.2	0.1

2. Poverty and material deprivation

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+	10.4	5.7	13.8	-2.1	-1.8	-2.3
At-risk-of-poverty rate (AROP), 65+	5.8	2.7	8.1	-1.6	-0.6	-2.1
Severe material deprivation (SMD), 65+	5.3	3.2	6.9	-1.1	-1.5	-0.6
At-risk-of-poverty or social exclusion (AROPE), 75+	11.0	5.6	14.4	-2.4	-1.1	-3.0
At-risk-of-poverty rate (AROP), 75+	5.9	2.7	8.0	-2.0	0.2	-3.2
Severe material deprivation (SMD), 75+	5.7	3.2	7.3	-0.5	-1.4	0.1
Relative poverty gap, 65+	8.3	14.8	7.7	0.4	8.0	-0.2
At-risk-of-poverty rate (AROP), 65+: 40 % threshold	0.2	0.2	0.2	-0.1	0.0	-0.2
At-risk-of-poverty rate (AROP), 65+: 50 % threshold	1.4	1.3	1.6	-0.2	0.3	-0.5
At-risk-of-poverty rate (AROP), 65+: 70 % threshold	16.7	7.5	23.5	-5.1	-5.5	-4.7

3. Housing situation of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Housing cost overburden rate, 65+	14.4	9.1	18.2	-2.0	-3.6	-0.8
Tenure status among people 65+: share of owners	81.9	85.2	79.4	6.3	7.1	5.6
Severe housing deprivation rate, 65+	1.5	1.3	1.6	-1.3	-0.8	-1.7

4. Income replacement by pension systems

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Aggregate Replacement Ratio (ARR)	0.56	0.56	0.59	0.05	0.08	0.03
Benefit Ratio (BR) (Public pensions)	42.8					
Gross Aggregate Replacement Rate (Public pensions)	32.2					
Gender Gap in Pension Income, % (65-79)	14.3*			3.0*		
Gender Gap in non-coverage rate (W-M in p.p.) (65-79)	-0.7*			0.3*		

5. Sustainability and context indicators

Indicator	2013			Projections for 2053		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65+, years	17.5	15.7	19.2	22.2	20.5	23.8
Old-age dependency ratio (20-64)	27.0	21.9	32.2	54.5	48.7	60.4
Economic old-age dependency ratio (15-64)	35.3	25.1	48.6	63.7	51.7	78.6
Employment rate, age group 55-64	51.6	62.5	41.4	71.6	73.9	69.4
Pension expenditure as % of GDP (ESSPROS)	9.9*			Projections for 2060		
Gross public pensions as % of GDP (AWG projections)	9.0			9.7		

Data source: Eurostat. Sustainability indicators and projections (EPC AWG) – Commission Services (DG ECFIN), based on The 2015 Ageing Report. Data on gender gaps – ENEGE. Notes: * - 2012 data.

6. Theoretical Replacement Rates (TRRs)

TRR case	Net				Gross				
	2013		2053		2013		2053		
	Men	Women	Men	Women	Men	Women	Men	Women	
Average Earnings	Base case I: 40 years up to age 65	62.2	72.1	50.9		48.8	56.5	38.3	
	Base case II: 40 years up to the SPA		55.6	58.1		43.5		43.8	
	Increased SPA: from age 25 to SPA	52.2	48.9	61.4		40.9	38.4	46.3	
	AWG career length case		57.8	57.9		45.3		43.7	
	Longer career I: from age 25 to 67			58.4				44.0	
	Shorter career I: from age 25 to 63			43.2				32.6	
	Longer career I: from age 25 to SPA+2			70.4				53.1	
	Shorter career I: from age 25 to SPA-2			54.8				41.4	
	Career break – unemployment: 1 year			60.1				45.9	
	Career break – unemployment: 2 years			58.9				45.5	
	Career break – unemployment: 3 years			57.7				45.1	
	Career break due to child care: 0 year				61.4				46.3
	Career break due to child care: 1 year				61.4				46.3
	Career break due to child care: 2 years				61.4				46.3
	Career break due to child care: 3 years				61.4				46.3
	Short career (30 year career)			47.9				36.5	
	Early retirement due to unemployment			54.5				42.0	
	Early retirement due to disability			54.1				43.9	
	Indexation: 10 years after retirement			57.1				44.0	
Low Earnings (66%)	Base case I: 40 years up to age 65	78.5	90.6	64.0		64.7	74.7	50.9	
	Base case II: 40 years up to the SPA		70.4	72.8		58.0		57.9	
	Increased SPA: from age 25 to SPA	66.3	62.3	76.9		54.7	51.4	61.1	
	AWG career length case		73.1	72.6		60.3		57.7	
	Longer career I: from age 25 to 67			73.2				58.2	
	Shorter career I: from age 25 to 63			54.7				43.5	
	Longer career I: from age 25 to SPA+2			87.9				69.9	
	Shorter career I: from age 25 to SPA-2			68.9				54.8	
	Career break – unemployment: 1 year			75.1				60.4	
	Career break – unemployment: 2 years			73.4				59.8	
	Career break – unemployment: 3 years			71.7				59.1	
	Career break due to child care: 0 year				76.9				61.1
	Career break due to child care: 1 year				76.9				61.1
	Career break due to child care: 2 years				76.9				61.1
	Career break due to child care: 3 years				76.9				61.1
	Short career (30 year career)	52.1	53.7	60.3		45.2	46.6	48.5	
	Early retirement due to unemployment			67.2				54.5	
	Early retirement due to disability			75.3				58.0	
	Pension rights of surviving spouses				115.6				96.2
High	Base case I: 40 years up to age 65	40.7	47.5	31.1		30.3	35.3	22.4	
	Base case II: 40 years up to the SPA		36.2	35.6		26.9		25.7	

Data source: TRRs for 2013 – Member State; TRRs for 2053 – OECD

Denmark (DK)

1. General description of the pension system

For old age provision Denmark has a multi-pillar pension system. Retirement practices are also markedly affected by the voluntary early retirement pension scheme, VERP (efterløn), and the disability pension scheme (førtidspension).

The public pillar consists of two statutory old-age pension schemes, i.e. the national old age pension (folkepension) and the much smaller supplementary pension (ATP). The national old age 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 1/40 national old age 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 incomes 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.

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, which has largely matured and offers a moderate supplementary annuity (typically about 10-25 percent of the flat-rate amount in the national old age pension), is organised in a separate fund under tri-partite management.

Pension income in the first pillar is underpinned by a range of needs- and income-tested benefits targeting pensioners (e.g. housing and heating benefits, health allowances). 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.

In the second pillar, there are occupational pension schemes based on collective agreements. These mostly sector wide schemes cover about 90 percent of wage earners with benefits that reflect contributions made and the return on investments. Contributions vary across sectors. 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 expand as an effect of growing contribution rates and mature.

In the third pillar there are a wide range of voluntary, individual life insurance and pension saving plans with an uneven coverage and differing scope, of which the savings schemes mostly end in lump sum payments with no annuitisation obligation.

The VERP, which has facilitated large scale early retirement among workers and many employees, 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 1st januar 1978 can be entitled to VERP after less strict contribution 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 raised gradually with 2 years from 60 to 62 in 2014-17 and with further 2 years to 64 in 2018-23 (reducing the VERP period from max 5 years to max 3 years)

and thereafter linked to developments in life expectancy. This will lower the max duration of the benefit from five to three years.

The disability pension (førtidspension) is for people who have suffered a permanent loss of a major part of their working capacity. To qualify for disability pensions persons must be unable to improve their workability through treatment, rehabilitation or activation. In case people are able to work in some limited capacity it is, however, possible to combine a disability pension with some income from work. The disability pension is somewhat higher for single claimants than for those who are married or co-habiting. For the latter the pension is tested against the income of the partner if this exceeds a certain ceiling.

The senior disability pension (seniorførtidspension) is a fast track variant of the disability pension for persons who lose their workability less than five years before reaching the pensionable age. Under this scheme persons do not have to undergo the extensive work tests otherwise obligatory to be able to claim 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

Pension reforms have aimed to promote longer working lives, bring more people into work (including subsidised work), expand occupational schemes and promote third pillar complementary retirement savings.

The main reforms of public pensions – the Welfare Agreement of 2006 and the Retirement Reform of 2011 – have sought to promote longer working lives by raising the pensionable age in all retirement schemes. In the national old age pension and the ATP the eligibility age is increasing from 65 to 67 by 2022, while the lowest retirement age in the VERP is increased with 2 years from 60 to 62 in 2014-17 and with further 2 years to 64 in 2018-23 (thereby reducing the VERP period from max 5 years to max 3 years). Thereafter the pensionable ages in both schemes will be adjusted with increases in remaining average life expectancy at age 60. The pensionable age in 2040 is expected to be 67 for VERP and 70 for the national old age pension. The aim is to limit the average duration of receipt of a public pension to 14.5 years while giving people a 15 year warning before the next rise in the old age pensionable age to allow them to adjust.

The granting of the Senior Disability pension introduced as part of the Retirement Reform of 2011 still presupposes that the working capacity is reduced permanently, and to such an extent that the person concerned cannot be self-supporting by means of a job.

As a consequence of pension reforms and the maturation of second pillar schemes, the Economic Council estimate that far fewer people will withdraw from the labour market on VERP, that more people will continue working after reaching the pension age, and that more people will be able to retire without claiming the VERP and being dependent on the national old age pension in the initial post-work years.²⁶

The role of private pensions continues to increase. The average pension wealth (in occupational pensions and third pillar savings schemes etc.) grew by 30 percent from 2000 to

²⁶ Det Økonomiske Råd (2013) *Dansk Økonomi, forår 2013*, Spring Report of the Economic Council, Copenhagen.

2011.²⁷ Men have higher pension wealth than women, but the gap has decreased from 2000 to 2011. High-income earners and persons with long education have the largest pension wealth. Immigrants, persons with low income, and short education have the smallest pension wealth. The average contributions to occupational pensions increased from 4 percent in 1995 to 8.5 percent of gross wages in 2011.²⁸ The contribution rates to occupational schemes today are typically between 12-18 percent.

The pension system is rather complex. Targeting through income-testing and different tax treatment of different forms of savings can result 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. According to the Government Platform, June 2015, the Government wishes to strengthen the foundations for a safe pension system in Denmark. The goal is that saving should pay more, and that more people should save for their pension in order to have greater financial security in old age. Therefore, in spring 2016 the Government will implement a pension reform, the main objective of which is to significantly reduce the residual group of persons without any old-age savings of their own.

Meanwhile various measures, including more accessible information from the pension industry such as the state-of-the-art website www.pensionsinfo.dk, have sought to increase transparency. At the website people can monitor the accrual of their pension entitlements from the various public, occupational and third pillar schemes and check how much they can expect in total pension income.

3. Impact of the crisis on the pension system

The economic crisis (financial, economic and fiscal) impacted on both public and private schemes and resulted in the advancement of pension and tax reforms.

In 2009 the government²⁹ launched an expansive budget including extra public investments in infrastructure and tax reliefs for about EUR 1.34 billion and passed two crisis packages specifically for the banks. Pension elements included a new ceiling on the amount of tax-exempt contributions that can be made to private individual saving accounts (ratepensionsordninger)³⁰, an increase of the supplementary benefit for pensioners³¹, and the option to prematurely withdraw the obligatory retirement savings in the Special Pension Scheme (Særlige Pension, SP). The 2010 Budget agreement eased the means-test for the supplementary benefit (ældrecheck).

²⁷ Anna Amilon, Gabriel Pons Rotger, & Anders Gade Jeppesen 2014, *Danskernes pensionsopsparring og indkomster 2000-2011*, Copenhagen: SFI.

²⁸ Amilon et al (2014), op.cit.

²⁹ During the economic crisis there was a change of government. Until 3 October 2011 Denmark was led by a minority coalition government of Liberals and Conservatives. Since then a minority coalition government of Social Democrats, Social Liberals and Socialists has been in government. The Socialists left the government on 30 January 2014 but continued to form part of its parliamentary basis. Since 28 of June 2015 Denmark has been led by a Government consisting of the Liberal Party.

³⁰ The tax reform of 2009 gradually reduced the tax exemption of insurance contributions from 32 percent to 25 percent making it less attractive to pay into voluntary early exit schemes.

³¹ The pension supplement was increased from annually EUR 1,046 in 2008 over EUR 1,382 in 2009 to around EUR 1,650 in 2010 thereby improving conditions for low income old age pensioners.

In April 2010 the government and the Danish Peoples Party agreed on a special tax on particularly high pension income.³² The key initiative affecting pensions came in May 2011 when a package of reforms (Reformpakken 2020) covering old age pensions, the VERP, disability pension and sheltered employment (so-called flex jobs) was adopted. The main aim of the retirement reform was to increase effective retirement ages by starting the gradual increase in the pensionable ages in VERP and the national old age pension five years earlier than planned in the 2006 reform. The reform changed VERP eligibility rules, made the scheme less financially attractive for middle and higher income groups and introduced a tax incentive for people to leave the scheme. To accommodate the needs of those older workers, who for health reasons cannot continue working the reform established a faster track disability pension possibility for seniors.

The linking of pensionable ages to developments in life expectancy after 60 was maintained as in the 2006 agreement.³³ Moreover, the retirement reform improved incentives for people to work longer by increasing disregards when calculating old age pension and introducing tax free portions³⁴ and by abolishing mandatory pension ages in the public sector.³⁵ Finally, the reform contained plans for a campaign to inform people about their opportunities to continue working whilst partially retired or beyond the normal pension age.

Most recently the 2012 Budget agreement reduced the tax-exemption for contributions to a popular form of third pillar pension schemes (ratepensioner) and abolished the tax allowance for pension fund management.

Effect of the crisis on pensions in payment. The bulk of Danish pensioners have not been exposed to cuts in their pension benefits during the crisis. A small group of retirees with very high pension incomes have, however, been subjected to an extra tax of 6 percent on their incomes. By contrast the supplementary pension allowance for pensioner with little to no income beside the public pension has been raised and access to it widened.

From 2012 the possibility to combine VERP benefits with other pension benefits was substantially reduced, making the scheme less attractive to higher income groups. At the same time benefits were increased, thus improving conditions for those groups of workers which the VERP originally was created to serve.

Effect of crisis on pension entitlements in private schemes. The Danish second and third pillar schemes cover nine out of ten Danes. Given the rapidly growing importance in the pension package of the largely defined contribution based and fully funded occupational schemes pay differentials on the labour market will be reflected in the size of pension entitlements.

The immediate effect in 2008 included a massive reduction of the book-value of pension fund assets that led regulators to ease solvency requirement to allow funds to recover, which largely they did in the next year or two. Most vulnerable to the financial crisis and the economic downturn are the savings made in the third pillar. Here the general pooling of risks

³² From 2011 persons with pensions exceeding EUR 48.667 annually will for five years be levied a 6 percent tax. The Danish Insurers Association estimates that some 30,000 persons will be affected (Forsikring og Pension 2010, Hvem rammes af udligningskatten).

³³ Parliament decides every five years on whether the pensionable ages should be increased in view of the growth in life expectancy at age 60, the first time in 2015. An increase in the age for the national old age pension is only possible from 2030, i.e. after a warning period of 15 years from the time of decision in 2015. The first time the age for the voluntary early exit benefit can be increased due to growing life expectancy is in 2027.

³⁴ Disregards, which permits retired persons above the age of 65 years to earn a certain amount from personal work without affecting the income basis for income-testing old age pension, was doubled to EUR 8,049. The possibility in the VERP of earning up to 12 tax free portions to a total value of EUR 19,236 was maintained.

³⁵ The reform will expand possibilities for people to work more and longer as they age, e.g. the public sector collective agreement schemes that operate a fixed pension age of 65 or 70 years beyond which one cannot work will have these fixed pension ages removed.

is the smallest and the investment perspective the shortest. The volatile financial market generated major uncertainties, and especially persons scheduled to retire in the early years of the crisis may have suffered significant losses.

A more long term effect comes from the seemingly long-lasting conjuncture with significantly lower interest rates. Thus the ATP, the largest pension fund manager, estimates that the low interest rate may mean that young people of today will have to pay twice as much in contributions as former generations if they are to have a pension income from funded schemes of similar value.³⁶

Still, according to the Danish Association of Insurance Companies the industry had by 2010 largely recovered from the bad book-value reductions of 2008.³⁷ In fact, despite the adverse economic climate and a drop in average interest levels Danish pension funds have overall been comparatively successful in accruing acceptable rates of return on their investments. Given the Danish system of taxation of rates of returns this has been helpful not just for future pensioners but also for the volume of tax revenues.³⁸

Effect of policy changes on labour market exit patterns. The beginning of the retirement of the baby-boomers has marked pension developments in the crisis years. The number of persons receiving the national old age pension increased by 170,000 from January 2007 to January 2013 and presently there are more than 1.022.000 claimants.³⁹

While the number of pensioners have increased markedly it can at the same time be argued that the Danish pension system and retirement practices have become more sustainable over the last few years as a larger share of people in their 60's work longer periods of their life than previous cohorts⁴⁰ in part as a result of pension reforms that has increased pension ages and restricted access to early exit.

Like in other parts of the EU the employment rates of older workers has not only held up but continued to increase during the crisis. It has primarily been youth and prime-age workers that have been affected by the rise in unemployment. Thus neither the recession and nor the proposal to restrict access there has lead to an increase in the number of people retiring early. In fact the reforms of 2006 and 2011 and the relatively low unemployment among older

³⁶ Calculations by the ATP (2012, 100) shows that a 25 year old person today must save nearly twice as much as the person who is 65 years old today. During 40 years of work the 65 year old today should save EUR 201 to have a pension of EUR 1,341 monthly. Because of lower interest rates the 25 year old today should save EUR 342 monthly to have a pension of EUR 1,341 monthly. And because of longer longevity the 25 year old must add EUR 54 monthly.

³⁷ Forsikring og Pension (2010) Pensioner giver igen overskud.

³⁸ The return is subject to a tax which was raised to 15.3 percent in 2013. The combination of broad coverage and good returns has resulted in large tax revenues to the government. In a normal year this tax (the PAL tax) is estimated to bring revenues of about EUR 3.2 billion. In 2011 the tax gave revenues of about EUR 5.2 billion and in 2012 of EUR 5.9 billion. Out of the EUR 5.9 billion in 2012 the private pension funds paid EUR 4.2 billion and the public ATP and LD EUR 1.3 billion.

³⁹ Danmarks Statistik (2013) Nyt fra Danmarks Statistik, nr. 289.

⁴⁰ In fact the relative duration of working lives of successive cohorts of older workers is complex due to changes in the pensionable age: With effect from 2004 the old age pensionable age was lowered from 67 to 65. In 2019-22 it is being raised gradually to 67 again. Moreover, the linking of the pensionable age to life expectancy will primarily affect cohorts born after the baby-boom ended.

workers have led to a marked reduction of people drawing VERP benefits⁴¹ and more people are now working until and even beyond the pensionable age.⁴²

In a study on retirement in the future the Economic Council recently assessed the combined impact of the retirement reforms of the 2000s and maturation of second pillar pension schemes.⁴³ They found three likely effects. First, stricter eligibility criteria and larger economic incentives to continue working means far fewer people would be expected to withdraw from the labour market on the VERP than previously estimated, resulting in a scenario where only about 5,000 would be drawing VERP benefits in 2050. Second, more people would continue to work after reaching the pension age using the possibility of postponing and increasing their national old age pension by working beyond the pensionable age. Third, due to larger pension wealth more persons will be able to retire without being dependent on the national old age pension or the VERP scheme. In total the Economic Council estimates that reforms will generate an increase in the employed work force of about 40,000.

Impact of the EU on policy reforms. The grand pension reforms on retirement ages aimed at boosting labour supply were in train before the onset of the economic crisis and the subsequent stricter EU macroeconomic coordination. This indicates that ageing populations, public finances and political preferences were more important drivers of initial reforms than recommendations from the EU. However, many reforms of pensions are in line with EU requirements and recommendations.

Moreover, in the country specific recommendations adopted by the European Council in 2011 and 2012, Denmark was encouraged to adopt the planned reform of VERP and to introduce a reform of the disability pension scheme. As a reform of these schemes were already agreed upon by the major political parties in 2012 and coming into effect as of 1 January 2013 the country specific recommendations adopted in 2013 and 2014 acknowledged this and did not contain more suggestions for reforms of pensions and retirement schemes.

4. Assessment of adequacy

Current adequacy

The Danish public pensions are not particularly generous. The Aggregate Replacement Ratio is 0.44. The median relative income of a person above 65 years of age as a ratio of people aged 0-64 years is 76. These figures reflect the legacy of the universal old age pension with its emphasis on poverty protection as opposed to income maintenance. The latter function is to be filled by the occupational pension schemes, many of which were established around 1990. As such 2nd pillar schemes expand and mature along with the many third pillar savings schemes the two indicator scores are likely to improve.

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 income-testing of old age pension: The flat-rate part of the national old age pension (the basic amount) is only reduced

⁴¹ In fact there has been a steady reduction in the number of fulltime persons on VERP benefit since 2007 amounting to almost 30 percent fewer (Danmarks Statistik (2013) Færre efterlønsmodtagere, Nyt fra Danmarks Statistik, nr. 140, 19). There are both fewer men and women retiring on the scheme, but the gender bias with women more frequently claiming early retirement pay persists.

⁴² Although most people withdraw from the labour market while they are in their 60s there has been a remarkable development in the last ten years. The employment rate for 60-64 year olds has increased from 28 percent in 2001 to 46 percent in 2011 (Danmarks Statistik 2012, 65+ Et portræt af de ældres liv, arbejdsliv og sociale situation). In the same period the employment rate for those above 65 years rose from 7.4 percent to 10.4 percent. There are twice as many men as women above age 65 that are working.

⁴³ Det Økonomiske Råd (2013). Dansk økonomi, efterår 2013.

for income from work income above a certain amount, the income-tested part (the pension supplement or the supplementary benefit) is reduced for all kind 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 small by EU standards and these have even tended to reduce since the onset of the crisis in 2008. The risk-of-poverty-or-social-exclusion for persons above 65 years of age was 11.4 percent in 2013, down 7.2 p.p. from 2008. The at-risk-of-poverty for elderly aged 65+ was 10.6 percent in 2013, down 7.5 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 1.0 percent in 2013, up 0.1 p.p. from 2008. 13.0 percent of women were at-risk-of-poverty-or-social-exclusion compared to 9.4 percent of men giving a gender gap in poverty of 4.3 p.p. Surprisingly this gap is higher than for EU-27 where the AROPE figures were 14.6 for women and 11.2 for men giving a gender gap in poverty of 3.8 p.p. 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 2013 17.1 percent above 75 years were at-risk-of-poverty-or-social-exclusion, 16.8 percent were at risk-of-poverty, and 1.1 reported that they suffered from severe material deprivation. For people above 75 years of age the gender differences are much smaller than for EU-28: the AROPE rate in Denmark is 17.7 percent for women and 16.2 percent for men leaving a difference of only 1.5 p.p.

The above figures are not used in domestic debates. The social partners, the Ministries, poverty experts and the Expert Commission on Poverty 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 pct. limit has been chosen on the basis of the relatively equal income distribution and is supported by analyses of poverty based on the budget method.⁴⁴ Secondly, it must be taken into consideration that older people in Denmark have access to free universal health care as well as the most encompassing, free home help in the world.⁴⁵ These non-monetary benefits that elderly are eligible for are not taken into account in the EU indicator. The fact that unlike the Danish income figures Eurostat data do not include imputed rent also affects the at risk-of-poverty rate among older persons. In 2013 the Danish poverty rate was 2.8 percent when the poverty line is set at 50 percent, 10.6 percent if set at 60 percent and 28.8 percent if set at 70 percent of the median income.⁴⁶ The similar figures for the EU-28 are 6.6 percent, 13.8 percent and 23.4 percent.

Gender pension gap

By European standards the current gender gap in pensions is very low in Denmark, whether measured by differences in the median or mean income of men and women aged 65-79 or 65+. Using the mean income the gender gap in pensions is less than 7 percent in 2012; being significantly lower (by more than 33 p.p.) than the EU-27 average. Denmark is among the top-performers also in the case of the gender gap based on the median pension income (less than 2 percent in 2012).

⁴⁴ The Expert Committee on Poverty shows how elderly above 64 years are significantly less affected by poverty than other age groups when applying the 40 percent, the 50 percent and the 60 percent of median income poverty line. Only persons aged 55-64 years are less affected when using the poverty threshold at 60 percent (Ekspertudvalget om fattigdom 2013).

⁴⁵ Økonomi og indenrigsministeriet 2014, op.cit.; Ekspertudvalget om fattigdom 2013, En dansk fattigdomsgrænse – analyser og forslag til opgørelsesmetoder, Copenhagen.

⁴⁶ Eurostat 2014, Dispersion around the at-risk-poverty threshold for elderly people. Retrieved from www.eurostat.eu at 5 December 2014.

As elsewhere the gender pension gap in Denmark is the result of gender differences in employment (i.e. in pay, working hours and duration of working life) and the extent to which these differences are mirrored in the pension system through earnings- and working time related contributions. Since the national old age pension is non-contributory and based on residence pension entitlements in this scheme are generally not affected by prior employment record. By contrast the ATP scheme reflects flat-rate contributions (at a standard rate or a higher optional rate) related to working hours and duration of working life. Moreover, the bulk of occupational schemes are of the defined contribution design, where benefit entitlements strictly reflect the amount of earnings-related contributions over the membership period, i.e. the duration of working years with membership of a scheme. In the ATP scheme there is no gender gap in coverage. In occupational schemes, which cover around 90 percent of the employed workforce, there is only a moderate gender gap in coverage. Presently most pensioners derive the greater part of their income from the national old age pension and the ATP. Moreover, gender differences in activity and employment rates of retiring cohorts though still narrowing have for the last couple of decades been moderate by EU standards. These are likely to be the main reasons why the gender pension gap is so low in Denmark. With the maturation of occupational schemes over the next decades the weight in pension outcomes of gender differences in employment will be steadily increasing.

As reported in the figures produced for the EU-28 by ENEGE the Gender Gap in Pensions in Denmark declined remarkably from 22 percent in 2009 to 9 percent in 2011 and further to 6.5 percent in 2012, see Table 1. For mean pensions there is a halving of the gap for persons aged 65-79 and the reduction amounts to two-thirds for persons aged 65+. For median pensions the relative declines are even greater.

These developments in the Gender Pension Gap indicator for Denmark are rather difficult to explain since there have been few changes in pensions in payment with gender implications. Possibly what should be explained is not the reduction but why the gap registered so high in the years 2006-2009. Whatever it seems these questions will have to be left for further research.

Table 1: Differences to EU-27 Gender gaps when using DK gender gaps in mean and median pension income for persons aged 65-79 and 65+, 2005-2012, percent

		2005	2006	2007	2008	2009	2010	2011	2012
Mean pension									
65-79 y.	DK	15.1	21.3	19.9	20.0	22.0	18.8	9.3	6.5
	EU-27	38.7	38.5	40.0	40.1	40.8	40.7	40.6	40.2
	<i>Difference</i>	-23.6	-17.3	-20.1	-20.0	-18.8	-21.9	-31.3	-33.6
65+	DK	12.4	17.2	16.6	16.6	20.3	18.8	11.2	9.2
	EU-27	36.6	36.5	37.7	37.6	38.7	38.7	38.6	38.5
	<i>Difference</i>	-24.1	-19.3	-21.1	-21.0	-18.4	-19.9	-27.4	-29.3
Median pension									
65-79 y.	DK	2.7	7.6	4.3	3.8	5.5	5.2	2.4	1.2
	EU-27	43.0	43.0	44.6	45.9	45.9	44.7	45.2	44.9
	<i>Difference</i>	-40.3	-35.5	-40.2	-42.1	-40.4	-39.5	-42.7	-43.7
65+	DK	0.0	3.0	2.5	1.8	4.7	4.1	1.6	1.5
	EU-27	38.4	38.0	41.5	41.7	42.3	42.2	42.1	41.3
	<i>Difference</i>	-38.4	-35.0	-39.0	-40.0	-37.6	-38.1	-40.5	-39.8

Source: ENEGE (2014)

The Table 2 shows that on average men receive higher pensions than women. The national old age pension is important to all residents in Denmark, and that women receive higher supplementary amounts and elderly cheques than men. Men receive higher private pensions and civil servant pensions than women. Private pensions make up 25 percent of men's pension income and 15 percent of women's.

Table 2: Average pension type amounts by gender, 2011

	All	Men	Women	Coverage rate, percent
National old age pension, basic amount	66,100	66,100	66,200	100.0
National old age pension, supplementary income-tested amount	45,300	40,600	48,200	89.7
Supplementary benefit (cheque for the elderly)	9,700	8,800	10,300	31.9
ATP	11,900	13,400	10,700	83.4
Private pensions (2 nd and 3 rd pillar)	81,100	93,700	69,500	39.6
Civil servant pension	143,300	148,800	138,400	14.9
Average total pension	173,200	188,100	163,300	

Source: ATP (2013).

Gender gaps in employment and pay. The gender pension gap indicator presents a snapshot of developments in the employment and pension system factors, which determine the size of the gap. Since it is calculated for the entire population of 65-79 year olds (i.e. the ‘stock’) there is a considerable inertia in its development. To get a sense of whether it is likely to reduce or increase one can look at trends in the various gender gaps in employment and at how the pension system is changing.

The gender gap⁴⁷ in the *employment rate of older workers* (age 55-64) has decreased by 3.8 p.p. over the period of 2004-2014 (EU-28: -5 p.p.) and amounted to 11.3 p.p. in 2014 (EU-28: 13.7 p.p.). The gender gap in the *duration of working life*, which in 2013 came to 2.6 years (EU-28: 5.2 years) has decreased by 1.4 years since 2004 (EU-28: -1.2 years). The gender gap⁴⁸ in *part-time employment* (for people aged 20-64), which reached 19.5 p.p. in 2014 (EU-28: 23.5 p.p.), has decreased slightly by 1.6 p.p. since 2004. The gender *pay gap*⁴⁹, which in 2013 at 16.4 percent was equal to the EU-28 average (16.4 percent), has decreased by 1.3 p.p. since 2007 (EU-28: increase by 0.3 p.p. over the period of 2010-2013).

This implies a further reduction of the gender gap in pensions as far as the employment factors are concerned. Yet, the trend in the overall pension system is towards a much larger weight on benefits from defined contribution occupational schemes. The universal old age pension, which so far has played a major role in keeping the gender pension gap low, will have a smaller weight in the average pension package in the future. Looking at contributions to occupational pensions a large SFI study find that men and women pay in almost the same share of their gross income but because men have higher gross income than women they also pay larger contributions in absolute terms.⁵⁰ At the same time men have substantially larger savings in third pillar schemes than women.

Future adequacy

Denmark has reformed its pension system to take into account that people live longer and that its population is ageing. The Welfare Agreement of 2006 and the Retirement Reform of 2011 addressed exactly the issues of long-term sustainability. Hence, pension ages will in the future be adjusted with changes in longevity. This will not only boost the sustainability of the system, but also it will provide more time for people to build entitlements and thus contribute to more adequate pensions.

⁴⁷ Difference between values for men and women.

⁴⁸ Difference between values for women and men (for part-time employment).

⁴⁹ The unadjusted Gender Pay Gap (GPG) represents the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. Industry, construction and services (except public administration, defense, compulsory social security). Data source: Eurostat [earn_gr_gpgr2]

⁵⁰ Amilon et al 2014, op.cit.

Theoretical replacement rates can help us know something about how the future adequacy may be of pensions for different socio-economic groups given certain assumptions. Let us illustrate this with the example of a person working 40 years up to the standard pension age. The net replacement rate is expected to rise in the period from 2013 to 2053 for a low wage earner from 94.1 to 95.3, for an average earner from 68.4 to 73.3, and for a high earner from 40.8 to 73.3. The character of the system shows sign of both continuity and change. The system shows continuity in keeping a good adequacy for persons with low earnings. The system shows change in providing higher benefits for average earners, and, most notably, high earners. High earners can expect nearly a doubling of their (theoretical) net replacement rate.

Challenges for pension adequacy

In the medium to long-term the main adequacy (and sustainability) challenge for the Danish pension system comes from the ability of labour markets to adjust to the phasing out of early retirement and the perpetual rise in the pensionable age. Will the labour market be willing to employ people and will people be able to continue working until the pensionable age as it rises (as expected) to 70 in the 2040 and continue to increase each 5 years?

Thus one key challenge for the adequate income protection of Danes from their late 60's till their early 70's would seem to be to secure the ability of Danish labour markets to extend working lives (effective pensionable age) in line with the rise in the formal pensionable age.

In terms of poverty protection the virtue of the Danish system of old age provision is that it combines a good minimum pension with a comprehensive, and mostly free of charge or heavily subsidised, system of benefits in kind. This combination helps reduce poverty (as measured at the 50 percent of the median) and severe material deprivation. However, one group that is particularly exposed to inadequate pension entitlements is persons, who have not lived 40 years in Denmark between the age of 15 and 67 years and therefore only entitled to a fraction of the public old age pension equal to 1/40 per year of residence. They may however, be entitled to a means-tested personal allowance (a kind of social assistance for old age pensioners) as a monthly benefit or as a help to cover specific expenditures. It is granted after an individual assessment. The Expert Commission on Poverty found that the number of fraction pensioners at risk of poverty at 50 percent of the median income had more than tripled risen from 1999 to 2010.⁵¹ In a similar vein Statistics Denmark reports of a growing number of people receiving a reduced old-age pension.⁵² Finally, the Association of Danish Insurers finds that while the at-risk of poverty at the 50 percent of the median income level is as low as 0.15 percent for retired persons of Danish origin, it is 4 percent for retired persons with a non-western origin due to the fraction pensions.⁵³

5. Sustainability

The evolution of the demography, employment rate and expenditure can give us information about the sustainability of the pension system in the future.

⁵¹ Ekspertudvalget om fattigdom 2013, op.cit.

⁵² Danmarks Statistik (2013) Flere folkepensionister får nedsat tillæg, Nyt fra Danmarks Statistik, nr. 269, retrieved on 5 December 2014 at www.dst.dk

⁵³ Andreas Nielsen 2013, Pensionisternes økonomi, Analytical report by the branch association for Danish insurers, retrieved on 12 October 2014 at www.forsikringogpension.dk

Demography

The old-age dependency ratio (population aged 65 and over as a percentage of the population aged 20-64) in Denmark is projected to increase from 31.0 percent in 2013 (EU-28: 30.3 percent) to 43.6 percent in 2053 (EU-28: 54.9 percent).

Denmark belongs to the group of Member States where the increase in old-age dependency ratio is projected to be below the EU-28 average. Over the period 2013 to 2053, the old-age dependency ratio is projected to increase by 12.6 p.p. (EU-28: 24.6 p.p.).

The share of working-age population (20-64) (58.3 percent of the total population in 2013) is projected to drop by 4.0 p.p. by 2053 (to 54.3 percent of the total population), compared with 9.2 p.p. for the EU as a whole by 2053.

The economic old-age dependency ratio for Denmark is projected to rise by 9.4 p.p. from 36.0 percent in 2013 to 45.4 percent in 2053 but it will be below the EU-28 average (66.2 percent in 2053).

Employment

The labour market participation rate (of people aged 20-64) in Denmark (81.0 percent) was above the EU-28 average in 2013 (76.5 percent), and is projected to remain above the EU-28 average in 2053 (83.2 percent versus 79.9 percent). Over the period 2013 to 2053, the participation rate of older workers (aged 55-64) is projected to increase by 12.5 p.p. (from 65.3 percent in 2013 to 77.8 percent in 2053), more than in the EU-28 (15.3 p.p.: from 54.4 percent in 2013 to 69.7 percent in 2053).

According to the 2015 Ageing Report, employment rate (of people aged 20-64) is projected to increase from 75.7 percent in 2013 (EU-28: 68.4 percent) to 79.4 percent in 2053 (EU-28: 74.9 percent). Employment rate of older people (aged 55-64) is projected to change from 62.0 percent in 2013 to 75.2 percent in 2053 (EU-28: from 50.3 percent to 66.6 percent).

The employment rate for older workers (from 55 to 64 years) in Denmark in 2013 was above the EU-28 average: 62.0 percent (66.9 percent – men, 57.1 percent – women) versus 50.3 percent at the EU-28 level (57.6 percent – men, 43.3 percent – women).

The effective exit age from the labour force in 2013 was 64.5 (65.6 – for men, 63.4 – for women) and it is below the EU-28 average (63.1 – total, 63.5 – for men, 62.7 – for women).

Main drivers of pension expenditure

According to the 2015 Ageing Report, the gross public pension expenditure will decrease from 10.3 percent of GDP in 2013 to 7.2 percent of GDP in 2060.

In accordance with the 2015 Ageing Report, the demographic factor has the strongest effect (+3.6 p.p. of GDP) on gross public pension expenditure over 2013-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and career shift). The lowering effect of coverage ratio (-3.6 p.p.) and benefit ratio (-2.0 p.p.) on the public pension expenditure are more pronounced than the employment rate effect (-0.5 p.p.).

The Ministry of Finance estimated that the Retirement Reform of 2011 contributed to the sustainability of the public finances with EUR 2.4 billion and increased labour supply with 65,000 persons.⁵⁴

⁵⁴ Finansministeriet 2011, Fakta-ark om tilbagetrækningsreformen, www.fm.dk.

6. Main opportunities for addressing pensions-related challenges

To avoid a widening gap between opportunities in labour markets for longer working lives and developments in the pensionable age it would seem urgent to increase the ability of labour markets to employ people to higher ages and strengthen measures in work places and labour markets to enable and encourage women and men to work longer. Policy makers and public authorities would have to work closely with the social partners to bolster opportunities for longer working lives both on the demand and the supply side.

The low pensions for the so-called 'residual' group (who often has a high replacement rate since the national old age pension is independent of previous contributions or earnings) is mainly due to low earnings during the years of working age and hence few contributions to supplementary pension schemes. Hence, the best means to lift pensions for this group is to get more of them into work earlier and for longer periods. Still employment is not a realistic solution for all persons with low pensions.

As announced in the Government Platform, June 2015, the Government will in spring 2016 implement a pension reform, the main objective of which is to significantly reduce the residual group of persons without any old-age savings of their own.

7. Background statistics – Denmark

1. Relative incomes of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.76	0.80	0.74	0.06	0.08	0.04
Income quintile share ratio (S80/S20), 65+	3.2	3.4	3.1	0.3	0.1	0.5

2. Poverty and material deprivation

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+	11.4	9.4	13.0	-7.2	-7.8	-6.6
At-risk-of-poverty rate (AROP), 65+	10.6	8.7	12.2	-7.5	-8.3	-6.7
Severe material deprivation (SMD), 65+	1.0	1.3	0.8	0.1	0.5	-0.2
At-risk-of-poverty or social exclusion (AROPE), 75+	17.1	16.2	17.7	-6.1	-10.3	-3.4
At-risk-of-poverty rate (AROP), 75+	16.8	16.2	17.1	-5.9	-9.7	-3.6
Severe material deprivation (SMD), 75+	1.1	1.8	0.6	0.6	1.2	0.1
Relative poverty gap, 65+	9.7	7.6	11.2	1.8	0.1	3.1
At-risk-of-poverty rate (AROP), 65+: 40 % threshold	1.6	1.5	1.6	0.4	0.2	0.5
At-risk-of-poverty rate (AROP), 65+: 50 % threshold	2.8	2.5	3.0	-0.2	0.2	-0.6
At-risk-of-poverty rate (AROP), 65+: 70 % threshold	28.8	25.9	31.1	-10.9	-11.8	-10.1

3. Housing situation of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Housing cost overburden rate, 65+	24.3	19.1	28.6	3.6	3.0	4.3
Tenure status among people 65+: share of owners	67.1	73.3	61.9	6.6	4.4	7.9
Severe housing deprivation rate, 65+	0.0	0.0	0.0	0.0	0.0	0.0

4. Income replacement by pension systems

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Aggregate Replacement Ratio (ARR)	0.44	0.42	0.46	0.03	0.04	0.02
Benefit Ratio (BR) (Public pensions)	42.5					
Gross Aggregate Replacement Rate (Public pensions)	39.7					
Gender Gap in Pension Income, % (65-79)	6.5*			-13.5*		
Gender Gap in non-coverage rate (W-M in p.p.) (65-79)	-0.1*			0.7*		

5. Sustainability and context indicators

Indicator	2013			Projections for 2053		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65+, years	18.9	17.5	20.2	23.1	21.6	24.6
Old-age dependency ratio (20-64)	31.0	27.9	34.1	43.6	39.2	48.1
Economic old-age dependency ratio (15-64)	36.0	30.2	42.3	45.4	39.2	52.0
Employment rate, age group 55-64	61.7	66.5	56.8	75.2	76.4	73.9
Pension expenditure as % of GDP (ESSPROS)	14.5*			Projections for 2060		
Gross public pensions as % of GDP (AWG projections)	10.3			7.2		

Data source: Eurostat. Sustainability indicators and projections (EPC AWG) – Commission Services (DG ECFIN), based on The 2015 Ageing Report. Data on gender gaps – ENEGE. Notes: * - 2012 data.

6. Theoretical Replacement Rates (TRRs)

TRR case	Net				Gross					
	2013		2053		2013		2053			
	Men	Women	Men	Women	Men	Women	Men	Women		
Average Earnings	Base case I: 40 years up to age 65		n.a.		47.7		n.a.			
	Base case II: 40 years up to the SPA		73.3		47.7		63.5			
	Increased SPA: from age 25 to SPA		81.7		47.7		71.4			
	AWG career length case		68.4	75.7	77.3	74.6	47.7	58.6	67.3	64.6
	Longer career I: from age 25 to 67		n.a.		n.a.		n.a.			
	Shorter career I: from age 25 to 63		n.a.		n.a.		n.a.			
	Longer career I: from age 25 to SPA+2		86.9		76.2		76.2			
	Shorter career I: from age 25 to SPA-2		75.9		65.9		65.9			
	Career break – unemployment: 1 year		80.8		70.6		70.6			
	Career break – unemployment: 2 years		79.9		69.7		69.7			
	Career break – unemployment: 3 years		79.1		68.9		68.9			
	Career break due to child care: 0 year		81.7		71.4		71.4			
	Career break due to child care: 1 year		81.3		71.0		71.0			
	Career break due to child care: 2 years		80.3		70.1		70.1			
	Career break due to child care: 3 years		79.3		69.2		69.2			
	Short career (30 year career)		67.8		58.3		58.3			
	Early retirement due to unemployment		78.9		68.7		68.7			
	Early retirement due to disability		78.5		68.4		68.4			
	Indexation: 10 years after retirement		79.4		69.3		69.3			
	Low Earnings (66%)	Base case I: 40 years up to age 65		n.a.		69.6		n.a.		
Base case II: 40 years up to the SPA		95.3		69.6		81.6				
Increased SPA: from age 25 to SPA		101.9		69.6		89.9				
AWG career length case		94.1	107.8	102.7	100.0	69.6	87.2	90.8	88.0	
Longer career I: from age 25 to 67		n.a.		n.a.		n.a.				
Shorter career I: from age 25 to 63		n.a.		n.a.		n.a.				
Longer career I: from age 25 to SPA+2		107.0		94.8		94.8				
Shorter career I: from age 25 to SPA-2		101.2		89.3		89.3				
Career break – unemployment: 1 year		101.1		89.1		89.1				
Career break – unemployment: 2 years		100.2		88.3		88.3				
Career break – unemployment: 3 years		99.4		87.6		87.6				
Career break due to child care: 0 year		101.9		89.9		89.9				
Career break due to child care: 1 year		101.5		89.6		89.6				
Career break due to child care: 2 years		100.4		88.5		88.5				
Career break due to child care: 3 years		99.4		87.6		87.6				
Short career (30 year career)		n.a.	n.a.	91.8	n.a.	n.a.	76.5	76.5		
Early retirement due to unemployment		99.4		87.2		87.2				
Early retirement due to disability		98.9		86.8		86.8				
Pension rights of surviving spouses		101.9		89.9		89.9				
High		Base case I: 40 years up to age 65		n.a.		26.3		n.a.		
	Base case II: 40 years up to the SPA		73.3		26.3		60.2			

Data source: Member State; n.a. – not available

Germany (DE)

1. General description of the pension system

Pensions in Germany stem from different sources and are often organized according to the occupational status. There are three pillars of pensions schemes:

- Statutory pension schemes are the basis of (in particular) the old age income as the first tier;
- Occupational pension schemes as the second tier; and
- Private voluntary pension schemes as the third tier;
- Germany has no general minimum pensions, but it has means-tested social assistance for all persons below a certain income line.

The most important pillar is the social (statutory) pension insurance (SPI). The SPI covers, with a few exceptions, all employees, but also some groups of self-employed people. Insured are also, among others, claimants of income-replacement benefits (sickness benefit, injury benefit, unemployment benefit I), mothers or fathers during the initial child-raising period (the first three years for children born since 1992, and two years for children born earlier) and carers (in periods in which unpaid home care is provided to a relative).

SPI provides old-age pensions, disability pensions and survivors' pensions (widows/widowers and orphans). The SPI is PAYG. Financing stems mainly from earnings-related social insurance contributions as well as from general tax revenue. In 2014 insured employees and their employers each contributed 9.45 percent of the employees' gross wage to the SPI. Tax-funded government subsidies accounted for 24 percent of the total receipts. Other systems for certain groups, e.g. the civil servants' pension, are also regarded as part of the first pillar, but these pension systems are separate from the SPI.

Entitlements are based on qualifying (contribution) periods. Each year, the insured income is converted into "pension points". An individual receives one pension point if individual gross annual earnings were equal to the average earning of all insured persons. The pension points are then multiplied by the specific "pension-type factor" (e.g. 1.0 for old-age pensions, or 0.55 for a widower's pension) and by the "pension point value" to determine the pension payment. The pension point value is valid both for newly retired and already retired pensioners, and pension point value is regularly adjusted on 1 July each year, based mainly on gross wage growth. The gross pensions are subject to income-tax and reduced by contributions to the long-term care and health insurance systems.

Occupational pension schemes are the second pillar of the German pension system. They are mainly pensions for old-aged and, in general, voluntary in the private sector. A great variety exists in the design of these schemes. Traditionally, pensions were mainly defined-benefit, employer-financed and 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 being financed mainly (directly) by employees (and no longer employers), as well as towards defined contribution instead of defined benefit. This is taking place in particular because of a new right for the employee, introduced in 2001, to use earnings up to a certain amount to accumulate an occupational pension claim ("earnings conversion") without paying income tax and social insurance contributions on that part of his or her earnings.

The third pillar involves a great variety of voluntary funded types of savings for old age, 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 are those private pension schemes which

are eligible (because certified) for subsidies (supplements) or tax breaks (labelled the *Riester-Rente*). The main requirement for a subsidised “*Riester-contract*” with a life insurance or a bank is that at least the nominal value of contribution payments must be guaranteed. The direct subsidies by the state are thereby particularly attractive for low-income earners and employees with children.

Regarding the composition of old age pensions, social (statutory) pension insurance (SPI) is by far the dominating element. Figures from 2011 indicate that more than 90 percent of the population aged 65 years and older receives a SPI pension (including survivors’ pension). Pensions from the second pillar in the private sector are received by 21 percent in western Germany and 2 percent in eastern Germany, respectively. In the same year, SPI-Pensions accounted for 64 percent of old-age income on average, other pension systems (first of all, occupational pension schemes and civil servants pensions) for 20 percent, and voluntary provident fund and personal pension schemes for 9 percent (Bundesministerium für Arbeit und Soziales 2012).

The standard retirement age (without deductions) in Germany is being gradually increased from 65 to 67 years between 2012 and 2029. In 2014 the standard old age pension (without deductions) is paid at age 65 and three months; in 2015 at age 65 and four months. 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. The long service pension can be demanded if the age of 63 is reached and a 35-year qualifying period is completed, at a reduced amount though, as the pension will be shortened by 0.3 percent for every month the early retirement pension is claimed. Disability pensions can be claimed at any age. A condition for this is that the persons can no longer work (i.e., less than three hours a day - partial earning incapacity / less than six hours a day - permanent earning incapacity). There are no special retirement conditions for people who do arduous work.

There is no limit on supplementary income with the standard old age pension. But when an old age pension is claimed before reaching the statutory retirement (i.e. early retirement), then they only can earn an amount of EUR 450 a month on top of the pension. Employees who continue working after reaching the statutory retirement age will yield a higher pension accrual of 0.5 percent for each month of postponement.

2. Reform trends

The new German pension strategy, implemented mainly in 2001 and 2004, fundamentally changed the pension indexation formula. In particular, the pension point value is adjusted in relation to the gross wage growth as a starting point. In addition, the ‘contribution factor, accounts for changes of the contribution rate to the statutory pension scheme and to the subsidised (voluntary) private pension schemes. An increase of contribution rates will reduce the adjustment of the pension point value and respectively vice versa. The ‘sustainability factor’, that measures the change of the number of standardized contributors in relation to the number of standardized pensioners, links the adjustment of the pension point value to the changes in the statutory pension scheme’s dependency ratio, the ratio of pensioners to contributors. The contribution factor and the sustainability factor were introduced in order to keep the (total) contribution rate below 20 percent up to 2020 and below 22 percent up to 2030.

The result is a gradual but noticeable reduction in the pension level. The replacement rate by the national definition (pensions compared to earnings, both reduced by social contributions but not by taxes) has been reduced from 52.9 percent in 2001 to 48.0 percent in 2014, and is predicted to decline to 44.4 percent in 2028. At the same time, incentives for private pension built-up were introduced to close the rising gap from the first pillar. However, it has become

apparent that only a part of the employees are able or willing to make additional private provision. In 2011 well over 70 percent of employees aged 25 to 64 with compulsory social insurance coverage are entitled to a supplementary occupational pension or a Riester pension.

In the federal election campaign of 2013, this problem of pension adequacy played an important role. One theme was a feared increase in future old-age poverty and the question of the political consequences and counter-measures. Furthermore, it is criticized that the acquisition costs of private “Riester-pensions” are too high and the yields too low.

Another dominant election theme was the increase in the retirement age (mentioned above), and the availability of the necessary employment possibilities for older workers. If a large group of workers is unable to continue working over the age of 63 due to their limited psycho-physical capacity, they have to suffer high deductions in their pension entitlements. This effect also has to be seen in the context of the general reduction in the generosity of the first pillar.

The new grand coalition government decided against a reduction of the SPI contribution rate for 2014 but for 2015 contribution rate was lowered to 18.7 percent. The contribution rate hasn't been that low since mid of the 1990th. In order to improve the SPI benefits, the Pension Benefits Improvement Act came into force on 1 July 2014 and mainly contains three elements:

- (1) Extension of the recognition of the initial child-raising period for children born before 1992 from one to two years. An additional earning point is granted for each child, resulting (2014) in a higher gross pension of EUR 28.61 (West) or EUR 26.39 (East). It's mostly women who benefit from this extension of child-raising periods.
- (2) Beginning in July 2014, the retirement age for persons with an exceptionally long insurance period (without deductions) has been brought forward to 63 years (Pension Benefits Improvement Act) (see below) for persons who were born between July 1951 and December 1952. For the later-born cohorts 1953-1963 the qualifying age is gradually increased again to 65 years (the age limit previously in place). A public debate took place as to whether the introduction of the pension at 63 years without deductions contradicts the objective of prolonging working lives.
- (3) Two improvements for recipients of a disability pension: First, these persons are treated as if they had continued to work for two more years obtaining and earned their previous average earnings (extension of the so-called added period by 2 years, from age 60 to 62, to be valued at the rate of the individual's average earnings). Moreover, the last four years prior to the onset of the reduction in earning capacity are disregarded if they reduced the value of the added period (e.g. by a switch to part-time work or by periods of illness prior to receipt of the pension). These benefit improvements apply only to those who retire on 1 July 2014 or after.
- (4) However, within the context of disability pensions, the principle of '*rehabilitation measures before pension benefits*' is to be applied. In practice, this means that the German Pension Insurance Scheme (Deutsche Rentenversicherung) - by delivering benefits resp. services for prevention and participation - aims at maintaining resp. restoring the employability of the insured persons, especially also of the older persons. By the introducing of the so-called '*demographic component*' 2014 by law, it has been ensured, that - when setting the annual expenditure of pension insurance - the respective demographically induced temporary additional financial needs for these benefits and services are taken into account.

In addition, the possibility for employer and employee to continue the labour agreement after reaching statutory retirement age was regulated within this reform package. Labour law

contains no provisions for an automatic expiration of an employment relationship when the statutory pension age is reached. However, in practice collective agreements regularly contain clauses providing for the termination of employment when reaching the statutory pension age. Part of the latest pension reform is a scheme whereby employers and employees can continue the employment relationship for a certain period of time from the beginning of the statutory pension age to attain more flexibility. The agreement on the postponement must be concluded during the term of the employment relationship.

The elements of the pension package lead to improvements for the concerned groups of pensioners. The additional expenditure for the pension package will be financed mainly from contribution revenue. However, contribution rate is projected to fulfil the legal limits of 20 percent in 2020 and 22 percent in 2030.

3. Impact of the crisis on current pension system and present pensioners

In the context of a relatively favourable development in the overall economy, the labour market and the public finances, there have been no benefits cuts during the last years in Germany. As mentioned above, pensions actually improved in 2014. Although the financial crisis has hit large parts of the real economy in Germany in 2009 (decline in GDP of 4.0 percent, adjusted for inflation), employment has been held constant. Since 2010 the GDP has been rising continuously, and employment has also expanded remarkably. The expansion of employment has led to an equally clear increase in SPI contribution revenues, which resulted in a substantial lowering of the contribution rate from 19.9 percent (2011) to 18.7 percent (2015). On the whole, the pay-as-you-go financing of the SPI has proved resistant to the financial crisis and has functioned as an automatic economic stabilizer. Generally, also the funded pension schemes did not suffer significantly under the crises. No payment had to be cut or reduced because of the crisis. But indeed the lasting period of low interest rates is still a challenge for all capital funded schemes.

4. Assessment of adequacy

Current adequacy

In 2013, the median income of older people relative to the income of the population aged 0-64 was 89 percent. In same year, the average old-age pension (before taxes) of the SPI stood at EUR 766, with huge differences across regions and populations though. First of all, distinctions are to be made between West and East Germany, and between men and women. In West Germany, the average amounts are EUR 1,003 (men) and EUR 512 (women), the latter also receiving an average amount of a widow's pension of EUR 576 (West Germany). In East Germany, the average amounts are EUR 1,096 (men) and EUR 755 (women). These figures reflect the dependency of pension entitlements on the duration of contribution payments and the individual earnings in this period.

In Germany, the rate of at-risk-of poverty and social exclusion for the population 65 and more was 16.0 percent in 2013 (men: 13.5 percent, women: 18.3 percent). It is below the average for the total population, but has slightly increased since 2008. For the older elderly (75+) the rate of at-risk-of-poverty and social exclusion is lower (total: 13.6 percent; men: 10.7 percent, women: 16.7 percent). These figures suggest that the younger cohorts are more affected by unemployment and low income work.

The rate of severe material deprivation of people aged 65 and more is 3.2 percent. In comparison with 2008, there has also been an increase (1.1 percent). It should be noted that the share of recipients of social minimum income benefits stood at a low 3.0 percent of the population 65+ in 2013 (West Germany: men 2.7 percent and women 3.6 percent; East

Germany: men 2.0 percent and women 2.2 percent). In contrast, the rate of recipients of social minimum income benefits of the population below age 65 is 9.5 percent. The risk to be in need of the needs-based pension supplement in old age thereby concentrates on singles.

Gender pension gap

The gender gap in pensions in Germany was 44 percent in 2012; and thus higher (by over 4 p.p.) than the EU-27 average. Over the period 2008 – 2012, the gender gap in coverage rate was around 4 p.p. lower than the EU average. The gender gap in annual earnings (24 percent in 2010), which is close to the corresponding EU average, is considerably lower than the gender gap in pensions.

These gender-gap calculations are based on EU-SILC data. They can be contrasted with census data from 2011. It can be seen that nearly 100 percent of the women aged 65+ receive a pension (old age pension and / or widow's pension). The vast majority of them receive a pension from the SPI: 91 percent in West Germany and 99 percent in East Germany. They receive hardly any pensions from the second and third pillar; this applies in particular for East Germany.

The causes of the gender differences in pensions are the following: today's older women had shorter periods of employment. In general, women tend to be more often affected by interruptions in employment and by career-breaks, many women work in part-time or in marginal employment, and women are more likely to work in the low-pay sector. This overall trend is less pronounced in East Germany, where full-time employment was (more) common. In 2013, the average insurance period is 40.3 years for men and 27.5 years for women (West Germany, figures for East Germany are not available). Men reach on average an earning-point of 1.0 every year; women only 0.76. These disadvantages in the employment and family area are partially compensated by the recognition of initial child-raising periods and by the recognition of periods of non-commercial home care in the pension system. Furthermore, 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. The average amount of a widow's pension in West Germany is higher (EUR 576) than the average "own-pension" of women (EUR 512).

The question as to whether the pension gap between men and women will decrease in the future is not easy to answer. On the one hand, the female labour force participation has increased in particular in western Germany. As a consequence, the upcoming cohorts of female pensioners will have more contribution years than the previous cohorts. This trend will be moderated by the increasing share of women working part-time and a constant gender pay gap on a comparatively high level during the past years.

Gender gaps in employment and pay. The gender pension gap indicator presents a snapshot of past developments in the employment, society and pension system factors, which determine the size of the gap. Since it is calculated for the entire population of 65-79 year olds there is certain inertia in its development. To get a sense of whether it is likely to reduce or increase one can look at trends in the various gender gaps in employment and at how the pension system is changing.

The gender gap⁵⁵ in the *employment rate of older workers* (age 55-64) has decreased by 5.3 p.p. over the period of 2004-2014 (EU-28: -5 p.p.) and amounted to 11.4 p.p. in 2014 (EU-28: 13.7 p.p.). The gender gap in the *duration of working life*, which in 2013 came to 4.7 years (EU-28: 5.2 years) has decreased by 1.4 years since 2004 (EU-28: -1.2 years). The gender gap in the *employment rate* (for people aged 20-64) decreased by 2.6 p.p. from

⁵⁵ Difference between values for men and women.

12.2 p.p. to 9.6 p.p., the gender gap⁵⁶ in *part-time employment* (for people aged 20-64), which reached 37.9 p.p. in 2014 (EU-28: 23.5 p.p.), has thereby increased by 1.5 p.p. since 2004. The gender *pay gap*⁵⁷, which in 2013 at 21.6 percent was higher than the EU-28 average (16.4 percent), has decreased by (only) 1.2 p.p. since 2007 (EU-28: increase by 0.3 p.p. over the period of 2010-2013). Overall, this implies a trend towards a reduction of the gap as far as the employment factors are concerned. Furthermore, the additional earning point granted for each children born before 1992 will reduce the gender pension gap for current and future pensioners.

Future adequacy

The analyses of the future adequacy of pensions, and here particularly of the TTRs (Theoretical Replacement Rates), are based on model calculations. The model calculations of the OECD show remarkable increases in the net replacement rates for average and low wage earners. After a 40 year career up to the standard pensionable age, the net TRR for an average earner stood at 57.3 percent in 2013, with this ratio being projected to increase to 67.3 percent in 2053. This overall increase in replacement rates over time is driven by the fact that the projected decrease in the SIP replacement rate will be over-compensated by the projected increase of private pension payments from the so-called Riemer pension. However, the underlying assumption that employees save 4 percent of their income constantly over their entire working life and that real interest rates of the private and/or occupational pensions reach an average of 3.0 percent may be called into question for some people.

In particular as the interest rates have been decreasing and the coverage of supplementary schemes is stagnating. The “Riemer” pension had a coverage of about 35 percent of the employees aged 25 to 65 in 2011. The number of private pension contracts, government-sponsored by tax relief supplements, thereby rose sharply between 2001 (1.4 million) and 2014 (16.3 million). The main reason for the stagnation of coverage since 2011 is the trend in the capital market (a long period of low interest rates) and the high cost of private life insurances. Moreover, the government reports that nearly 20 percent of insurance policies are dormant (premiums are not being paid).

About 12.5 million employees in the private sector have built up entitlements to an occupational pension. In addition to the 5.2 million employees in the public sector, approximately 17.8 million employees are protected by the second pillar; this is equivalent to about 60 percent of the employees subject to social insurance contributions. At the same time, there are large differences between the various groups of employees and the various sectors of the economy. Occupational pensions are rarely to be found in small- and medium-sized companies, in the service sector and to a certain extent in Eastern Germany. In particular those pensioners who receive low SPI pensions - on the basis of their professional biographies - cannot expect additional benefits from the second and third tier.

Challenges for pension adequacy

The German pension system faces some challenges. As explained, the pension level of the SPI has been reduced from 52.9 percent of the average net income before taxes (2001) to 48.0 percent (2014). The change in the pension adjustment formula will lead to a further decrease in the pension level. According to government forecasts, the pension level will be reduced to 44.4 percent in 2028. The pensioners - even those who do not receive higher pensions – will

⁵⁶ Difference between values for women and men (for the employment rate and part-time employment).

⁵⁷ The unadjusted Gender Pay Gap (GPG) represents the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. Industry, construction and services (except public administration, defense, compulsory social security). Data source: Eurostat [earn_gr_gpgr2]

have to compensate this decline in public pension levels through longer working lives and increased private pension built up. For those who did not build up individual private or occupational pension allowances might be a risk that this will lead to a situation in which lower and middle incomes only result in an individual pension that is no higher than the social minimum income benefit level. In particular single women and recipients of a disability pension are affected (Bäcker 2013).

5. Sustainability

The evolution of the demography, employment rate and expenditure can give us information about the sustainability of the pension system in the future.

Demography

German population is slightly older than in the EU on average. The old-age dependency ratio (population aged 65 and over as a percentage of the population aged 20-64) in Germany is projected to increase from 34.3 percent in 2013 (EU-28: 30.3 percent) to 63.5 percent in 2053 (EU-28: 54.9 percent). Germany belongs to the group of Member States where the increase in old-age dependency ratio is projected to be above the EU-28 average. Over the period 2013 to 2053, the old-age dependency ratio is projected to increase by 29.2 p.p. (EU-28: 24.6 p.p.).

The share of working-age population (20-64) (61.2 percent of the total population in 2013) is projected to drop by 10.6 p.p. by 2053 (to 50.7 percent of the total population), compared with 9.2 p.p. for the EU as a whole by 2053. The economic old-age dependency ratio for Germany is projected to rise by 30.2 p.p. from 41.2 percent in 2013 to 71.4 percent in 2053 and it will be above the EU-28 average (66.2 percent in 2053).

Employment

The labour market participation rate (of people aged 20-64) in Germany (81.6 percent) was above the EU-28 average in 2013 (76.5 percent), and is projected to be above the EU-28 average in 2053 (84.3 percent versus 79.9 percent). The participation rate of older workers (aged 55-64) in 2013 was higher (67.6 percent) than the EU-28 average (54.4 percent). Over the period 2013 to 2053, the participation rate of older workers is projected to increase by 8.2 p.p. to 75.8 percent in 2053.

According to the 2015 Ageing Report, employment rate (of people aged 20-64) is projected to increase from 77.3 percent in 2013 (EU-28: 68.4 percent) to 79.8 percent in 2053 (EU-28: 74.9 percent). Employment rate of older people (aged 55-64) is projected to change from 63.7 percent in 2013 to 71.5 percent in 2053 (EU-28: from 50.3 percent to 66.6 percent). The employment rate for older workers (from 55 to 64 years) in Germany in 2013 was above the EU-28 average: 63.7 percent (70.0 percent – men, 57.6 percent – women) versus 50.3 percent at the EU-28 level (57.6 percent – men, 43.3 percent – women). The effective exit age from the labour force in 2013 was 64.7 (65.1 – for men, 64.2 – for women) and it is above the EU-28 average (63.1 – total, 63.5 – for men, 62.7 – for women).

Main drivers of pension expenditure

According to the 2015 Ageing Report, the gross public pension expenditure will increase from 10.0 percent of GDP in 2013 to 12.7 percent of GDP in 2060. The increase of public pension expenditure is comparable low compared with the approximately doubling of the old-age dependency ratio in Germany. According to the 2015 Ageing Report, the demographic factor has the strongest upward effect (+7.3 p.p. of GDP) on gross public pension expenditure over 2013-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and career shift). The lowering effect

of coverage ratio (-1.3 p.p.) and benefit ratio (-2.2 p.p.) on the public pension expenditure are more pronounced than the employment rate effect (-0.4 p.p.).

6. Main opportunities for addressing pensions-related challenges

For several years, the social and welfare organisations as well as the trade unions have been demanding a stabilisation of the SPI pension level. This would require an increase in current and future contribution rates. It is unclear whether the expansion and promotion of private and occupational pension provision can resolve the problem of adequacy, in particular if the occupational and/or private retirement provision is voluntary. It also remains to be considered that funded occupational or private pension schemes are highly dependent on capital market developments.

Measures to address these challenges could include (i) expansion of occupational pensions with regard to SMEs; (ii) higher pensions for low income workers and the unemployed.

Part of the public and political debate on pensions is the question of how the retirement age can be made more flexible, either by exceeding the ceiling for additional income when people claim an old age pension before reaching the statutory retirement age, or by establishing incentives for a sideline activity/second job in addition to the receipt of a standard old age pension.

7. Background statistics – Germany

1. Relative incomes of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.89	0.90	0.88	0.02	0.01	0.01
Income quintile share ratio (S80/S20), 65+	3.8	3.9	3.7	-0.2	-0.3	-0.2

2. Poverty and material deprivation

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+	16.0	13.5	18.3	0.5	0.9	0.1
At-risk-of-poverty rate (AROP), 65+	14.9	12.7	17.0	0.0	0.7	-0.4
Severe material deprivation (SMD), 65+	3.2	2.7	3.7	1.1	1.2	0.9
At-risk-of-poverty or social exclusion (AROPE), 75+	13.6	10.7	16.7	-1.0	0.3	-2.2
At-risk-of-poverty rate (AROP), 75+	12.6	10.1	15.3	-1.5	0.0	-2.8
Severe material deprivation (SMD), 75+	2.0	1.2	2.8	0.7	0.8	0.5
Relative poverty gap, 65+	18.4	19.1	18.1	1.6	2.3	1.3
At-risk-of-poverty rate (AROP), 65+: 40 % threshold	2.8	2.8	2.8	-0.5	-0.1	-0.9
At-risk-of-poverty rate (AROP), 65+: 50 % threshold	8.0	6.8	9.1	0.5	0.7	0.3
At-risk-of-poverty rate (AROP), 65+: 70 % threshold	24.0	21.3	26.5	-1.6	-1.2	-1.8

3. Housing situation of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Housing cost overburden rate, 65+	22.3	19.0	25.5	3.0**	2.3**	3.7**
Tenure status among people 65+: share of owners	57.4	60.8	54.2	0.2**	0.4**	-0.1**
Severe housing deprivation rate, 65+	0.2	0.4	0.1	-0.1	0.0	-0.1

4. Income replacement by pension systems

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Aggregate Replacement Ratio (ARR)	0.47	0.46	0.49	0.03	0.00	0.02
Benefit Ratio (BR) (Public pensions)	44.6					
Gross Aggregate Replacement Rate (Public pensions)	42.5					
Gender Gap in Pension Income, % (65-79)	44.6*			1.6*		
Gender Gap in non-coverage rate (W-M in p.p.) (65-79)	3.9*			-0.8*		

5. Sustainability and context indicators

Indicator	2013			Projections for 2053		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65+, years	19.5	18.0	21.0	23.5	22.0	24.9
Old-age dependency ratio (20-64)	34.3	29.3	39.4	63.5	57.3	70.0
Economic old-age dependency ratio (15-64)	41.2	32.5	51.3	71.4	61.4	82.6
Employment rate, age group 55-64	63.6	69.9	57.6	71.5	72.8	70.2
Pension expenditure as % of GDP (ESSPROS)	12.3*			Projections for 2060		
Gross public pensions as % of GDP (AWG projections)	10.0			12.7		

Data source: Eurostat. Sustainability indicators and projections (EPC AWG) – Commission Services (DG ECFIN), based on The 2015 Ageing Report. Data on gender gaps – ENEGE. Notes: * - 2012 data, ** - 2010 data (data for 2008 – n.a.).

6. Theoretical Replacement Rates (TRRs)

TRR case	Net				Gross				
	2013		2053		2013		2053		
	Men	Women	Men	Women	Men	Women	Men	Women	
Average Earnings	Base case I: 40 years up to age 65	57.0		67.6		39.9		49.5	
	Base case II: 40 years up to the SPA	57.3		67.3		40.1		49.2	
	Increased SPA: from age 25 to SPA	57.6		74.4		40.3		56.1	
	AWG career length case	62.8	55.4	76.6	71.8	43.9	38.8	58.2	53.4
	Longer career I: from age 25 to 67			74.4				56.1	
	Shorter career I: from age 25 to 63			61.0				43.6	
	Longer career I: from age 25 to SPA+2			84.0				65.2	
	Shorter career I: from age 25 to SPA-2			67.6				49.5	
	Career break – unemployment: 1 year			74.1				55.8	
	Career break – unemployment: 2 years			73.8				55.5	
	Career break – unemployment: 3 years			72.4				54.0	
	Career break due to child care: 0 year							75.6	
	Career break due to child care: 1 year							74.1	
	Career break due to child care: 2 years							74.0	
	Career break due to child care: 3 years							73.4	
	Short career (30 year career)			60.1				42.8	
	Early retirement due to unemployment			70.0				51.7	
	Early retirement due to disability			58.1				41.2	
	Indexation: 10 years after retirement			69.7				51.4	
	Low Earnings (66%)	Base case I: 40 years up to age 65	51.6		66.7		39.9		49.5
Base case II: 40 years up to the SPA		51.9		74.3		40.1		56.4	
Increased SPA: from age 25 to SPA		52.1		76.4		40.3		57.3	
AWG career length case		56.8	50.1	77.4	72.0	43.9	38.8	58.2	53.4
Longer career I: from age 25 to 67				75.7				56.7	
Shorter career I: from age 25 to 63				58.7				43.6	
Longer career I: from age 25 to SPA+2				85.3				65.2	
Shorter career I: from age 25 to SPA-2				66.7				49.5	
Career break – unemployment: 1 year				75.6				56.6	
Career break – unemployment: 2 years				75.5				56.5	
Career break – unemployment: 3 years				75.1				56.1	
Career break due to child care: 0 year								76.0	
Career break due to child care: 1 year								76.0	
Career break due to child care: 2 years								75.8	
Career break due to child care: 3 years								75.3	
Short career (30 year career)		56.1		72.2		39.3		53.6	
Early retirement due to unemployment				74.7				55.8	
Early retirement due to disability				71.2				52.9	
Pension rights of surviving spouses				96.9				76.5	
High		Base case I: 40 years up to age 65	48.9		50.7		29.9		36.9
	Base case II: 40 years up to the SPA	49.2		55.5		30.1		36.7	

Data source: TRRs for 2013 – Member State; TRRs for 2053 – OECD

Estonia (EE)

1. General description of the pension system

The Estonian pension system consists of three main schemes: a state pension insurance (a pay-as-you-go system with defined benefit); a compulsory funded pension scheme (defined contribution scheme), optional for older cohorts; and voluntary funded pension schemes (defined contribution scheme). The state pension insurance provides protection against the risks of old age, invalidity and survivorship and counts 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 compulsory funded scheme or not. Additional transfers from the general state budget have been necessary since the beginning of crisis.

The coverage of the state pension insurance system is practically universal. The statutory retirement age was 63 years for men in 2013-2014 and 62 years for women in 2013 and 62.5 in 2014. It will be equalised at 63 by 2016, and as from 2017 it will gradually increase to 65 by 2026. There is a possibility for early retirement 3 years prior to the normal retirement 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 pension the pension entitlement is reduced by 0.4 percent. When the pension is deferred the entitlement is increased by 0.9 percent for every month after the normal retirement age.

There are superannuated pensions and old-age pensions under favourable conditions for hazardous and arduous work. 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 which hinders continued work in such professions or positions. Each of professions has different requirement for length of work (usually between 20-25 years) and age when superannuated pensions can be received (usually 5–10 years before statutory pension age).⁵⁸

Old-age pensions are comprised of three components: the flat rate base amount, the pensionable length of service component (covering periods up to 1998); and 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 and survivor's pensions on the number of dependants. Pensions are indexed annually. The index is a weighted average of past consumer price index and past growth of social tax revenues to the pension insurance system (in a 20-80 proportion). Ad hoc changes to the indexation have been common.

Receiving pensions and simultaneous working is allowed; except in case of early retirement pensions. In case of superannuated pensions or special occupational pension the person is not allowed to continue working in the same occupation. Furthermore, working at the retirement age will increase future pensions via increase in the personal insurance component.

The compulsory funded defined-contribution (DC) scheme was introduced in 2002 by diverting a portion of contributions from the statutory PAYG scheme into private funds and

⁵⁸ Superannuated Pensions Act, translation published on 15.11.2013, retrieved on 10 November 2014 at <https://www.riigiteataja.ee/en/eli/515112013013/consolide>

introducing additional contributions by employees. The contribution rate is 6 percent of gross wages – the employee pays 2 percent from the gross wage and the employer another 4 percent (as part of the 20 percent pension insurance contribution). The amount of pension benefits 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 2013, the scheme covers about 81 percent of the population aged 18 to 63, but not all are active contributors (about 60 percent of participants contributed in 2013).⁵⁹ The first benefits were paid out in 2009.

In 1998, supplementary voluntary DC private pension schemes were introduced, participation in which can take a 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, but it is still limited with about 45 thousand contributors (about 6 percent of working age population) and about 61 thousand contracts in the form of life insurances in the end of 2013.⁶⁰

The Estonian pension system includes three minimum income guarantees. First, a guarantee that an employment-related old-age pension is not lower than the national pension rate. Second, the national pension that 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, all households are eligible to a means-tested subsistence benefit guaranteeing a minimum income.

2. Reform trends

Developments in the Estonian pension policy in 2010-2014 have been affected by the temporary measures adopted during the recent economic crisis in 2008-2010, their partial reversals in 2013-2017, increasing inflow to the work capacity pension scheme during the crisis, and consequent concerns about long-term sustainability of the pension scheme and adequacy of pensions. The main policy measures implemented during 2009-2014 were ad hoc changes in the pension indexation rule, which smoothed the value of nominal pensions over the cycle; a temporary suspension of the transfers to the compulsory funded pension scheme in 2009-2011, and its compensation mechanism in 2014-2017; a decision to increase the pension age for the period 2017-2026.

The state pension scheme (the I pillar) has had deficit, i.e. social tax revenues do not cover pensions, since the beginning of the economic crisis in 2008. It is accepted that deficit of the PAYG scheme during the next decade or even longer, need to be covered from the central state budget, i.e. from other tax revenues.

Transfers from social tax revenues to the mandatory 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. For 2014–2017, there is a compensation mechanism that will transfer additional social tax revenues to the funded scheme and increases pressure on the state budget. By September 2013, people who had joined the second pillar had an option to increase their contributions. About 106 000 people (i.e. 16 percent of all contributors) increased their contributions from 2 percent to 3 percent of gross wage and the share of social tax transferred to the funded scheme increased from 4 percent to 6 percent of gross wage. The transfers by the state increased from 4 percent to 6 percent also for those

⁵⁹ Ministry of Finance (2014) „Riikliku vanaduspensionini, kohustusliku kogumispensionini ja vabatahtliku kogumispensionini statistika. Seisuga 31.12.2013“, retrieved on 10 November 2014 at http://files.ee.omxgroup.com/pensionikeskus/dokumendid/kogumispensionini_statistika_012014.pdf

⁶⁰ Ibid.

180 000 people (28 percent 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 is a special tax-free pension allowance in addition to basic allowance. The income tax allowance for pensions increased from EUR 192 to EUR 210 per month since 1 January 2014 and further to 220 per month since 1 January 2015. Together with the general tax allowance (EUR 154 since 1 January 2015) it would mean that for an average non-working pensioner the pension is free from income tax as the average old-age pension was EUR 345 in December 2014.

In addition there were several other reforms. In 2012, the government has started the reform of special pensions. The crisis has strengthened the need for a reform in special pensions, but only minor steps have been made by 2014, despite the fact that the reform of special pensions was one of the agreements in the 2011 government coalition agreement. Since 1 January 2013 the special pensions of the Auditor General and the Chancellor of Justice and from 1 July 2013 the special pensions of judges have been abolished (maintaining the existing pension rights). Also the increase of old-age pension of civil servants has been abolished from 1 April 2013. In addition, the indexation of pensions that are regulated by the Police and Border Guard Act and the Military Service Act were changed from indexation based on the relevant salary rate to indexation based on the common pension index. Except for these legislative changes, the reform of the special pensions has halted.

Since 1 January 2013 a set of policy measures to increase the old-age pension of those who have raised children has stepped into force. These measures, influencing both the state pension insurance scheme and the compulsory funded pension scheme, are jointly referred to as parental pension (*vanemapension*). Although it increases pension expenditures, it is targeted at those who potentially suffer most from career breaks. Compared to initial legislation, one component of the parental pension was postponed by the new government, formed in spring 2014. The initial amendments stipulated that as of 1 January 2015 one of the parents of all children born before 1 January 2013 would receive an additional pension supplement at the value of one annual coefficient, but this was postponed by the new government until 1 January 2018, because of budgetary concerns.

Increasing number of work incapacity pensioners has put additional pressure on the sustainability of the PAYG pension scheme. As a result, at the end of 2014, the parliament approved the first package of laws, Work Capacity Benefit Act and the Modification of the Social Welfare Act and of the Labour Market Services Act, that launch a work capacity reform from 1 January 2016. The work capacity scheme will gradually replace the existing work incapacity pension scheme. With the work capacity reform the special work incapacity pensions and survivors pensions for the police and the prosecution have been abolished.

There are three other major topics, potentially influencing both the sustainability and adequacy of the pension system, that are being discussed in various inter-ministerial working groups and among social partners. First, the introduction of work accident and occupational disease insurance, possibly together with a reform of temporary sickness benefits, is being discussed for more than a decade. Second, in order to reduce tax burden on labour, a possible reduction of payroll taxes, including the pension part of the social tax is being discussed. Third, the current legislation stipulates that the government has to decide by 2019 whether to link pensionable age to life expectancy.

3. Impact of the crisis on current pension system and present pensioners

The economic crisis hit hard the public finances in Estonia. In 2009 the real GDP fell by 14.7 percent. The employment rate dropped from its peak 63 percent in 2008 to 55 percent by 2010 (in the age group 15-74) and unemployment rate reached 17 percent in 2010. The

nominal wages declined about 5 percent in 2009. This all resulted in a drop of the nominal tax revenues of the central government by 9.4 percent in 2009, of which the revenues from social tax, which is earmarked for financing pension and health expenditure, fell by 11.3 percent. Although the economy started to recover in 2010 and real GDP already increased by 4.6 percent, the revenues from social tax declined further by 6 percent, being 15 percent lower compared to its peak in 2008.

Simultaneously, inflow into the pension system increased substantially in 2009 and 2010, especially via work incapacity pensions and early retirement, because the duration of unemployment benefits is short in Estonia, less than one year. In 2010 the inflow into the work incapacity pension scheme was 50 percent higher than in 2007, and via early retirement scheme 60 percent higher. High inflow into the work incapacity scheme continued also in 2011 and only 2012 it declined again.

The employment rate of elderly (aged 55-64 and 65-69) declined during this crisis by about 7-8 p.p. (in 2010) compared to the peak values in 2007-2008, but this drop is similar to the employment rate change of prime-age workers. The employment rates of pensioners have started to increase again in 2011 and 2012 reaching pre-crisis level.

Because Estonia started from low social protection expenditure and low public debt before the crisis, austerity packages did not cause major changes in the pension system. It is accepted that deficit of the PAYG scheme during the next decade or even longer, need to be covered from the central state budget, i.e. from other tax revenues.

There were several policy measures implemented during the crisis years. First, there were ad hoc changes in the pension indexation rule, which kept pensions not declining and smoothed the nominal value of pensions and the total pension expenditure over the cycle 2009-2014. As a result of the indexation, the at-risk-of-poverty rate of elderly actually decreased during the crisis, as compared to labour earnings pensions did not decline, and hence the relative position of elderly in the income distribution increased.

Second, transfers to the funded pension scheme were temporary suspended by the state in 2009-2011, but these are compensated in 2014-2017, when extra transfers are made to the funded pension scheme. The long-term effect of these temporary suspensions is small.

Finally, the government approved an increase of the pension age for the period 2017-2026, when the pension age increases from 63 to 65 years.

In the compulsory funded pension scheme, the crisis has resulted in stricter control and clearer rules over the management of the private pension funds and more flexibility for employees and employers.

4. Assessment of adequacy

Current adequacy

The Estonian pensioners' situation relative to the working age population before retirement is slightly worse compared to the average of other EU countries. The aggregate replacement ratio of income is 50 percent in Estonia in 2013 (EU-28 average is 55 percent). The gross aggregate replacement rate and benefit ratio of pensions are considerably lower, 40.1 percent and 30.4 percent respectively. On the other hand, the aggregate replacement ratio has increased by 5 p.p. since 2008. The at-risk-of-poverty rate of those older than 65 is considerably higher than the EU-28 average (24.4 percent versus 13.8 percent). The severe material deprivation rate of those older than 65 is 6.3 percent (EU-28 average is 6.9 percent). However, majority of old-age pensioners are located near the relative poverty line of the income distribution. Small changes either in the distribution of the 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, at-risk-of-poverty rate of those older than 65 was 39 percent in 2008 but during the crisis only 13.1 percent in 2011, and again 24.4 percent in 2013. Therefore it is crucial that also other indicators, such as material deprivation rate and absolute poverty rate are used to evaluate the current situation of the Estonian elderly either over time or relative to other socioeconomic groups. At risk of poverty or social exclusion rate is again high - 28.0 percent (EU-28 – 18.2 percent), because of the high at-risk-poverty in 2013. The median relative income of people 65+ as a ratio of income of people 0-64 is only 69 percent (EU-28 average is 93 percent).

The current income distribution of Estonian elderly is considerably narrower (S80/S20 ratio is 3.1) than among younger population (5.9) or elderly in EU-28 (3.9). This is because of the redistributive flat rate base amount, which is about 39 percent of the average old-age pension. 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 (incl. child care 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.

There is a remarkable difference in the at-risk-of-poverty rate between elderly men and women (13.3 percent versus 29.9 percent respectively in the age group 65 or over, same kind of difference among those aged 75 or more). The main reason is simply that men statistically have a shorter life-expectancy (14.9 years for men and 20.1 years for women at the age of 65 in 2013) and therefore tend to live in couple households, where the risk-of-poverty is lower by definition (through equivalence scales).

About 81 percent of elderly are owners, which is slightly above the EU-28 average, which is 78.5 percent. About 5.4 percent of elderly live in households where the total housing costs represent more than 40 percent of disposable income. This has increased by 2.6 p.p. compared to 2008, but is still below the EU-28 average (10.2 percent).

The situation is slightly worse for older old-people (75+), especially among women in this age group, but this is simply related to the fact that there are more single women than men in this age group. At-risk-of-poverty rate was significantly higher for older women (75+) (29.2 percent) than for men (12.9 percent). Single persons aged 65 or more have about 40 p.p. higher at-risk-of-poverty rate than a couple with at least one person older than 65 (47.6 percent versus 9.9 percent in 2012 income year).

Studies on out-of-pocket payments (OOP) on health suggest that Estonian pensioners face high risk of impoverishment due to expenditure on medicines. The study on OOP in Estonia⁶¹ concluded that the role and adverse impact of out-of-pocket expenditures has dropped in 2010-2012 compared to the pre-crisis period (2004-2007). In 2004-2007 about 5 percent of single pensioners fell below poverty line because of OOP. In 2010-2012 it has dropped to 2 percent. The decline is explained by the relative increase of pensions during the crisis years and promotion of generic drugs.

The current gross Theoretical Replacement Rate (TRR), assuming 40 years of working with average earnings and retiring at statutory pension age (at 63), is 46.1 percent for men and 58.4 percent for women (in 2013). Net TRR is more than 10 p.p. higher because of the additional tax-free pension allowance.

⁶¹ Võrk, A., Saluse, J., Reinap, M., Habicht, T. 2014. "Out-of-pocket payments and health care utilization in Estonia 2000–2012". World Health Organization, Regional Office for Europe.

Gender pension gap

The gender gap in pensions in Estonia is the lowest across the EU countries; being equal to 3.6 percent in 2012. Gender Gap in Pensions in Estonia is consistently at low levels, less than 4 percent from 2008 on. Estonia is also among the top-performers as regards the central gap, which fluctuates around 3-5 percent over the period 2008-2012. Gender gap in coverage rate is negligible in Estonia. Gender Gap in annual earnings (29 percent) is higher compared to the EU average in 2010; and also higher compared to the gender gap in pensions. Gender differences are more remarkable in the labour market in Estonia, as they are after retirement.

Low value of Gender Pension Gap 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 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 two years of pensionable length of service. Furthermore, the actual time of child care 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 child care influence current gender pension gap. In the future, the gender pension gap will gradually increase, as pension will depend more on life-time earnings.

Gender gaps in employment and pay. The gender pension gap indicator presents a snapshot of developments in the employment and pension system factors, which determine the size of the gap. Since it is calculated for the entire population of 65-79 year olds there is a certain inertia in its development. To get a sense of whether it is likely to reduce or increase one can look at trends in the various gender gaps in employment and at how the pension system is changing.

The gender gap⁶² in the *employment rate of older workers* (age 55-64) has increased by 6.0 p.p. over the period of 2004-2014 (EU-28: -5 p.p.) and amounted to 2.0 p.p. in 2014 (EU-28: 13.7 p.p.). In 2004, the employment rate was higher for women than for men. The gender gap in the *duration of working life*, which in 2013 came to 0.9 years (EU-28: 5.2 years) has thereby increased by 0.2 years since 2004 (EU-28: -1.2 years). The gender gap⁶³ in *part-time employment* (for people aged 20-64), which reached 5.2 p.p. in 2014 (EU-28: 23.5 p.p.), has thereby increased by 1.5 p.p. since 2004. The figures show that the gender gaps in Estonia are much lower than the EU-28 average as far as the employment factors are concerned. However, the gender *pay gap*⁶⁴, which in 2013 at 29.9 percent was substantially higher than the EU-28 average (16.4 percent), has, however, decreased only by 1.0 p.p. since 2007 (EU-28: increase by 0.3 p.p. over the period of 2010-2013).

Future adequacy

The projections of the net TRRs indicate that first pension as compared to the last wage is projected to decrease from 61.9 percent in 2013 to 55.9 percent in 2053 for a male worker with a 40 year career retiring at age 65. For female worker the drop is considerably larger, from 77.1 percent to 55.9 percent. However, low and high-wage earners will be affected in different ways. Due to stronger link between contributions and benefits in the reformed

⁶² Difference between values for men and women.

⁶³ Difference between values for women and men (for part-time employment).

⁶⁴ The unadjusted Gender Pay Gap (GPG) represents the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. Industry, construction and services (except public administration, defense, compulsory social security). Data source: Eurostat [earn_gr_gpgr2]

system, low-wage earners would see 20.7 p.p. drop in net TRR for males (from 85.4 percent to 64.7 percent) and 42.5 p.p. drop for females (from 107.2 percent to 64.7 percent). High-wage earning men will see a small increase in net TRR: 0.9 p.p. increase (from 36.1 percent to 37.0 percent). High-wage earning women will see a moderate decline by 4.2 p.p (from 44.2 percent to 37 percent).

Postponing retirement by two years up to age 65 will increase net replacement rates in 2053 almost by 13.8 p.p. for average earner (to 69.7 percent) and by 14.7 p.p. for low earner, because of the extra bonus for deferred pensions. Replacement rates for those having lower earnings will be higher, and for those having higher earnings lower, because of the flat rate base amount that reduces dependence between contributions and future pensions.

Challenges for pension adequacy

Current adequacy. The main risk groups are those pensioners who receive national pension or work incapacity pensions. Those receiving national pension may have higher risk of poverty, but because there are not many of them (about 1.6 percent of all pensioners at the beginning of 2014)⁶⁵, there are no official poverty measures for them. The level of national pension was about 41 percent of the medium income in 2012, and 77 percent of the national subsistence minimum. Another large group of pensioners that faces high risk of poverty, and which is not well represented in regular indicators, are those receiving work incapacity pensions (about 23 percent of all people receiving any state pension). The average work incapacity pension was about 57 percent of average old-age pension in 2014. Statistics on applications for means-tested subsistence benefits confirm that work incapacity pensioners are more likely to be in households that are eligible for subsistence benefits than old-age pensioners.

Future adequacy. Regarding the future adequacy of pensions, the main challenge is the ageing population. Simulations of gross replacement rates either using numerical calculations of typical workers or cohort-based models by Ministry of Finance or by Praxis Center for Policy Studies indicate that the average gross replacement rate from the statutory pension scheme does not change much, staying around 35-40 percent. Pension benefits from statutory funded scheme are projected to offset the fall in the replacement ratio in the public scheme to a certain extent.

The projections suggest that the gross average pensions of men remain at around 40 percent of the average wage at the time of retirement and the average pensions of women drop to about 33 percent of average wage. Projections of replacement rates also reflect an increasing role of the defined-contribution mandatory funded pillar. By 2053 the share of the funded tier (II pillar) is projected to reach 41 percent of average pension of new old-age pensioners among men and 34 percent among women. As both the state pension scheme and the funded pension scheme depend on the life-time earnings, differences in wages, including gender wage gap, and inactivity periods will transform to considerable pension differences in long-run. Simulation results suggest that by 2053 men have on average 25 percent of higher pensions than women. Introduction of compulsory funded pension scheme and stronger link between earnings and state pensions will considerably increase future inequality of pensions. Moreover, the poverty of pensioners will likely increase.

⁶⁵ Statistics Estonia, on-line database, table " SW110: State pension insurance, 1 January", last modified 03.07.2014.

5. Sustainability

The evolution of the demography, employment rate and expenditure can give us information about the sustainability of the pension system in the future.

Demography

The old-age dependency ratio (population aged 65 and over as a percentage of the population aged 20-64) in Estonia is projected to increase from 29.7 percent in 2013 (EU-28: 30.3 percent) to 59.7 percent in 2053 (EU-28: 54.9 percent).

Estonia belongs to the group of Member States where the increase in old-age dependency ratio is projected to be above the EU-28 average. Over the period 2013 to 2053, the old-age dependency ratio is projected to increase by 30.0 p.p. (EU-28: 24.6 p.p.).

The share of working-age population (20-64) (61.5 percent of the total population in 2013) is projected to drop by 11.6 p.p. by 2053 (to 49.8 percent of the total population), compared with 9.2 p.p. for the EU as a whole by 2053.

The economic old-age dependency ratio for Estonia is projected to rise by 34.2 p.p. from 35.8 percent in 2013 to 70.0 percent in 2053 and it will be above the EU-28 average (66.2 percent in 2053).

Employment

The labour market participation rate (of people aged 20-64) in Estonia (80.3 percent) was above the EU-28 average in 2013 (76.5 percent), and it is projected to be above the EU-28 average in 2053 (83.2 percent versus 79.9 percent). The participation rate of older workers (aged 55-64) in 2013 was higher (66.6 percent) than the EU-28 average (54.4 percent). Over the period 2013 to 2053, the participation rate of older workers is projected to increase by 5.5 p.p. to 72.1 percent in 2053. The average increase in the EU-28 is 15.3 p.p.: from 54.4 percent in 2013 to 69.7 percent in 2053.

According to the 2015 Ageing Report, employment rate (of people aged 20-64) is projected to increase from 73.4 percent in 2013 (EU-28: 68.4 percent) to 77.2 percent in 2053 (EU-28: 74.9 percent). Employment rate of older people (aged 55-64) is projected to change from 62.6 percent in 2013 to 68.6 percent in 2053 (EU-28: from 50.3 percent to 66.6 percent).

The employment rate for older workers (from 55 to 64 years) in Estonia in 2013 was above the EU-28 average: 62.6 percent (61.6 percent – men, 63.4 percent – women) versus 50.3 percent at the EU-28 level (57.6 percent – men, 43.3 percent – women).

The effective exit age from the labour force in 2013 was 64.3 (64.4 – for men, 64.2 – for women) and it is above the EU-28 average (63.1 – total, 63.5 – for men, 62.7 – for women).

Main drivers of pension expenditure

According to the 2015 Ageing Report, the gross public pension expenditure will decrease from 7.6 percent of GDP in 2013 to 6.3 percent of GDP in 2060.

In accordance with the 2015 Ageing Report, the demographic factor has the strongest effect (+5.4 p.p. of GDP) on gross public pension expenditure over 2013-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and labour intensity). The lowering effect of coverage ratio (-2.0 p.p.) and benefit ratio (-3.8 p.p.) on the public pension expenditure are more pronounced than the employment rate effect (-0.4 p.p.).

6. Main opportunities for addressing pensions-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 (7.8 percent in Estonia in 2014), 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 has already reached 2.0 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.

The pressure to the Estonian pension system does not come from high replacement rates of pensions, but from high dependency rates. The economic old-age dependency ratio for Estonia is projected to rise by 34.2 p.p. from 35.8 percent in 2013 to 70.0 percent in 2053 and it will be above the EU-28 average (66.2 percent in 2053). Therefore higher replacement rates and/or lower poverty among pensioners could be achieved through a combination of different approaches: increasing effective retirement age, increasing voluntary savings, or using current expenditures more efficiently in targeting poverty.

The recent annual report by the National Audit Office of Estonia⁶⁶ proposed three main recommendations: 1) introduce automatic stabilisers after the retirement age has reached 65; 2) abolish special pension schemes; and 3) reform the work incapacity pension scheme. 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 majority of those retiring early have been long-term unemployed, it may have some long-run positive behavioural effects by increasing labour supply of those near the retirement age.

⁶⁶ National State Audit Office. 2014. Ülevaade riigi vara kasutamisest ja säilimisest 2013–2014 aastal. Riigikontrolõri kokkuvõte Eesti riigi arengu ja majanduse probleemidest. Riigikontrolli aruanne Riigikogule, Tallinn.

7. Background statistics – Estonia

1. Relative incomes of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.69	0.74	0.64	0.07	0.08	0.05
Income quintile share ratio (S80/S20), 65+	3.1	3.3	2.9	-0.2	0.0	-0.2

2. Poverty and material deprivation

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+	28.0	16.7	33.5	-12.9	-9.3	-14.8
At-risk-of-poverty rate (AROP), 65+	24.4	13.3	29.9	-14.6	-11.3	-16.2
Severe material deprivation (SMD), 65+	6.3	5.8	6.6	0.5	1.9	-0.1
At-risk-of-poverty or social exclusion (AROPE), 75+	27.6	16.2	32.0	-22.1	-13.8	-25.2
At-risk-of-poverty rate (AROP), 75+	24.7	12.9	29.2	-23.3	-16.0	-26.0
Severe material deprivation (SMD), 75+	5.2	4.9	5.3	-2.0	-0.4	-2.7
Relative poverty gap, 65+	8.1	11.2	8.1	-6.7	-2.2	-7.4
At-risk-of-poverty rate (AROP), 65+: 40 % threshold	1.8	1.1	2.2	-1.3	-0.2	-1.8
At-risk-of-poverty rate (AROP), 65+: 50 % threshold	5.1	4.9	5.2	-12.1	-4.5	-15.8
At-risk-of-poverty rate (AROP), 65+: 70 % threshold	43.9	28.0	51.7	-12.4	-17.6	-9.9

3. Housing situation of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Housing cost overburden rate, 65+	5.4	3.3	6.5	2.6	2.7	2.5
Tenure status among people 65+: share of owners	81.1	83.7	79.7	-6.1	-4.5	-6.9
Severe housing deprivation rate, 65+	3.3	2.2	3.8	-3.8	-2.3	-4.6

4. Income replacement by pension systems

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Aggregate Replacement Ratio (ARR)	0.50	0.40	0.58	0.05	0.03	0.04
Benefit Ratio (BR) (Public pensions)	30.4					
Gross Aggregate Replacement Rate (Public pensions)	40.1					
Gender Gap in Pension Income, % (65-79)	3.6*			1.2*		
Gender Gap in non-coverage rate (W-M in p.p.) (65-79)	0.0*			-0.2*		

5. Sustainability and context indicators

Indicator	2013			Projections for 2053		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65+, years	17.7	14.9	20.1	22.4	20.2	24.4
Old-age dependency ratio (20-64)	29.7	20.2	38.8	59.7	49.7	69.9
Economic old-age dependency ratio (15-64)	35.8	22.6	49.6	70	55.1	86.2
Employment rate, age group 55-64	62.6	61.4	63.6	68.6	66.9	70.2
Pension expenditure as % of GDP (ESSPROS)	7.8*			Projections for 2060		
Gross public pensions as % of GDP (AWG projections)	7.6			6.3		

Data source: Eurostat. Sustainability indicators and projections (EPC AWG) – Commission Services (DG ECFIN), based on The 2015 Ageing Report. Data on gender gaps – ENEGE. Notes: * - 2012 data.

6. Theoretical Replacement Rates (TRRs)

TRR case	Net				Gross				
	2013		2053		2013		2053		
	Men	Women	Men	Women	Men	Women	Men	Women	
Average Earnings	Base case I: 40 years up to age 65	61.9	77.1	55.9		46.1	58.4	46.7	
	Base case II: 40 years up to the SPA	50.9	63.4	55.9		37.9	48.0	46.7	
	Increased SPA: from age 25 to SPA	49.2	61.0	55.9		36.7	46.2	46.7	
	AWG career length case	50.9	64.2	59.7	57.8	37.9	49.1	50.5	48.6
	Longer career I: from age 25 to 67			69.7				60.5	
	Shorter career I: from age 25 to 63			49.1				39.9	
	Longer career I: from age 25 to SPA+2			69.7				60.5	
	Shorter career I: from age 25 to SPA-2			49.1				39.9	
	Career break – unemployment: 1 year			54.2				45.0	
	Career break – unemployment: 2 years			53.3				44.1	
	Career break – unemployment: 3 years			52.4				43.2	
	Career break due to child care: 0 year				55.9				46.7
	Career break due to child care: 1 year				56.7				46.0
	Career break due to child care: 2 years				56.0				45.2
	Career break due to child care: 3 years				55.2				44.4
	Short career (30 year career)			45.6				36.4	
	Early retirement due to unemployment			51.0				41.8	
	Early retirement due to disability			55.9				46.7	
	Indexation: 10 years after retirement			49.9				40.6	
Low Earnings (66%)	Base case I: 40 years up to age 65	85.4	107.2	64.7		65.2	83.8	52.1	
	Base case II: 40 years up to the SPA	70.2	88.2	64.7		53.6	68.9	52.1	
	Increased SPA: from age 25 to SPA	68.6	85.6	64.7		52.4	67.0	52.1	
	AWG career length case	70.2	89.6	68.4	66.6	53.6	70.1	55.8	54.0
	Longer career I: from age 25 to 67			79.4				67.1	
	Shorter career I: from age 25 to 63			55.6				44.8	
	Longer career I: from age 25 to SPA+2			79.4				67.1	
	Shorter career I: from age 25 to SPA-2			55.6				44.8	
	Career break – unemployment: 1 year			62.6				50.4	
	Career break – unemployment: 2 years			61.5				49.5	
	Career break – unemployment: 3 years			60.4				48.6	
	Career break due to child care: 0 year				64.7				52.1
	Career break due to child care: 1 year				65.0				51.4
	Career break due to child care: 2 years				64.0				50.6
	Career break due to child care: 3 years				63.1				49.9
	Short career (30 year career)	42.5		52.0		33.9		41.8	
	Early retirement due to unemployment			58.5				47.2	
	Early retirement due to disability			64.7				52.1	
	Pension rights of surviving spouses				106.0				94.1
High	Base case I: 40 years up to age 65	36.1	44.2	37.0		26.4	32.4	31.6	
	Base case II: 40 years up to the SPA	29.7	36.3	36.9		21.6	26.7	31.6	

Data source: TRRs for 2013 – Member State; TRRs for 2053 – OECD. Note: n.a. – not available

Ireland (IE)

1. General description of the 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). The first pillar can be supplemented by a second pillar voluntary occupational pension and/or by a third pillar 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 230.30 per week. The means-tested SPNC is financed out of general taxation and the maximum social assistance pension is paid at a flat-rate of EUR 219 per week. Cash income, the value of capital (excluding the value of the claimant's home) and income from property are assessed in the means-test to estimate a claimant's weekly means. Both pensions are administered by the Department of Social Protection and there are flat-rate supplements for eligible dependants. These are up to EUR 206.30 per adult (89.6 percent of the personal allowance) and EUR 29.80 per child. A couple living together may both claim means-tested pensions and be paid up to EUR 438 per week, depending on their circumstances. There are also increases for those living alone (EUR 9 per week), and those over 80 (EUR 10 per week). A Household Benefits package worth some EUR 500 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. Where pensioners do not own their own homes, assistance may be available with rental costs. State pensions do not have an earnings-related component or pay benefits on early retirement for incapacity. Such benefits are paid under disability or unemployment schemes e.g. the Invalidity Pension is paid at a personal rate of EUR 193.50 (84 percent the maximum SPC rate), plus applicable allowances. Around 90 percent of elderly people receive a social welfare pension and latest data indicates social transfers account for an average of 62.7 percent of the income of those aged over 65.

A policy target has been adopted in recent years that first pillar pensions should replace 35 percent of average earnings. Changes in the level of social welfare pensions are made as part of the Government's annual budget and there has been no increase in these pensions since 2009 when they were frozen under the EU-IMF programme of financial support for Ireland.

Second pillar occupational pensions may be provided by employers, often by negotiation with trade unions. 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.

Public sector occupational pensions, which are mainly mandatory, are financed on a pay-as-you go 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 defined contribution (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. Supplementary pension coverage varies from around 90 percent in the public sector to 41 percent in the private sector with overall coverage amounting to 51 percent.

A decline in the number of DB schemes accelerated in Ireland during the financial crisis. However, amendments to scheme provisions and a recent recovery in investment markets has helped nearly 60 percent of the remaining DB schemes to meet the regulatory minimum funding standard in 2014 whilst most of the remainder have submitted a recovery plan to address funding shortfalls that is acceptable to the pension regulator. In 2013 there were 241,317 members of DC occupational schemes and 507,054 members of DB schemes. Of the latter 890 schemes (representing 178,619 members) were subject to the funding standard whilst 108 pay-as-you go schemes (representing 328,435 members) were not subject to this standard.

2. Reform trends

A range of reform measures have been undertaken in the area of social welfare (i.e. social assistance and social insurance pensions) and private pensions in recent years. Key reforms undertaken since 2012 or which are currently in planning, include the State/First Pillar and Second/Third Pillar supplementary pensions.

Regarding the State/First Pillar reform, legislation was enacted to increase the State pension age from 65 to 66 from 2014. It will further increase to 67 from 2021 and to 68 from 2028. With effect from April 2012, the number of paid social insurance contributions required to qualify for a State pension (contributory) increased from 260 to 520. From September 2012, new rate bands for State pension were introduced. These additional payment rate bands more accurately reflect the social insurance history of a person and ensures that those who contribute more during a working life benefit more in retirement than those with lesser contributions. In 2020, it is planned to replace the current average contribution test and introduce a 'total contributions approach' where pension payments made will more closely reflect contributions made over a working life.

Regarding the Second/Third Pillar Supplementary Pensions, 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 has 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.

From 2011 a flexible drawdown option at retirement known as the Approved Retirement Fund (ARF) was extended to all 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.

There has been a succession of significant reforms to public service pensions including the introduction of a new ‘career average’ pension for new entrants and increased pay related pension deductions as well as a cut to pensions in payment for existing/former public servants.

In the case of a Defined Benefit 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.

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.

3. Impact of the crisis on current pension system and present pensioners

In relation to State pensions, as part of the EU/IMF agreement with the Government, for the duration of the programme period there was no increase in the nominal value of the State pension. Structural reform of the State pension age was legislated for in 2011 increasing the age from 65 to 66 in 2014, 67 in 2021 and 68 in 2028.

Whilst some reductions were made in tertiary benefits, the Government protected the majority of recipients of social welfare pensions from the worst effects of the financial crisis. Indeed, over the past 10 years, there have been significant improvements with regard to the level of pensioner poverty in Ireland. This is mainly attributed to substantial increases in the rates of State pensions over the period. The average income of older persons was EUR 289.05 in 2004, rising to EUR 411.90 in 2010 and reducing to the average weekly amount of EUR 407.28 in 2011. Social transfers accounted for 57 percent of income for older persons in 2004 and 63 percent in 2011.

In 2004, the at risk of poverty rate for people aged 65 or over was at 27.1 percent, higher than for other age groups and higher than the rate for the total population which was 19.4 percent. By 2011, this rate had reduced to 9.7 percent for those aged 65 and over, while that for the population as a whole had dropped to 16 percent.

The consistent poverty rate for those aged 65 in 2004 at 3.3 percent was lower than for the population as a whole which stood at 6.8 percent. In 2011, the consistent poverty rate for those over age 65 was 1.9 percent compared to 6.9 percent for the population as a whole. However by 2012, the at risk of poverty rate for people aged 65 was 12.1 percent and the consistent poverty rate was 2.6 percent. These figures compare with a rise in the at-risk-of-poverty rate for the population as a whole of 16.5 percent and consistent poverty rate of 7.7 percent.

In relation to public service pensions, as highlighted under section 2 above, in 2009 a levy or ‘pension related deduction’ (in addition to normal pension contributions) was imposed on public service employees at an average of 7 percent from the earnings. This was effectively a pay cut as the deduction did not provide public service employees entitlement with any additional pension benefits. In 2010 a pay cut (average reduction 7 percent) was imposed across the public service and this depressed pension and lump sum awards from March 2012 onwards. In 2012, public service pensions in payment above EUR 12,000 were reduced via a multi-band (progressively structured) “Public Service Pension Reduction” with an average impact of 4 percent on pensions.

To further reduce the cost of public service pensions the government introduced a Public Service Pensions (Single Scheme) and Remuneration Act in 2012 which established a single

‘career average’ pension scheme for new entrants to public service employment. The retirement age for new entrants was made the same as the retirement age for receipt of the State Pension (Contributory) and it was specified that their pension should increase in line with the Consumer Price Index rather than public service earnings. This reform targets very substantial long-run savings of about one third of pension outgo.

During the crisis the unemployment rate in Ireland tripled from 5 percent in the first quarter of 2008 to 15.1 percent in the first quarter of 2012. Unemployment has since gradually declined to below 10 percent in the first quarter of 2015. Administrative statistics on pension coverage over the period indicates overall coverage has reduced over time from 1,123,751 in 2008 to 1,036,263 in 2013. The composition of scheme/contract type has also changed with far fewer funded defined benefit schemes subject to the funding standard where coverage reduced from 254,392 members (1,351 schemes) in 2008 to 178,619 members (890 schemes). This reflects an international pattern regarding the wind up of DB schemes. Those in unfunded DB schemes rose from 322,619 to 328,425.

The number of DC occupational schemes and members also reduced from 272,197 members in 90,424 schemes in 2008 to 241,317 members in 61,123 schemes in 2013. However, the numbers of DC personal pensions rose from 271,632 in 2008 to 287,892 in 2013.

Analysis regarding the loss in the value of assets due to the global financial crisis in 2008 indicates that funded pension schemes in Ireland experienced a loss of 35 percent, the largest in the OECD. A significant contributory factor to this loss of assets was the risk strategy which pension funds in Ireland pursued in concentrating their investment in world equity markets. This was notwithstanding warnings by the Pensions Board (2008) that investment decisions were being based on aggressive assumptions about returns from equity markets and not taking sufficient account of investment risks and other downsides.

During the financial crisis, the Government introduced a range of reforms in the area of pension taxation (see section 2). A pension levy was also introduced on funded pensions to fund a ‘Jobs Initiative’ intended to create and to maintain employment in the Irish economy. The levy applied at 0.6 percent per annum on pension scheme assets under management for the years 2011 to 2014 and a further levy on assets of 0.15 percent for the years 2014 and 2015. This levy will cease in 2015.

4. Assessment of adequacy

Current adequacy

Social transfers are particularly effective in Ireland in preventing poverty in retirement. The at risk of poverty rate for those aged 65+ was 13.3 percent in 2013 which reflected a reduction of 9.2 p.p. between 2008 and 2013. The tables of background statistics provide indicators of relative income, poverty and material deprivation and income replacement for older people in Ireland in 2013 and how the indicators have changed in recent years.

The median relative income ratio of older people in Ireland improved by 20 percent between 2008 and 2013 to 94 percent in 2013, being slightly above the EU-28 average (93 percent in 2013). For women, both in Ireland and in the EU-28, the position is less positive at 91 percent. It is likely that the improvement of 18 percent 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 of over 3 percent in the reference period. Negative inflation over the reference period would also have positively impacted on the purchasing power of State pensioners’ income.

Income inequality between the top and bottom quintile of those age 65+, as measured by the income quintile ratio (S80/S20), widened from 3.8 in 2008 to 4.1 in 2013. A widening gap

between the lowest and highest incomes of elderly men and women contributed to this increase that was larger for women (up from 3.5 to 4.1) than for men (up from 4.1 to 4.2) i.e. – 0.6 for women compared to -0.1 for men.

The at-risk-of-poverty and social exclusion rate for older people in Ireland fell from 22.5 percent in 2008 to 13.3 percent in 2013. 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 (total 62.7 percent in 2011, men 52.3 percent, women 72.4 percent - data from Central Statistics Office SILC 2013) 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, rather than reduced, has helped to largely 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 as the decomposition of the at-risk-of-poverty indicator shows. In Ireland the numbers living on a disposable income of less than 40 percent of the national median disposable income in 2013 were larger (3.7 percent) as compared to the EU-28 average (2.5 percent). This decomposition also shows that the at-risk-of-poverty rates in Ireland were approximate to the EU averages for the 50 percent threshold (6.7 percent vs 6.6 percent), while lower for the 60 percent threshold (10.1 percent vs 13.8 percent) and for the 70 percent threshold (17.5 percent vs 23.4 percent). The at-risk of poverty rate for persons aged 75+ has also improved in line with the broader trend (9.2 percent vs 10.1 percent). In 2013, severe material deprivation for age groups 65+ and 75+ in Ireland was 3.6 percent and 3.1 percent respectively but for both age groups it was higher for women (4.1 percent and 3.7 percent respectively) than for men (3.0 percent and 2.2 percent respectively).

The limited coverage of the private supplementary pensions (approximately 50 percent of those in employment) and the flat-rate nature of the State pension means many of those retiring at age 66 and without supplementary coverage may experience a significant drop in living standards relative to their pre-retirement income. In a period where the broad policy intent was to increase supplementary pensions coverage (to 70 percent), the level of private pensions has remained broadly consistent over the past 20 years at just less than 50 percent in 1995 to a high of 55 percent in 2005 and thereafter reducing to the current rate of approximately 50 percent. Despite the considerable efforts to promote and incentivise voluntary participation in supplementary pensions, the marginal changes in coverage over the last 20 years indicates that the voluntary approach to pensions participation is not achieving the desired goal in terms of increasing coverage to an appropriate level.

Gender Pension Gap

More so than most EU Member States, Ireland historically had very low female labour market participation rates until the 1990s, and the significant proportion of those currently in receipt of State pensions would have remained distanced from the labour market during years when the ‘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 pension incomes of women and men in the same household would reflect the higher lifetimes earnings of men (although not to the same extent as before age 65).

In the age group 20-64 women’s employment rate rose marginally from 59.4 to 60.3 percent, while men’s employment rate showed similar stability rising very marginally from 68.1 percent to 70.9 percent in 2013 (compared to 2012). However, when these values are compared to the EU-28 averages of 74.2 percent for men and 62.5 percent for women, Ireland emerges as significantly below EU-28 averages. The gender employment gap for the age

group 20-64 rose significantly from 8.7 p.p. in 2012 to 10.6 p.p. in 2013. However, employment rates of older workers aged 55-64 reveal significant gender differences. Rates among older men showed a significant fall from 57.1 percent to 55.8 percent between 2011 and 2012, but this turned around over the year to 2013, reflected in a rise to 59.4 percent.

Women's coverage by the pension system remains a policy concern in Ireland as the proportion of women aged 65-79 who receive pension income is 19 p.p. lower compared to the corresponding proportion of men. The gender gap in annual earnings (20 percent) is lower to the EU average in 2010 and is also lower compared to the gender gap in pension indicator in Ireland. The gender gap in pensions for persons 65-79 (central gender gap) in Ireland increased steadily from 33 percent in 2008 to 41 percent in 2011 and stayed 41 percent in 2012, being almost at the same level to the EU average. The overall gender gap in pensions (for persons aged 65+) is about 2-3p.p. lower to the central gender gap; displaying also the same (increasing) tendency over time.

Under the State pension system a significant number of women are classified as 'qualified adult dependants' under the household-based claimant system. Historically, many women as homemakers during their working age years were fully dependent on the income of their spouse. In such cases, combined pension entitlements have been accrued under the spouse's insurance contribution record. However, in the case of State pension (contributory), in addition to the spouse's pension, an 'Increase for a Qualified Adult' (IQA) payment is made to the woman and at EUR 206.30 is 90 percent of the full State pension rate. Since 1995, those working in the home in a caring capacity are credited contributions in their own right. In relation to private pensions employed women are less likely to be covered by supplementary pensions than employed men (49 percent and 53 percent respectively).

The qualifying age for the State pension rose from 65 to 66 years in 2014; will rise up to 67 in 2021; and to 68 years in 2028. Changes are planned to the method by which State pensions are calculated such that a total contributions approach will replace 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.

Future adequacy

The application to Ireland of Base Case Scenario 1 which presumes a retirement age of 65 is of limited instruction given legislation provides Ireland's State pension age will be 68 from 2028. The theoretical replacement rates for Ireland indicate that an average earner retiring in 2053 at age 65 and after a 40 year career would see living standards, reduce by in excess of half. This worker's net TRR would decrease from 83.1 percent in 2013 to 38.4 percent in 2053 (by -44.7 p.p.), whereas gross TRR decreases from 72.9 percent to 29.9 percent over the same period (by -43 p.p.).

Under Base Case 3 which presumes employment from the age of 25 until the State pension age, theoretical replacement rates for average earners are anticipated to fall by 11.7 p.p. on a net basis and by 5.6 p.p. on a gross basis. For low earners the TRR sees a reduction of 16.4 p.p. on a net basis and by 10.3 p.p. on a gross basis.

For average earners, breaks in employment due to unemployment or childcare provision reduces the long-term net theoretical replacement rates relative to no breaks by 1 percent for a one year break, by 2 percent for a two year break and by 2.7 percent for a three year break.

These figures suggest that the demographic ageing features of the Irish pension system that give rise to such potentially significant declines in the future replacement rates have been addressed by legislated increases in the State pension age to 68 in 2028 although there may be a need to further adjust State pension age to reflect increasing longevity.

There has been a significant improvement in the macroeconomic outlook and Ireland's

current budget deficit since the last Pensions Adequacy Report in 2012. The sharp increase in the national debt (111 percent of GDP in 2014) has been halted, the reduction in the current budget deficit (-3.7 percent of GDP in 2014) to below the agreed excessive deficit target and the fact that Ireland was the first country to exit the EU-IMF bailout programme at the end of 2013 provides the broader macro-economic context. The unemployment rate has fallen from its peak of 15.1 percent in early 2012 to 10 percent in the first quarter of 2015. Nevertheless, austerity measures introduced in the area of social welfare generally (excluding pensions) since 2009 have had the effect of reversing recent gains made towards achieving the EU2020 target.

Challenges for pension adequacy

As is the case across the EU, challenges for pension adequacy in Ireland stem from changing demographics, 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 longevity in the workforce to parallel increases in 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 marginalised 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.

In relation to second/third pillar private supplementary pensions, a significant challenge for pensions adequacy in Ireland lies in the need to improve the uneven coverage rate which stands at approximately 50 percent of those in employment. Without supplementary pension provision, many of those retiring at age 66 may experience a significant drop in living standards relative to their pre-retirement income. As such, a key priority is to increase the coverage and adequacy of supplementary pension provision. To this end, in February 2015, the Government confirmed a decision to proceed with work to develop a roadmap and timeline for the introduction of a new universal supplementary pension saving system. Such a mandatory or quasi-mandatory system would be intended to progressively achieve universal coverage and would be targeted at those currently without supplementary pensions.

5. Sustainability

The evolution of the demography, employment rate and expenditure can give us information about the sustainability of the pension system in the future.

Demography

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 20.8 percent in 2013 (EU-28: 30.3 percent) to 48.0 percent in 2053 (EU-28: 54.9 percent).

Ireland belongs to the group of Member States where the increase in old-age dependency ratio is projected to be above the EU-28 average. Over the period 2013 to 2053, the old-age dependency ratio is projected to increase by 27.2 p.p. (EU-28: 24.6 p.p.).

The share of working-age population (20-64) (59.9 percent of the total population in 2013) is projected to drop by 9.7 p.p. by 2053 (to 50.2 percent of the total population), compared with 9.7 p.p. for the EU as a whole by 2053.

The economic old-age dependency ratio for Ireland is projected to rise by 32.8 p.p. from 28.7 percent in 2013 to 61.5 percent in 2053 but it will remain below the EU-28 average (66.2 percent in 2053).

Employment

The labour market participation rate (of people aged 20-64) in Ireland (75.2 percent) was below the EU-28 average in 2013 (76.5 percent) and it is projected to be below the EU-28 average in 2053 (75.0 percent versus 79.9 percent). The participation rate of older workers (aged 55-64) in 2013 was higher (57.3 percent) than the EU-28 average (54.4 percent). Over the period 2013 to 2053, the participation rate of older workers is projected to increase by 7.1 p.p. to 64.4 percent in 2053, but it is lower than in the EU-28 (15.3 p.p.: from 54.4 percent in 2013 to 69.7 percent in 2053).

According to the 2015 Ageing Report, employment rate (of people aged 20-64) is projected to increase from 65.6 percent in 2013 (EU-28: 68.4 percent) to 70.1 percent in 2053 (EU-28: 74.9 percent). The employment rate of older people (aged 55-64) is projected to change from 51.2 percent in 2013 to 61.2 percent in 2053 (EU-28: from 50.3 percent to 66.6 percent).

The employment rate for older workers (from 55 to 64 years) in Ireland in 2013 was above the EU-28 average: 51.5 percent (59.4 percent – men, 43.8 percent – women) versus 50.2 percent at the EU-28 level (57.5 percent – men, 43.3 percent – women).

The effective exit age from the labour force in 2013 was 64.9 (64.9 – for men, 64.8 – for women) and it is above the EU-28 average (63.1 – total, 63.5 – for men, 62.7 – for women).

Main drivers of pension expenditure

According to the 2015 Ageing Report, the gross public pension expenditure will increase from 7.4 percent of GDP in 2013 to 8.4 percent of GDP in 2060.

In accordance with the 2015 Ageing Report, the demographic factor has the strongest downward effect (+6.0 p.p. of GDP) on gross public pension expenditure over 2013-2060.

The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate and benefit ratio). The lowering effect of coverage ratio (-1.7 p.p.) and benefit ratio (-2.1 p.p.) on the public pension expenditure are more pronounced than the employment rate effect (-0.5 p.p.).

6. Main opportunities for addressing pensions-related challenges

Projections indicate that Ireland faces a considerable fiscal challenge as a deficit in the Social Insurance Fund (from where the State pension contributory and other illness, unemployment and maternity benefits are paid), will increase in the coming years. In the period to 2066 pensions related expenditure is projected to increase from 57 percent to 85 percent of the fund. In terms of protecting and maintaining the real value of state pensions, given their role in poverty reduction, measures are required to increase contributions to the fund to ensure that the first pillar state pension remains sustainable in the future.

Approximately 50 percent of the employed population have supplementary pensions coverage to augment State pension income and as such opportunities exist to improve coverage in terms of uptake by occupational sector, lower and middle income groups, gender and contribution levels etc. In this regard and to enhance pensions sustainability and adequacy, the Irish Government confirmed in early 2015 a decision to proceed with work to develop a roadmap and timeline for the introduction of a new, universal, supplementary workplace retirement saving system. The stated aim of such a system would be to progressively achieve universal supplementary pension coverage, with particular focus on lower-paid workers.

Reflecting an international pattern regarding the wind up of Defined Benefit schemes, ongoing efforts will be required to address the current lack of certainty regarding such schemes and in providing support in the sustainability challenges faced in dealing appropriately with funding deficits and implementing the regulatory funding standard.

7. Background statistics – Ireland

1. Relative incomes of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.94	0.97	0.91	0.20	0.22	0.18
Income quintile share ratio (S80/S20), 65+	4.1	4.2	4.1	0.3	0.1	0.6

2. Poverty and material deprivation

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+	13.3	12.4	14.1	-9.2	-6.2	-11.6
At-risk-of-poverty rate (AROP), 65+	10.1	10.0	10.2	-11.0	-7.7	-13.5
Severe material deprivation (SMD), 65+	3.6	3.0	4.1	1.4	1.2	1.5
At-risk-of-poverty or social exclusion (AROPE), 75+	12.2	11.9	12.5	-12.5	-5.3	-17.0
At-risk-of-poverty rate (AROP), 75+	9.2	9.7	8.8	-14.4	-6.8	-19.4
Severe material deprivation (SMD), 75+	3.1	2.2	3.7	1.3	0.9	1.5
Relative poverty gap, 65+	26.1	25.9	26.2	18.5	15.2	20.1
At-risk-of-poverty rate (AROP), 65+: 40 % threshold	3.7	3.3	4.2	-0.3	-1.6	1.0
At-risk-of-poverty rate (AROP), 65+: 50 % threshold	6.7	6.6	6.7	0.5	-0.3	1.1
At-risk-of-poverty rate (AROP), 65+: 70 % threshold	17.5	16.6	18.2	-21.1	-17.0	-24.5

3. Housing situation of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Housing cost overburden rate, 65+	3.0	2.9	3.0	0.9	0.9	0.9
Tenure status among people 65+: share of owners	90.4	89.3	91.3	-0.7	-2.5	0.8
Severe housing deprivation rate, 65+	0.1	0.3	0.0	-0.1	0.3	-0.4

4. Income replacement by pension systems

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Aggregate Replacement Ratio (ARR)	0.37	0.43	0.41	-0.12	-0.03	-0.14
Benefit Ratio (BR) (Public pensions)	27.9					
Gross Aggregate Replacement Rate (Public pensions)	31.2					
Gender Gap in Pension Income, % (65-79)	41.0*			7.3*		
Gender Gap in non-coverage rate (W-M in p.p.) (65-79)	18.5*			0.6*		

5. Sustainability and context indicators

Indicator	2013			Projections for 2053		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65+, years	19.6	18.1	21	23.6	22	25.2
Old-age dependency ratio (20-64)	20.8	19.4	22.2	48.0	40.8	55.6
Economic old-age dependency ratio (15-64)	28.7	23.6	34.6	61.5	48.8	76.7
Employment rate, age group 55-64	51.3	59.3	43.4	61.2	63.9	58.5
Pension expenditure as % of GDP (ESSPROS)	7.3*			Projections for 2060		
Gross public pensions as % of GDP (AWG projections)	7.4			8.4		

Data source: Eurostat. Sustainability indicators and projections (EPC AWG) – Commission Services (DG ECFIN), based on The 2015 Ageing Report. Data on gender gaps – ENEGE. Notes: * - 2012 data.

6. Theoretical Replacement Rates (TRRs)

TRR case	Net				Gross			
	2013		2053		2013		2053	
	Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Base case I: 40 years up to age 65	83.1		38.4		72.9		29.9
	Base case II: 40 years up to the SPA	83.1		68.7		72.9		62.7
	Increased SPA: from age 25 to SPA	83.1		71.4		72.9		65.8
	AWG career length case	82.6		44.6	43.4	72.9	34.8	33.9
	Longer career I: from age 25 to 67			43.4				33.9
	Shorter career I: from age 25 to 63			34.0				26.4
	Longer career I: from age 25 to SPA+2			76.3				70.9
	Shorter career I: from age 25 to SPA-2			40.8				31.8
	Career break – unemployment: 1 year			70.4				64.8
	Career break – unemployment: 2 years			69.4				63.7
	Career break – unemployment: 3 years			68.7				62.7
	Career break due to child care: 0 year				71.4			65.8
	Career break due to child care: 1 year				70.4			64.8
	Career break due to child care: 2 years				69.4			63.7
	Career break due to child care: 3 years				68.7			62.7
	Short career (30 year career)			65.4				58.0
	Early retirement due to unemployment			68.7				62.6
	Early retirement due to disability			68.7				62.6
Indexation: 10 years after retirement			68.3				60.8	
Low Earnings (66%)	Base case I: 40 years up to age 65	100.6		34.3		91.5		29.9
	Base case II: 40 years up to the SPA	100.6		82.2		91.5		78.0
	Increased SPA: from age 25 to SPA	100.6		84.2		91.5		81.2
	AWG career length case	100.0		40.0	38.9	91.5	34.8	33.9
	Longer career I: from age 25 to 67			38.9				33.9
	Shorter career I: from age 25 to 63			30.4				26.4
	Longer career I: from age 25 to SPA+2			87.4				86.3
	Shorter career I: from age 25 to SPA-2			36.6				31.8
	Career break – unemployment: 1 year			83.5				80.2
	Career break – unemployment: 2 years			82.9				79.1
	Career break – unemployment: 3 years			78.1				78.1
	Career break due to child care: 0 year				84.2			81.2
	Career break due to child care: 1 year				83.6			80.2
	Career break due to child care: 2 years				82.9			79.1
	Career break due to child care: 3 years				82.3			78.1
	Short career (30 year career)	n.a.	n.a.	79.3		n.a.	n.a.	73.4
	Early retirement due to unemployment			82.2				78.0
	Early retirement due to disability			82.2				78.0
Pension rights of surviving spouses				84.2			81.2	
High	Base case I: 40 years up to age 65	62.5		41.5		45.5		20.0
	Base case II: 40 years up to the SPA	62.5		65.0		45.5		38.5

Data source: TRRs for 2013 – Member State; TRRs for 2053 – OECD. Note: n.a. – not available

Greece (EL)

1. General description of the pension system

Pensions in Greece are based on the mandatory public (first) pillar which operates under a tripartite pay-as-you-go scheme (unfunded scheme) and provides defined-benefit pensions. These are earnings-related main pensions, earnings-related auxiliary pensions and lump sum amounts, the minimum pension for persons of 65 years old who were not covered by a pension scheme and the means-tested solidarity benefit (EKAS). The reform of the current pension system that should have become effective from the 1st of January 2015 was suspended by the new Greek Government, and the system will continue to provide defined benefit pensions under the previous defined benefit scheme instead of introducing the Notional Defined-Contribution (NDC) scheme, the unified multi-tier system that would distinguish between a basic (quasi-universal) non-contributory and a contributory pension.

The first pillar consists of four major Social Insurance Funds: (a) IKA, the Social Insurance Organization for private sector workers, that covers new entrants to the public sector since January 2011, with a view to become the Fund for all wage and salary earners; (b) OAEE, the Social Insurance Fund for self-employed workers; (c) OGA, the farmers' pension fund; and (d) ETAA - the unified fund for independent professionals. The latter fund was set up by 2008 legislation providing for the unification of different schemes for various liberal professions (lawyers, engineers, medical doctors and others). There are 2 more minor funds concerning employees in Media and the Marine sectors, which are in the process of being integrated into IKA.

The statutory retirement age was set from 1 January 2013 at 67 years by increasing it from 65 as a general rule, while for those with a contributory period of 40 years the retirement age is set at 62 years. The early retirement age is set at 62 years, requiring at least 15 years of contributions. Pensions are reduced by 6 percent for each year of anticipation for those who retire between the ages of 62 and 67 with less than 40 years of contributions. For persons engaged in arduous work, the statutory retirement age is set at 62 years, requiring 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 full pension entitlement. Pensionable age will be under revision from 2021 onwards, every three years, in accordance with the population's life expectancy indicator. Replacement rates, formerly varying between 2 percent and 3 percent, now vary from 0.8 percent to 1.5 percent, depending on the number of years of contributions. There are transitional provisions applicable to the retirement and early retirement age, as well as to the minimum contributory period, for all those who acquire the entitlement to a pension until 2014 without having retired by that time.

Disability pension is provided in case of loss or reduced capacity to work. Employees with severe disability (80 percent to 100 percent) fulfill the criteria for full pension entitlement, while employees with ordinary disability (67 percent to 79.9 percent) fulfill the criteria for minimum pension entitlement (75 percent of full pension) provided they have completed the minimum required contribution period. The invalidity level is evaluated by the Disability Certification Centers (KEPA).

The average monthly income from pensions is EUR 875.47 (including auxiliary pension benefits), while EUR 34.6 of the pensioners receive an average monthly income from pensions of less than EUR 600.

First pillar includes also a single Auxiliary Pensions Fund (ETEAM) which was established in 2012 (Law 4052/12) merging most of the auxiliary pension schemes: ETEAM, the auxiliary pension scheme of IKA; TEADY, the auxiliary pension fund for public employees;

TAYTEKO, the fund for employees in public utility organizations, that began operating in early 2013. Currently ETEA covers 2.5 million (actively insured persons in private and public sector) and 1,025,000 pensioners⁶⁷. Auxiliary pensions are based on the same qualifying criteria (pensionable age and contributory period) as those applying to the main pensions.

In 2002 the voluntary occupational pension funds (second pillar) were established, as well as for the regulatory framework regarding the operation of the private pension schemes (third pillar). Although the Law 3029 allows for a three-pillar system, in practice, more than 99 percent of pensions are provided by the main and auxiliary pension funds (first pillar)⁶⁸. Occupational funds along with the private pension schemes make up of an insignificant part of the whole pension system. Since 2002, twelve occupational pension funds have been established, but only nine of them are in operation. They provide benefits in kind or in cash paid in monthly annuities (pensions) or as a lump sum. Their benefits are supplementary to the benefits of the mandatory main pensions. Those that provide pension benefits operate on a funded basis. Existing occupational pensions are defined contribution in nature. As to the third pillar, this is the least developed one and includes few private pension schemes. These schemes represent voluntary individual private pension plans, which operate through individual pension accounts on a funded basis. Private savings through private pension schemes were encouraged via tax reductions till 2012.

2. Reform trends

Until the late 2000s the system had been characterized by a high degree of fragmentation across sectors of employment and occupational categories with great inequalities in terms of funding and the range and level of benefits. Law 3655 of 2008 drastically reduced the number of social insurance funds from approximately one hundred thirty to thirteen, in an attempt to improve administrative efficiency and create the conditions for progressively harmonizing entitlements and provisions. Yet, not all of these changes were confined to more than an administrative amalgamation, which, in general, was not followed by the harmonization of the regulations as regards the conditions for pension entitlement and the levels of benefits, neither by the financial unification of all the merged funds.

The most crucial reform of the pension system during the last 30 years was brought about in 2010. The structure of the pension system was significantly changed, including the level of the benefits and the conditions for pension entitlement. Some of these provisions, such as the conditions for pension entitlement, are being already under implementation. In particular, the eligibility criteria for pension entitlement (including early retirement and reduced capacity to work) which came into force in 2013 remain the same since then. However, the provisions regarding the change in the structure of the system and the calculation formula of the benefits, which were to take effect from January 2015, have been postponed by the new Government, and, thus, the system remains for the time being a defined benefit PAYG system.

The amount of the basic pension was set at EUR 360 and the contributory part was to be linked with paid contributions through the entire work life of the employees, different as compared to the private and the public sector where only the best five years of the last ten years of work would be taken into account as the basis for pension amount. It should be noted that the new system foresees that from 2016 onward the amount of the basic pension may be reduced if the economic performance deteriorates. That is, pensions would be adjusted annually on the basis of 50 percent GDP growth and 50 percent change in the consumer price

⁶⁷ ASISP Unpublished Report 2014. Pensions, health and long-term care -Country Document GREECE, 2014, p.7

⁶⁸ G. Symeonidis. The Greek Pension Reform Strategy 2010-2013: Steering away from the tip or the iceberg?, WORLD PENSION SUMMIT, 13-14 November 2013, Amsterdam, p. 7

index (CPI). The basic pension would be granted also to old-age persons who are not covered by pension insurance, including those who paid contributions for less than 15 years, provided that they have reached the statutory pensionable age of 67 years.

In 2012, following an assessment of the economic impact of the reforms under implementation, the Greek Government and the Troika decided to take further reform actions. To this end, new legal arrangements were adopted by laws given in 2012 that provided for stricter pension eligibility requirements (increasing the mandatory pensionable age from 65 to 67 and the contributory period for a full pension from 35 to 40 years). The reduction by 1.1 percent of the employers' social insurance contributions⁶⁹ was provided through the abolition of the Workers Housing Organization (by 0.75 percent) and of the Workers Welfare and Recreation Organization (by 0.35 percent).

Another law from 2012 that was also postponed by the newly elected Government, would have changed significantly the provision of auxiliary benefits. That is, it would turn the old defined-benefit scheme into a Notional Defined-Contribution (NDC) scheme, on the basis of individualized pension accounts. The "sustainability factor" would be a tool to revise existing and future level of auxiliary pensions through an indexation formula that would take into account the amount of revenues through paid contributions, as well as the demographic developments.

In 2013 a Social Insurance Debt Collection Centre (KEAO) was established. Initially it will deal with contributions' arrears in the four major social insurance funds (IKA, OAEE, OGA and ETAA), while by the end of 2016 it is expected that a unified system of tax and contributions collection will be established. In the same year the legislation for the improvement of the mechanisms for combating contributions evasion was enacted. In 2014 a reduction of contributions by 3.9 percent (2.9 percent for employers and 1 percent for employees) has been implemented in order to cut down the non-wage labour cost as an incentive towards increasing competitiveness.

In 2015 the new Government introduced a new framework for the unpaid contributions larger than EUR 5,000, through the Social Insurance Debt Collection Centre (KEAO), giving the ability to be paid off in a maximum of 100 installments, reducing progressively the penalties for delay.

Overall, before the election of the new Government, the Pension Reform actions taken over the last five years intended to create a closer link between contributions and benefits, improve administrative efficiency, reduce the generosity of pension benefits, extend working lives and link the system to demographic and economic developments, with the ultimate aim to ensure the financial sustainability of the pension system. In short, the reforms have focused primarily on strengthening the financial sustainability of the pension systems by increasing the contributory period for pension entitlement and by decreasing the level of benefits (decreasing the replacement rate). At the same time, till the election of the new Government, the reforms had aimed to minimize the responsibility of the state for the financial stability of the mandatory main pensions.

The new Government opposes strongly the main changes introduced by the recent reforms on account that these changes together with the successive cuts of pension income that have been enforced already would bring about a further negative impact on pension adequacy. Instead, the new Government proposed to cover the financial burden by structural changes to the contribution collection framework and mainly through the rapid decrease of the share of undeclared work that is not covered by contributions by increasing inspections of employers. The money earned from contribution evasion would be used – according to Government

⁶⁹ No change for employees.

announcements – to avoid further possible reductions demanded by the Institutions, so that the fiscal gap of 2014-2015 in the pension system could be filled.

3. Impact of the crisis on current pension systems and present pensioners

The fiscal consolidation programme which has been under implementation in Greece since 2010, in the framework of the two bailout plans (MoU I and MoU II), embraced, among other things, successive rounds of cuts in wages/salaries and pensions, increasing employment flexibility (and dismantling of labour rights), drastic reduction of public spending and rising direct and indirect taxes (including special levies and tax on property). Pension reforms have been prominent in the context of structural adjustment. In this major policy area, reforms are continuing and embrace a mix of structural changes and budget consolidation measures, mainly through downward pension adjustments for current and future retirees and drastic pension cuts. As the bailout agreements stipulate, the contribution of the state budget to pension expenditure should not exceed an increase of 2.5 percent of GDP between 2009 and 2060⁷⁰.

In this context, drastic cuts in pension amounts have taken place since 2010. In particular, in 2010 the Christmas, Easter and holiday bonuses for pensioners with monthly pension over EUR 1000 were abolished, while for those with a pension below EUR 1000 the bonuses were reduced to a fixed amount of EUR 800 per year. A special (intergenerational solidarity) levy was also introduced, initially it ranged from 3 percent to 10 percent of gross monthly pension income, but it was raised up to 14 percent in early 2012. The lump sum pension amounts for public servants were reduced, while the pension indexation was suspended for 5 years (2010-2014). The latter alone has decreased the purchasing power of pensioners by about 9.2 percent, if only the inflation rates of the last 5 years are calculated.

In 2011 main pensions over EUR 1200 were cut by 20 percent, while for pensioners younger than 55 years with pension-incomes over EUR 1000, they were reduced by 40 percent. Under the same legislation the auxiliary pensions provided by the ETEAM (IKA) scheme were reduced by 30 percent and those of the auxiliary schemes for public utility organizations (the Public Power Corporation, the Hellenic Telecommunications Organization and other organizations) were reduced by 15 percent. In addition, another law introduced stricter prerequisites for the entitlement of EKAS (the social solidarity benefit for low-income pensioners), and, as a result, about 5 percent of the beneficiaries lost their right to this benefit.

In 2012 further cuts were introduced to the main pensions over EUR 1300 (by 12 percent) and to the auxiliary pensions (by 10 percent to 20 percent). Also, the already (since 2010) drastically reduced Christmas, Easter and summer bonuses for pensioners were cut completely in 2012. Also further cuts were introduced from January 2013 to total pension incomes in excess of EUR 1000 per month ranging from 5 percent to 20 percent. Moreover, under the same legislation, stricter conditions were introduced (in force since 1 January 2013) for the entitlement of the non-contributory pension of EUR 360 (EUR 345 net) for older persons who did not earn any other pension. Furthermore, in 2014 the EKAS (the social solidarity benefit for low-income pensioners) was suspended for low-income pensioners below 65 years of age (except for pensioners with disability of 80 percent and over).

Overall, the cuts to total pensions in payment (including the abolishment of bonuses, i.e. the 13th and 14th pension benefits) for private sector pensioners have ranged from 14.3 percent to

⁷⁰ M. Petmetzidou - A Guillen. "Economic crisis and austerity in Southern Europe: threat or opportunity for a sustainable welfare state?", OSE Research Paper Nr. 18 – January 2015, p 18-19

44.2 percent (in real terms)⁷¹. Low-income pensioners receiving in 2010 a main pension of EUR 600 and a supplementary pension of EUR 300 have ended up in 2013 with a total monthly pension income of EUR 825, a cut of 24.5 percent in real terms. In the case of higher-income pensioners, the cuts have been greater. For example, a main pension of EUR 1800 plus a supplementary pension of EUR 300 in 2010 was reduced after cuts to a total of EUR 1,610 per month over 12 months in 2013 (i.e. a decrease of 36.8 percent in real terms)⁷². As regards civil service total pensions in payment, the cuts imposed (including the abolishment of bonuses, i.e. the 13th and 14th pension benefits) range from 19.9 percent to 48 percent in real terms⁷³, without including the cuts of auxiliary pensions.

In addition to the above, there has been a reduction in the tax allowances (personal exemptions) for pensioners, while an indirect reduction in the pensioners' income has also taken place due to the increase of the pensioners' participation of up to 60 percent in medical expenses which reduced public expenditure for medication by EUR 2 billion per year, transposing thus the financial burden to the pensioners⁷⁴. Moreover, the health care expenses of all people, including pensioners, are rapidly increasing due to the gaps in services of the public health care system⁷⁵.

Apart from the abovementioned drastic cuts of the pensioners' income, the pension reform actions undertaken since 2010 have imposed significant changes on the pensionable income and the replacement rates for all the categories of new pensions. Substantial reductions of pensions have been noticed already, due to the decrease of pensionable salaries and to the application of lower replacement rates. According to INE-GSEE estimations⁷⁶, from 2013 onwards, due to the new pension system regulations, the replacement rate for the new entrants (for both the contributory and basic pension and a 40 years contributory period) is expected to fall by about 35 to 50 percent.

In spite of the successive cuts in pensions, the pension spending (except public servants pensions), as a share of GDP, has remained more or less stable, from 13.02 percent in 2011 to 13.21 percent in 2014, although in real terms expenditures have fallen from EUR 27.14 billion in 2011 to EUR 24.03 billion in 2014 (decrease of EUR 3.11 billion) as the GDP has decreased over the recent years by more than 23.5 percent⁷⁷. It should be noted that the impact of the austerity measures would have been greater, if the deep economic recession, the persisting high level of unemployment, the reduction in wages/salaries and the recent reforms of the pension system (entailing increases in the statutory pensionable age and significant reductions of pension benefits in the forthcoming years), had not led the majority of the employees who were close to retirement age to prefer retiring over remaining at work. This trend resulted in the significant increase of the number of pensioners (approximately 130,000 more pensioners per year).

In particular, employees working in the private sector were subjected to a sudden disruption of their economic/financial life planning without being given enough time or appropriate

⁷¹ Tinios P., Pensions and Economy after the Memorandum: Towards a strategy of risk dispersion, ELIAMEP, Crisis Observatory, Research paper No. 1, Athens, March 2013, p. 37 (in Greek)

⁷² Matsaganis M. The Greek crisis: social impact and policy responses, <http://library.fes.de/pdf-files/id/10314.pdf>, 2013, p. 22

⁷³ Tinios P. Pensions and Economy after the Memorandum: Towards a strategy of risk dispersion, ELIAMEP, Crisis Observatory, Research paper No. 1, Athens, March 2013, p. 37 (in Greek)

⁷⁴ <http://newsinnews.gr/i-alithia-gia-ti-megali-afxisi-simmetochis-sta-farmaka/>

⁷⁵ Matsaganis. M | the Greek crisis: social impact and policy responses, <http://library.fes.de/pdf-files/id/10314.pdf>, 2013, p. 20

⁷⁶ INE-GSEE. Annual Report 2010- Greek economy and employment, Athens, 2010, p. 315

⁷⁷ The pension spending for public servant pensions is estimated to 2.9 percent as proportion of GDP.

means to adjust to the new situation. The fear of unemployment led employees in private sector aged over 50 years to change labour market exit patterns and has driven them to prefer earlier retirement instead of continuing to remain in insecure working places. As regards the employees in the public sector, they opted for early retirement in order to avoid the reductions in pension benefits and in the lump sum pension payments. Many employees, after 2010, who had worked more than 25 years in the public sector, made use of special clauses and exceptions in order to retire⁷⁸. Between September and December 2014, 76.33 percent of all new retirees insured in the public sector were under 62 years old. These are considered among the main reasons for the increase in the number of new pensioners up to 150 percent in one year (from 2009 to 2010). The early retirement pattern, as well as the dramatic adjustments of the pensionable age due to the new legislation, increased the number of the new pensioners, who reached approximately 650,000 persons in the five year period 2010-2014 (average numbers of new pensions per year: IKA 65.000, public sector 24.500, other funds 45.000). Noticeable is the increase by 123 percent observed in the number of new pensions of public sector employees between 2009 and 2010, the year that the main pension reforms were adopted. At present, the dependency ratio is one pensioner for every 1.7 workers, compared with one for every 2.1 in 2009 and one for every 4 in 1950.

Turning into examining the impact of the crisis on the financial sustainability of the pension system, it may be said that, in spite of the recent reforms, the short-term pressures on the viability of the pension system are rather enormous. For, the adverse effects of the crisis (very high unemployment, undeclared work, reduction of wages/salaries, etc.) on the revenues of the social insurance funds, raises serious questions as to whether the system's viability can be achieved. In this respect, crucial has been the effect on Social Insurance Funds of the implementation (in March 2012) of the debt restructuring deal via the Private Sector Involvement (PSI) in the framework of the second MoU, which forced great losses on the assets of the Social Insurance Funds, because of a legal obligation to invest their assets in State Bonds. According to the estimations of INE-GSEE (Labour Institute of the Greek General Confederation of Workers), Social Insurance Funds lost more than EUR 12,72 billion from their assets⁷⁹. Significant will also be the impact of the reduction in funds transferred in 2015 from the General Government to the Social insurance funds, due to austerity measures, which amounts to 45.4 percent off, in comparison to 2010⁸⁰.

According to the INE-GSEE annual report 2014 on the Greek economy and employment⁸¹, the prolonged recession and high unemployment have brought forward the pension system's crumbling point by a decade and that in order to become viable the system requires additional resources of EUR 950 for the year 2016 alone. The system's extra requirements are expected to grow rapidly in the following years, soaring to EUR 2,67 billion for 2020⁸². According to estimations⁸³, social insurance funds are expected to lose from contributions approximately EUR 6,5 billion per annum, due to the dramatic increase in the number of unemployed persons (in Q2 2014 there were approximately 1,3 million unemployed persons). Undeclared work has also been on the increase, reaching 36 percent in 2014 (from 25 percent in 2010), resulting thus to a direct impact on the revenues of the social insurance funds (a loss of approximately EUR 15 billion per year from contributions). Moreover, wage reductions have

⁷⁸<http://greece.greekreporter.com/2014/12/20/employed-greeks-rush-for-early-retirement/>

⁷⁹ INE-GSEE: Annual Report 2012- Greek economy and employment, Athens, 2012, p. 412

⁸⁰ M. Petmetzidou - A Guillen: Economic crisis and austerity in Southern Europe: threat or opportunity for a sustainable welfare state?, OSE Research Paper Nr. 18 – January 2015, p. 11

⁸¹ INE-GSEE. Annual Report 2014- Greek economy and employment, Athens, 2014, p. 30

⁸² INE-GSEE. Annual Report 2014- Greek economy and employment, Athens, 2014, p. 30

⁸³ <http://robolis.gr/asfalistiko.html>

also led to a decrease in contributions, causing cash flow problems in the short term which is considered crucial for a PAYG pension system. The average decrease of wages over the last five years is estimated at 17.6 percent (-4 billion euros per year)⁸⁴.

Overall, the increase in the number of pensioners over 650,000 people in the last five years, the declining revenues due to the PSI (EUR 12,7 billion), the reduction of salaries/wages (-4 billion euros), the reduction of the General Government grant to the pension funds (from EUR 18,9 billion in 2010 to EUR 8,6 billion in 2015), the high unemployment (27 percent) which entails an estimated loss of revenues of the pension funds from contributions (approximately -6,5 billion euros in 2014), the contribution evasion (-15 billion euros in 2014) and the non-paid contributions to the pension funds (-17,4 billion euros in 2014), have undoubtedly a very significant negative impact on the financial sustainability of the pension funds⁸⁵. In short, in spite of the recent reforms, the sustainability of the pension system in Greece remains still at a great risk.

4. Assessment of adequacy

Current adequacy

According to the latest data provided by Eurostat (EU-SILC 2013), all indicators regarding the current adequacy of the Greek pensions show there has been an improvement over the period 2008-2013. This is mainly due to the fact that over the same period there has been a significant decrease of the median income. In particular the at-risk-of poverty or social exclusion rate of people aged 65 and over has significantly decreased by 5 p.p., from 28.1 percent in 2008 to 23.1 percent in 2013 (against 35.7 percent of the total population). This decrease is much higher for women (6.6 p.p. - from 30.9 percent in 2008 to 24.3 percent in 2013) than for men (3 p.p. - from 24.6 percent in 2008 to 21.6 percent in 2013). As regards the at-risk-of poverty or social exclusion rate of people older than 75, this is higher than the respective rate for those aged 65 and over, standing at 25.7 percent in 2013 (showing a decrease by 8.3 p.p. from 2008 to 2013).

The at-risk-of poverty rate of people aged 65 and over stands at 15.1 percent in 2013 against 17.2 percent for people older than 75, which are both much lower than the at-risk-of poverty rate of people aged less than 65 (25.1 percent). Both indicators have shown a decrease over the period 2008-2013 by 7.2 p.p. and 10.8 p.p. respectively. The rate of severe material deprivation of people aged 65 and over stands at 13.7 percent in 2013, while for people older than 75 it is higher and stands at 15.3 percent. The improvement of the indicators mentioned above are compatible with the fact that the relative median income ratio of people aged 65 and over, has shown an increase by 0.18 p.p., over the period 2008 and 2013, i.e. from 0,86 in 2008 to 1.04 in 2013.

Given all the above, it becomes evident that pensions in Greece, in spite the successive cuts imposed over the last few years, have played a significant role in cushioning the negative effects of the crisis on pensioners. This is confirmed by the fact that the at-risk-of poverty rate for the total population before all social transfers stood as high as 53.4 percent in 2013, but when the income from pensions is included, it decreases by 25.4 p.p., falling down to 28 percent. When all other social transfers are included, the rate shows a further decrease by only 4.9 p.p., to 23.1 percent.

The impact of austerity measures on the pensions during the last 5 years is notable. A number of pension reform laws adopted since 2010, have imposed significant changes on pensionable income and replacement rates for all the categories of pensions. According to INE-GSEE

⁸⁴ <http://robolis.gr/asfalistiko.html>

⁸⁵ <http://robolis.gr/asfalistiko.html>

estimations⁸⁶, from 2013 onwards, due to the new pensions' regulations, the replacement rate for the new entrants (for both the contributory and basic pension and a 40 years contributory period) is expected to fall by about 35 to 50 percent.

Gender pension gap

The gender gap in pensions in Greece declined to 22.6 percent in 2013, being significantly lower as compared to the EU average. It exhibits an extremely remarkable decline throughout the economic crisis. From 38 percent over the period 2008-2010 it declined to 31 percent in 2011 and further to 22.6 percent in 2013⁸⁷. A similar trend (decline throughout the crisis) becomes evident also in the case of the central gender gap, being at the level of 25 percent in 2012 (13 p.p. lower compared to the EU average). Gender gap in non-coverage rate declined from 18 p.p. in 2011 to 12 p.p. in 2012; nevertheless women's coverage by the pension system remains a major policy concern as regards gender equality in Greece. Gender Gap in annual earnings (19 percent) is lower compared to the EU average in 2010; and also lower compared to the gender gap in pensions in Greece.

As a result of the pension reforms, women's effective retirement age will rise more than men's, since they used to retire much earlier than men on average according to the lower statutory age of retirement in force before and not to their supposedly more frequent access to early retirement. Moreover, women's pension rates will decrease more than men's, since women have on average lower contribution records than their male counterparts. However, the reform has not shown its impacts yet: one year after the 2010 reform (2011), women's effective retirement age was 59.9 – 2.1 years below the statutory retirement age of 62 – while men's respective age was 61.8 – well below the statutory age of 65.

Gender gaps in employment and pay. The gender pension gap indicator presents a snapshot of developments in the employment and pension system factors, which determine the size of the gap. Since it is calculated for the entire population of 65-79 year olds there is a certain inertia in its development. To get a sense of whether it is likely to reduce or increase one can look at trends in the various gender gaps in employment and at how the pension system is changing.

The gender gap⁸⁸ in the *employment rate of older workers* (age 55-64) has decreased by 13.3 p.p. over the period of 2004-2014 (EU-28: -5 p.p.) and amounted to 19.0 p.p. in 2014 (EU-28: 13.7 p.p.). The gender gap in the *duration of working life*, which in 2013 came to 8.1 years (EU-28: 5.2 years) has thereby decreased by 3.4 years since 2004 (EU-28: -1.2 years). The gender gap⁸⁹ in *part-time employment* (for people aged 20-64), which reached 6.5 p.p. in 2014 (EU-28: 23.5 p.p.), has remained almost stable since 2004 (6.4 p.p.). The gender *pay gap*⁹⁰, which in 2010 (the latest data available for Greece) at 15.0 percent was lower than the EU-28 average (16.4 percent in 2013), has decreased by 6.5 p.p. since 2007 (EU-28: increase by 0.3 p.p. over the period of 2010-2013). This implies a trend towards a reduction of the gap as far as the employment factors are concerned.

⁸⁶ INE-GSEE. Annual Report 2010- Greek economy and employment, Athens, 2010, p. 315

⁸⁷ This can partly be explained by the fact that pension cuts have been progressive, thus affecting more higher than lower pensions.

⁸⁸ Difference between values for men and women.

⁸⁹ Difference between values for women and men (for part-time employment).

⁹⁰ The unadjusted Gender Pay Gap (GPG) represents the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. Industry, construction and services (except public administration, defense, compulsory social security). Data source: Eurostat [earn_gr_gpgr2]

Future adequacy

Another key indicator of the adequacy of pension benefits is the theoretical replacement rate. According to the estimations the net theoretical replacement rate is expected to be 47 percent in 2053 for average wage earner and 51.4 percent in low and high wage earner case based upon 40 years career up to age 65, while in case of 40 years career until the standard pensionable age it will fall to 43 percent for average wage earner, to 39.2 percent for low wage earner and to only 29 percent for high wage earner, raising doubts about pensions' future adequacy. On the other hand, this expected decrease will eventually lead to a further reduction of the average pensions and, in turn, to a decrease of the pension expenditures of the State Budget.

Challenges for pension adequacy

In order to preserve the adequacy of the pension system in the future, Greece has to deal with a series of considerable challenges which might severely erode the efficiency of a PAYG system. The most important are:

- Population ageing: The old-age dependency ratio (population aged 65 and over as a percentage of the population aged 20-64) is projected to increase from 34 percent in 2013 to 67 percent in 2060. According to the 2015 Ageing Report, the gross public pension expenditure will increase from 16.2 percent of GDP in 2013 to 14.3 percent of GDP in 2060. This estimation has taken into account the recent pension reforms as well as the progress expected in the Greek labour market. It should be noted that without recent reforms (mainly law 3863/10) pension expenditure would have reached to 24.1 percent of GDP⁹¹. However, the recent decision by the new Government to postpone the implementation of some of the provisions of the recent reforms implies that new measures are needed to address the challenge of population ageing, which puts the whole pension system at risk.
- High Unemployment: According to the latest available data the unemployment rate for 15-74 years old stood at 25.6 percent. In spite a slight decrease, Greece continues to show the highest rate among the EU-28 member states, remaining thus one of the major social outcomes of the crisis.
- Unofficial Economy-undeclared work: According to the estimations of the Special Service of Social Insurance Controls, the undeclared labour was 33-36 percent in 2012. This puts at risk the whole sustainability of the pensions system.
- Decrease of wages: The decrease of 23 percent in the last five years had a direct impact on the level of contributions and hence on the financial sustainability of the system.

5. Sustainability

The evolution of the demography, employment rate and expenditure can give us information about the sustainability of the pension system in the future.

Demography

The old-age dependency ratio (population aged 65 and over as a percentage of the population aged 20-64) in Greece is projected to increase from 33.7 percent in 2013 (EU-28: 30.3 percent) to 69.6 percent in 2053 (EU-28: 54.9 percent).

⁹¹ Patrina Paparrigopoulou-Pehlivanidi. "Pensions Reforms in Greece 2008-2012" Revue du droit de l'assurance sociale, Dec. 2012 – in Greek p. 899

Greece belongs to the group of Member States where the increase in old-age dependency ratio is projected to be above the EU-28 average. Over the period 2013 to 2053, the old-age dependency ratio is projected to increase by 35.9 p.p. (EU-28: 24.6 p.p.).

The share of working-age population (20-64) (60.3 percent of the total population in 2013) is projected to drop by 11.6 p.p. by 2053 (to 48.7 percent of the total population), compared with 9.2 p.p. for the EU as a whole by 2053.

The economic old-age dependency ratio for Greece is projected to rise by 20.0 p.p. from 62.4 percent in 2013 to 82.4 percent in 2053 and will be significantly above the EU-28 average (66.2 percent in 2053).

Employment

The labour market participation rate (of people aged 20-64) in Greece (72.6 percent) was below the EU-28 average in 2013 (76.5 percent) but it is projected to rise above the EU-28 average in 2053 (82.3 percent versus 79.9 percent). The participation rate of older workers (aged 55-64) in 2013 was lower (42.4 percent) than the EU-28 average (54.4 percent). Over the period 2013 to 2053, the participation rate of older workers is projected to increase by 35.1 p.p. to 77.5 percent in 2053, more than in the EU-28 (15.3 p.p.: from 54.4 percent in 2013 to 69.7 percent in 2053).

According to the 2015 Ageing Report, employment rate (of people aged 20-64) is projected to increase from 52.6 percent in 2013 (EU-28: 68.4 percent) to 76.2 percent in 2053 (EU-28: 74.9 percent). Employment rate of older people (aged 55-64) is projected to double from 35.5 percent in 2013 to 74.2 percent in 2053 (EU-28: from 50.3 percent to 66.6 percent).

The employment rate for older workers (from 55 to 64 years) in Greece in 2013 was significantly below the EU-28 average: 35.5 percent (46.0 percent – men, 25.8 percent – women) versus 50.3 percent at the EU-28 level (57.6 percent – men, 43.3 percent – women).

The effective exit age from the labour force in 2013 was 64.4 (64.4 – for men, 64.5 – for women) and it is above the EU-28 average (63.1 – total, 63.5 – for men, 62.7 – for women).

Main drivers of pension expenditure

According to the 2015 Ageing Report, the gross public pension expenditure will decrease from 16.2 percent of GDP in 2013 to 14.3 percent of GDP in 2060.

In accordance with the 2015 Ageing Report, the demographic factor has the strongest upward effect (+10.6 p.p. of GDP) on gross public pension expenditure over 2013-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and career shift). The lowering effect of employment rate (-5.5 p.p.) on the public pension expenditure are more pronounced than coverage ratio (-3.2 p.p.) and benefit ratio (-2.1 p.p.).

6. Main opportunities for addressing pensions-related challenges

The main question regarding the sustainability of the existing pension system in Greece is to secure financial viability along with social effectiveness. In this framework all new measures targeting at the accomplishment of the pension reform should guarantee a decent level of benefits under the constraints posed by the level of economic growth together with the level of primary budget surpluses.

Moreover, 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 undertaken in order to improve the rate of participation of older workers (55-67 years old). This will be crucial for the pension system because it is expected to lead to an increase of the average effective exit age from work, which in 2010 was 62.3 years old (62.4 for men, 62.3 for women) and eventually to an increase in the years of contributions. To this end, policies fostering early retirement disincentives should be promoted.

In addition, measures to restrict tax/contributions evasion are necessary for the financial viability of the pension funds. Similarly, given (i) that the system would be moving from a “single” to a “multi-tier” one in the future and (ii) that the financial state support would be limited, synergies between the specific pillars must be enhanced, mainly by communication policies in order that citizens enrol in the voluntary/private pillar. The membership in voluntary pension pillar will depend on the level of the disposable income of the working age population/household, allowing for extra contributions to be paid from the household's budget.

The expected decrease of the revenues of the social insurance funds through contributions due to the ageing of the population should be supported by establishing new financing sources through taxation of the real estate properties of higher value, mineral wealth, gambling and environment polluting activities.

Finally, the acceleration of the accomplishment of the reform is indispensable for the efficient operation of the system.

7. Background statistics – Greece

1. Relative incomes of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	1.04	1.04	1.05	0.18	0.15	0.21
Income quintile share ratio (S80/S20), 65+	3.9	4.0	3.8	-0.6	-0.6	-0.5

2. Poverty and material deprivation

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+	23.1	21.6	24.3	-5.0	-3.0	-6.6
At-risk-of-poverty rate (AROP), 65+	15.1	13.7	16.2	-7.2	-7.1	-7.4
Severe material deprivation (SMD), 65+	13.7	12.1	15.0	-1.1	1.0	-2.7
At-risk-of-poverty or social exclusion (AROPE), 75+	25.7	22.6	28.1	-8.3	-8.7	-7.9
At-risk-of-poverty rate (AROP), 75+	17.2	13.5	20.0	-10.8	-13.9	-8.6
Severe material deprivation (SMD), 75+	15.3	12.9	17.2	-2.6	-1.6	-3.2
Relative poverty gap, 65+	13.7	13.9	13.7	-7.1	-5.8	-9.1
At-risk-of-poverty rate (AROP), 65+: 40 % threshold	3.2	3.0	3.3	-1.4	-1.1	-1.7
At-risk-of-poverty rate (AROP), 65+: 50 % threshold	6.5	6.2	6.8	-5.8	-4.8	-6.6
At-risk-of-poverty rate (AROP), 65+: 70 % threshold	21.4	20.1	22.3	-9.6	-9.9	-9.5

3. Housing situation of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Housing cost overburden rate, 65+	26.2	20.6	30.7	11.3	9.2	12.9
Tenure status among people 65+: share of owners	89.0	91.1	87.3	1.3	1.4	1.3
Severe housing deprivation rate, 65+	4.9	4.2	5.5	-0.5	-0.4	-0.4

4. Income replacement by pension systems

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Aggregate Replacement Ratio (ARR)	0.60	0.60	0.67	0.19	0.12	0.23
Benefit Ratio (BR) (Public pensions)	65.6					
Gross Aggregate Replacement Rate (Public pensions)	:					
Gender Gap in Pension Income, % (65-79)	22.6*			-16.4*		
Gender Gap in non-coverage rate (W-M in p.p.) (65-79)	12.3*			-4.9*		

5. Sustainability and context indicators

Indicator	2013			Projections for 2053		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65+, years	19.4	18	20.8	23.4	22.0	24.8
Old-age dependency ratio (20-64)	33.7	30.0	37.4	69.6	62.0	77.5
Economic old-age dependency ratio (15-64)	62.4	46.2	85.5	82.4	66.8	101.4
Employment rate, age group 55-64	35.6	46.0	26.0	74.2	81.0	67.4
Pension expenditure as % of GDP (ESSPROS)	17.5*			Projections for 2060		
Gross public pensions as % of GDP (AWG projections)	16.2			14.3		

Data source: Eurostat. Sustainability indicators and projections (EPC AWG) – Commission Services (DG ECFIN), based on The 2015 Ageing Report. Data on gender gaps – ENEGE. Notes: * - 2012 data; : - not available.

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net				Gross			
		2013		2053		2013		2053	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Base case I: 40 years up to age 65	n.a.	n.a.	47.0		n.a.	n.a.	47.2	
	Base case II: 40 years up to the SPA	n.a.	n.a.	43.0		n.a.	n.a.	46.1	
	Increased SPA: from age 25 to SPA	n.a.	n.a.	47.0		n.a.	n.a.	47.2	
	AWG career length case	n.a.	n.a.	49.7	48.6	n.a.	n.a.	50.0	48.9
	Longer career I: from age 25 to 67			48.1				48.3	
	Shorter career I: from age 25 to 63			43.8				44.0	
	Longer career I: from age 25 to SPA+2			48.1				48.3	
	Shorter career I: from age 25 to SPA-2			43.8				44.0	
	Career break – unemployment: 1 year			47.0				47.2	
	Career break – unemployment: 2 years			47.0				47.2	
	Career break – unemployment: 3 years			47.0				47.2	
	Career break due to child care: 0 year				47.0				47.2
	Career break due to child care: 1 year				47.0				47.2
	Career break due to child care: 2 years				47.0				47.2
	Career break due to child care: 3 years				47.0				47.2
	Short career (30 year career)			39.4				39.5	
	Early retirement due to unemployment			47.0				47.2	
	Early retirement due to disability			47.0				47.2	
	Indexation: 10 years after retirement			37.3				37.4	
Low Earnings (66%)	Base case I: 40 years up to age 65	n.a.	n.a.	51.4		n.a.	n.a.	56.2	
	Base case II: 40 years up to the SPA	n.a.	n.a.	39.2		n.a.	n.a.	38.7	
	Increased SPA: from age 25 to SPA	n.a.	n.a.	51.4		n.a.	n.a.	56.2	
	AWG career length case	n.a.	n.a.	53.2	52.4	n.a.	n.a.	58.3	57.4
	Longer career I: from age 25 to 67			52.1				48.3	
	Shorter career I: from age 25 to 63			47.7				44.0	
	Longer career I: from age 25 to SPA+2			52.1				48.3	
	Shorter career I: from age 25 to SPA-2			47.7				44.0	
	Career break – unemployment: 1 year			51.4				56.2	
	Career break – unemployment: 2 years			51.4				56.2	
	Career break – unemployment: 3 years			51.4				56.2	
	Career break due to child care: 0 year				51.4				56.2
	Career break due to child care: 1 year				51.4				56.2
	Career break due to child care: 2 years				51.4				56.2
	Career break due to child care: 3 years				51.4				56.2
	Short career (30 year career)	n.a.	n.a.	44.4		n.a.	n.a.	48.4	
	Early retirement due to unemployment			51.4				56.2	
	Early retirement due to disability			51.4				56.2	
	Pension rights of surviving spouses				98.1				108.2
High	Base case I: 40 years up to age 65	n.a.	n.a.	51.4		n.a.	n.a.	56.2	
	Base case II: 40 years up to the SPA	n.a.	n.a.	29.0		n.a.	n.a.	26.3	

Data source: TRRs for 2013 – n.a. - not available (not provided by the Member State); TRRs for 2053 – OECD

Spain (ES)

1. General description of the pension system

In Spain public pensions are regulated and managed by two different social protection systems: the Social Security system that covers the entire population and civil servants of Regional and Local Administrations among others and all new civil servants since 1 January 2011, and the *Clases Pasivas* system that covers almost all civil servants of the Central Administration enrolled before 2011⁹².

During the transition period until *Clases Pasivas* is fully dissolved, the two social protection systems will coexist with different rules, although *Clases Pasivas* tends to harmonise with the Social Security system.

The pay-as-you-go defined benefit Social Security pensions system is financed by contributions made by employers (private or public entity) and employees. The Social Security system also has a Reserve Fund financed from contribution surpluses and interest earnings. By December 2014 the fund reached 42,678.98 million (4.07 percent of GDP). The *Clases Pasivas* system is financed by the General State Budgets and the contributions paid by employees.

There is also a non-contributory pensions system for persons aged over 65 years or those who have a recognised disability. In both cases beneficiaries must prove that they don't have sufficient economic resources (less than EUR 5,136.6 per year in 2015⁹³) and are not entitled to a contributory pension. The amount of the non-contributory pension varies according to family circumstances and the income level of the household. Most of the beneficiaries receive the monthly maximum amount which is EUR 366.90 in 2015. Furthermore, persons living in rented accommodation are entitled to a housing supplement of EUR 525 annually. This system is financed by general taxation.

Minimum amount guarantee. The Government sets out the minimum pension amount annually, which varies according to the pensioner's type of benefit and family situation. Those with a pension below the minimum amount receive a supplement, which cannot exceed the amount of the non-contributory pension for all those retiring as from 2013. Minimum supplements are funded through the State Budget. For pensioners over the age of 65 years, the monthly minimum retirement pension, in 2015, is EUR 634.50 in 14 instalments or EUR 782.90 with a dependent spouse. If the beneficiary suffers a significant disability, the pension amount rises by 50 percent.

Complementary private pensions system is voluntary and structured into employment pension funds (second pillar) and individual funds (third pillar), with individual pension plans. The majority of employment pensions exist in large enterprises, particularly in the financial and electrical sectors and multinationals, while small and medium sized companies have not developed this to a great extent. This is due to employment pension plans tending to be the result of collective bargaining between companies and workers, and trade unions having greater negotiation powers in large companies.

⁹² Royal decree law 13/2010, of 3 December, on tax, employment and liberalising actions to foster investment and the creation of employment.

⁹³ The income threshold rises if the pension holder lives with a spouse and/or dependent children.

The degree of development of the third pillar is greater than in the second pillar, where 63.23 percent of the value of pension funds corresponds to individual plans, and the rest of employment plans⁹⁴.

The public pensions system is characterised by governance based on political consensus, which was established in 1995 in the “Pacto de Toledo” agreement. In any case, the competence to approve the pension reforms is held by the Spanish Parliament.

2. Reform trends

Several reforms of the Social Security pensions system, implementing the Act 27/2011, entered into force in 2013. The objective of this reform is to ensure the sustainability of the public Social Security system in the medium and long term.

The measures used for this are: gradual increase of pensionable age from 65 to 67 years; progressive increase in the number of years used to calculate the pension from 15 to 25 years; increase in the number of years of contribution necessary to receive 100 percent of the pension from 35 to 37 years; stricter eligibility requirements for early retirement; change in the method used to update pensions, removing their current tracking of inflation; introduction of the sustainability factor, which changes the pension substitution rate; and the promotion of active ageing.

The changes to these parameters will be gradually implemented over fifteen years (2013-2027). The situation in 2015 is as follows:

a) Higher pensionable age. In 2015, the pensionable age is 65 years and three months if the number of years of contribution is fewer than 35 years and 9 months. However, people may retire from 65 years if the number of years of contribution is greater than 35 years and 9 months. As from 2013, the date of pensionable age has been extended by one month per year for the first six years, and two months per year for the last nine until 2027.

Early retirement in case of involuntary loss of employment may be taken four years before pensionable age and requires 33 years of contributions. In case of voluntary resignation, early retirement may be taken two years before pensionable age and requires 35 years of contribution. A lower pensionable age is maintained for disabled people and those in arduous or hazardous jobs.

b) Correspondence between pension entitlement and length of contribution period. The minimum contribution period for entitlement to a contributory pension is 15 years. Receipt of 100 percent of the pension in 2015 requires 35 years and nine months of contributions and, otherwise, a sliding scale⁹⁵ is used according to the number of years of contributions. As from 2027 when the transition period is complete, 37 years of contributions will be necessary in order to receive 100 percent of the pension.

The amount of the retirement regulatory basis is the ratio between the total of up to date contribution bases⁹⁶ in the *calculation period* (18 years in 2015) and a divider (252 in 2015)⁹⁷. Until 2022, *the calculation period* will increase by 12 months each year until it reaches 25 years and the divider will reach 300.

⁹⁴ General directorate of insurance and pension funds, 2013 Report.

⁹⁵ For the first 15 years of contributions, 50 percent of the regulatory basis is received, with an extra 0.21 percent for each additional month of contribution for the 163 months following, with an extra 0.19 percent added in the remaining months until 100 percent is reached. Coefficients vary slightly throughout the transition period.

⁹⁶ Contribution bases are updated following the price index. They are not updated in the two years prior to the date of retirement.

⁹⁷ The divider is the result of multiplying the number of years of the period of calculation by 14 months.

Included in the contribution periods are breaks in employment for mothers / fathers for the care of children under the age of six years. This can be up to 9 months per child and is capped at two years⁹⁸ in cases of unemployment without the obligation to make contributions. Also the three-year leave to care for each child or foster will be considered effective contribution period.

c) Toughening of eligibility for early retirement. Reduction coefficients are applied for each quarter that retirement is brought forward and varies according both to the length of contribution record and the type of early retirement. For contributed periods longer than 44 years and 6 month, the quarterly reduction coefficient will be either 1.625 percent or 1.5 percent depending on whether the retirement is voluntary or not. As the period of contribution decreases, reduction coefficients gradually increase until a maximum of 2 percent or 1.875 percent, respectively.

Once the reduction coefficient is applied, the pension amount cannot be greater than the maximum pension minus 0.5 percent for each quarter that the pension is brought forward. Pensions for voluntary early retirement cannot be subject to supplements to guarantee minimum income.

Partial retirement may be taken two years before reaching pensionable age and requires 33 years of contributions. The maximum reduction in working hours is 50 percent, or up to 75 percent in the case of a substitute worker being hired on a full-time basis with a permanent contract. Contributions must be made for full working hours even if the work is actually part-time⁹⁹.

d) New limits on revaluating pensions. As of 2014, pensions are re-valued according to a new index, the Pension Revaluation Index (PRI). Previously, pensions were revalued solely according to the Consumer Price Index (CPI). The PRI is calculated annually according to Social Security forecasts of income and outgoings across an average of 11 years (5 previous years and 6 following years). For the sake of transparency, the Independent Fiscal Authority (AIREF) should give their opinion about the calculus of such PRI.

Upper and lower caps on the revaluation are set: the minimum percentage is 0.25 percent and the maximum percentage is the value of the consumer price index plus 0.5 percent¹⁰⁰.

The "sustainability factor" will be introduced in 2019 and will adjust the initial pension amount according to the life expectancy of the newly retired person. This index will be reviewed every five years and will apply to new pensioners.

e) Fostering of longer working lives. Persons who reach the pensionable age and have met the contribution period required for entitlement to 100 percent of the pension may combine a pension with work, either on a self-employed or employed basis¹⁰¹. In this case, and for the duration of such a situation, the pensioner will receive 50 percent of the pension. Once the work has concluded, the pension will be restored in full amount, with any revaluations that may have been made. Furthermore, Act 27/2011 allows the old-age pension to be combined with self-employed activities if the total annual income received does not exceed the national minimum wage¹⁰² calculated on an annual basis, with no Social Security contributions being payable on such income. Another incentive to prolonging working life is increasing pensions by between 2 percent and 4 percent for each full additional year of work after pensionable age is reached, depending on the number of years of contributions previously made.

⁹⁸ In 2015, 164 days are applied for child and rising progressively to 270 days in 2019.

⁹⁹ Act 27/2011 and RDL 5/2013

¹⁰⁰ Act 27/2011 and Act 23/2013

¹⁰¹ RDL 5/2013

¹⁰² In 2014, the national minimum wage is 9,034.20 euros (752.85 euros per month).

The Government has introduced several reforms in the regulatory framework of the complementary pension system, like the changes made on the *Income Tax Reform Act*¹⁰³. The new proposals are principally geared towards boosting the liquidity of individual pension plans, allowing them to be drawn from 10 years after their constitution; life insurance policies are encouraged by introducing the tax exemption - of up to EUR 240,000 for capital gains for persons over the age of 65 in the disposal of any asset owned, provided that such gains are reinvested in a life annuity that complements the public pension. The changes introduced in the Personal Income Tax Reform Act concerning the complementary pension system benefit individual pension plans. The occupational pension plans depend on collective bargaining in companies.

3. Impact of the crisis on current pension systems and present pensioners

The Gross Domestic Product of Spain declined 6 percent as a result of the economic crisis between 2008 and 2013. However, the economic recovery that began in 2014 is stronger than expected reaching a positive rate of change of 1.4 percent 2014 and 2.9 percent 2015.

One of the greatest problems of the economic crisis is unemployment and its composition. The unemployment rate in Spain rose from 8.6 percent in 2007 to 25.73 percent in 2013, equalling more than 5 million people. More than half of unemployed are long term (more than one year unemployed) and the majority of these are under the age of 25 or over the age of 45. In late 2014, the long term unemployment rate fell for the first time since the beginning of the crisis.

Below 25 year olds with low education levels and over 45 year olds face particular difficulties in finding employment. The latter group suffers the consequences to a larger extent because most of them don't have the training required to fulfil the new needs of the production market.

In order to alleviate the problem of poverty among the unemployed, particularly among the long term unemployed, the Government is coordinating a series of subsidies and assistance measures in order to bridge the gaps left by the Social Security contributory unemployment benefit. New funding (EUR 130 million) will also be granted to regions for implementing the new activation programme for the long term unemployed. The youth guarantee programme was extended to 25-30 year-olds.

Years spent outside the labour market result in a shortened Social Security contributions period. Contributory unemployment benefits and pension credits for over 55 year olds tackle this situation by providing Social Security contributions until retirement. This measure guarantees a minimum contributory pension for the older unemployed.

Since the beginning of 2014 more than half a million new jobs have been created. Consequently unemployment is falling, from 5.9 million in the first quarter of 2014 to 5.4 million in the same quarter of 2015 representing a decrease of 488 700 persons; the largest annual decline in unemployment since 2002.

According to the latest available data, at-risk of poverty and social exclusion rate in 2013 stood at 27.3 percent. Spain, in 2013, was in a stage when the effects of the economic recession and sharp rise of unemployment rates still endured, which explains the worsening of this indicator in recent years. Pension amounts weren't affected by the economic crisis since purchasing power of pensioners was maintained by matching up to the CPI (Consumer Price Index). This made the at-risk of poverty rate for people over the age of 65 years (16.6 percent)

¹⁰³ Act 26/2014, of 27 November, amending Act 35/2006 of 28 November on Personal Income Tax and other tax rules.

below the EU 15 average (17.3 percent), and the reality shows that income of the elderly is a means of support for many families.

The main impact of the economic crisis on the pension system is the reduction of incomes as a result of the decline of the economic activity and the rising number of unemployed.

The number of people contributing to the system has declined from 19.3 million in December 2007 to 16.8 million in December 2014 (2.5 million contributors less). On the other hand, the number of pensioners has increased steadily from 8.3 million in 2007 to 9.3 million in 2014. These figures have driven the Social Security to a deterioration of the fiscal balance of the system. In 2007, the system reached a surplus around 1.39 percent of the GDP. Due to the increase of the unemployment rate, the income of the system was falling until 2013, while the expenditures continued to rise. In 2014 and 2015, the income started to rise again. Nevertheless the deficit was around 1 percent of the GDP in 2014, and it is expected to be around 0.6 percent of the GDP in 2015.

In order to alleviate the economic downturn, in 2012 the government approved the use of the Reserve Fund for the first time, followed by further withdrawals in 2013 and 2014. The Reserve Fund moved from a balance of EUR 66,815 million in 2011 (6.2 percent of the GDP) to EUR 41,634 million in 2014 which represented 3.9 percent of the GDP.

Employment creation is at the centre of the reforms in labour markets and Social Security. The change of the economy began in 2014 and the employment in March 2015 grew by 3.3 percent year-on-year, which means 536.512 new jobs were created in 12 months. In April and May 2015, employment growth was 3.6 percent. Sustainable growth in employment is required to provide the Social Security System with the revenues needed to guarantee the benefits in the medium and long term.

Budget consolidation. In order to guarantee the sustainability of the system, not only in the middle and long term, but also in the short term, and to adapt the system to the coming demographical changes, many legislative changes have taken place lately. Among them, the law 27/2011 and the Royal Decree-law 5/2013 must be highlighted. These two legislative acts aim to increase the effective retirement age, promote the presence of older workers on the labour market and strengthen the contributory aspects to the pension system.

Also, and in order to guarantee the sustainability of the system against the background of ageing population, the law 23/2013 regulating the sustainability factor must be mentioned. This law, which was approved at the end of 2013 and came into force on 1 January 2014, regulated the application of the sustainability factor as of 1 January 2019 and the revalorization index as of 1 January 2014. With the law 23/2013, the Government aimed to guarantee a public pensions system that anticipates and affronts the economic and demographic challenges that the Spanish society will have to face in the middle and long term in order to achieve two main objectives, adequate pensions and the economical sustainability of the Spanish social security.

The results of changes introduced have not yet fully materialised, although certain trends can be seen with respect to the reaching of said targets.

With respect to the increase of pensionable age, it can be seen that, prior to the reform, effective retirement age already tended to be close to pensionable age, rising from 63.57 years in 2007 to 63.87 years in 2011, and 63.90 years in 2012. In 2013, the first year of the reform, the increase was very important, reaching 64.33 years.

The increase in the number of retirement pensions was 2 percent in 2012; 2.22 percent in 2013 and 1.79 percent in 2014. For all contributory pensions the increases were 1.54 percent in 2012; 1.62 percent in 2013 and 1.40 percent in 2014.

In terms of results of parameter adjustments, certain results can be seen, namely:

- a) The most immediate effect is the moderation of the average monthly pension. The increase of the average old-age pension was 3.5 percent in 2012; 3.4 percent in 2013 and 2.1 percent in 2014. The increase in 2014 was lower because of the revaluation was 0.25 percent compared to a revaluation of 1 percent - 2 percent in 2013. In both cases the indexation was far higher than CPI. Total spending on contributory pensions continues growing at a slower rate, by 4.9 percent in 2013; 3.3 percent in 2014 and 3.2 percent in 2015.
- b) In 2014, no savings resulted from the introduction of the new pension revaluation index, because the revaluation was 0.25 percent and the CPI was -1 percent (in November - 0.4 percent).

In 2014, the total expenditure on pensions grew by 3.3 percent, as a result of 1.4 percent increase in the number of pensioners, 0.25 percent revaluation and 1.6 percent substitution effect (newly granted pensions being higher than those leaving the system). The total spending on contributory Social Security pension rose to 10.5 percent of GDP, and spending on old-age pensions represents 7.3 percent of GDP. The deficit of the Social Security budget is foreseen at 1 percent of GDP for 2014 is a deficit of EUR 14.000 million of the reserve fund were used. The deficit expected for the 2015 budget is 0.6 percent of GDP, due to a growth in potential contributions as a result of the significant increase in workers (2.84 percent inter-annual increase February 2015). In 2015, it is estimated that the contributors-per-pensioner ratio will grow compared to the current value 2.26.

The results expected are in line with the budget stability target and the setting of non-financial spending limits for the state, as shown in the draft 2015 budget.

In the short term, available income from public pensions may increase with the tax reform proposed by the Government to lower tax rates from 2015. It is estimated that the average tax rate drop will be 12.5 percent, which may benefit those with low pensions.

4. Assessment of adequacy

Current adequacy

The old-age pension is the main source of income for the elderly. The average amounts of old-age pensions in Spain maintained an upward trend prior to and after the reform, and new pensions were greater than those of prior years; purchasing power was ensured by linking to the CPI. In 2011, as a result of the economic crisis, the revaluation was frozen¹⁰⁴, with the exception of minimum pensions, whether contributory or non – contributory. In 2012, pensions were updated below CPI at 1 percent. In 2013, pensions that did not exceed EUR 14,000 per year were indexed at 2 percent, and pensions above this amount at 1 percent, although the CPI only increased by 0.3 percent. The new PRI that came into force in 2014 is linked to CPI only indirectly (the variables are expressed in current prices). The increase applied that year was 0.25 percent (CPI decreased by 1.0 percent).

As a result of revalorization and higher newly granted pensions, in 2014 the average contributory pension increased by 2.05 percent compared to the previous year, reaching EUR 1,008.73. In the period from 2008 to 2014 the pension amount has increased by 22.68 percent while the CPI growth was 8.5 percent (salaries grew by 4.68 percent from 2008 to 2013). Pension amounts growth has been higher than the CPI and Salary increases in said periods, strengthening the current adequacy of pensions.

The Theoretical Replacement Rates for Spain for 2013 show a relatively high level of income replacement compared to EU average. For a worker with 40 years of contributions up to age 65, Spain has a 96.2 percent Net TRR, which increases slightly for the low earnings case (97.4 percent), contrasting with high earnings case which is lower in 9.9 p.p. compared to the average earnings case. The latter is due to the application of caps on contribution bases that are considered for calculating the pension.

*The risk of poverty or social exclusion rate*¹⁰⁵ for people aged 65+ was 14.5 percent in Spain in 2013, 3.7 p.p. below the EU average. For people 75+ the gap in the at-risk-of-poverty rate is even higher in 2013: 14.9 percent in Spain versus 19.4 percent in EU-28. Moreover, the severe material deprivation rate for 65 years or over was in Spain 2.7 percent, in 2013, in contrast with the 6.9 percent in EU-28. These outcomes may be linked to the high home ownership among elderly Spaniards. The risk of poverty and severe material deprivation indicator is slightly higher for women for people 65 years or over.

Another indicator to measure the adequacy of pensions is the median relative income ratio for people over 65. Such indicator shows that the disposable income of people over 65 reached the disposable income level of the population under 65 years in 2013.

This indicator has grown significantly in recent years in Spain (at 2013 Spain was 7 p.p. above the EU-28 average). This growth is linked to the high adjustment rate of pensions compared to wage and price inflation.

Adequacy of second and third pillar pensions. The economic crisis has affected the Complementary Social Welfare Protection System, causing a drop in contributions to pension plans, particularly since 2007. The drop in the number of participants has occurred both in employer funds and private funds. Employment pension plans show a regressive trend due to the economic crisis and the temporary suspension of employer contributions in some companies, as well as the suspension of contributions to public administration pension plans. Conversely, since 2013 there has been a slight increase in contributions to individual plans.

Gender pension gap

The gap in average pensions between men and women aged 65-79 was 33.2 percent in Spain in 2012, which is 7 p.p. below the EU-27 average (40.2 percent). Gender Gap in Pensions in Spain was stable over the period 2008-2012; fluctuating between 33 and 34 percent. Women's coverage by the pension system, however, emerges as a major policy concern. The proportion of women aged 65-79 who receive a pension is 28 p.p. lower compared to the corresponding proportion of men, compared to 6.8 percent EU-27 average.

Gender gaps in employment and pay. The gender gap¹⁰⁶ in the *employment rate of older workers* (age 55-64) has decreased by 19.9 p.p. over the period of 2004-2014 (EU-28: -5 p.p.) and amounted to 13.4 p.p. in 2014 (EU-28: 13.7 p.p.). The gender gap in the *duration of working life*, which in 2013 came to 4.8 years (EU-28: 5.2 years) has decreased by 6.0 years since 2004 (EU-28: -1.2 years). The gender gap¹⁰⁷ in *part-time employment* (for people aged 20-64), which reached 17.9 p.p. in 2014 (EU-28: 23.5 p.p.), has increased by 2.6 p.p. since 2004. The gender *pay gap*¹⁰⁸, which in 2013 at 19.3 percent was higher than the EU-28

¹⁰⁵ EU-SILC 2013.

¹⁰⁶ Difference between values for men and women.

¹⁰⁷ Difference between values for women and men (for part-time employment).

¹⁰⁸ The unadjusted Gender Pay Gap (GPG) represents the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. Industry, construction and services (except public administration, defense, compulsory social security). Data source: Eurostat [earn_gr_gpgr2]

average (16.4 percent), has, however, increased by 1.2 p.p. since 2007 (EU-28: increase by 0.3 p.p. over the period of 2010-2013).

In the future the evolution is conditioned by the characteristics of the labour market and the ability of men and women to achieve full careers. Salary equality and work-life balance policies, together with the rising level of women's education and the increase in joint responsibility of couples in the home, should aide greater salary parity, which will be important for reducing the pension gap, in particular considering the earnings-related nature of the contributory pensions.

Future adequacy

At present, the Net Theoretical Replacement Rate base case of a worker retiring at 65 after 40 years of career at the average wage is 96.24 percent in 2013, which is one of the highest of EU countries. This TRR is projected to fall over the long term to values close to 86.8 percent in 2053 (9.5 p.p. difference). High incomes could suffer larger decrease around 10.6 p.p.

All TRR cases for careers breaks due to unemployment or childcare show that Spanish Social Security is expected to continue providing a sufficient level of protection against these social risks (replacement rates close to the base case). The most affected TRR would be the 3 year unemployment break where the rate is projected to fall 1.8 percent below the prospective base case.

High rates of unemployment, particularly long term unemployment, subsidies without Social Security contributions, salary devaluation, increased labour precariousness, frequent career breaks and other causes could result in lower benefits.

The effect of the pension reforms due to the demographic challenge could be to a certain extent countered through postponing retirement. TRR for a worker retiring at 67 after 42 years of career at the average wage in 2053 will be 90.9 percent (4.7 percent above the current base case). On the contrary, the TRR for a worker retiring on an early retirement scheme at age 63 after 38 contribution years will suffer a decrease to 74.7 percent. This shows that Spanish pension reforms rely on achieving longer working lives by encouraging people to work beyond pensionable age and by tightening early exit paths.

The 2011 reform has been an important step towards a higher sustainability of the system, via a focus on increasing the effective retirement age and increasing contributory years. A new reform in December 2013 created the Sustainability Factor (FS) and the Adjustment Pensions Index (IRP). The Sustainability Factor will come into force in 2019 and will be applicable to the new retirement pension amounts. This factor takes into account the growth of the life expectancy of the new pensioners. The new IRP system breaks the direct bound between indexation and CPI and is focused on linking the pension system health to the yearly revalorization of contributory pensions.

Challenges for pension adequacy

In recent years, the Social Security system has made major reforms to address the major challenges linked to the ageing of the population. These reforms have materialised with the entry into force of 27/2011 Act and in 2013 with 23/2013 Act regulating the Sustainability Factor and the new system of pension indexation and the Royal Decree 5/2013 that promotes active ageing. The purpose of these is to ensure the financial sustainability of the pensions system with adequate future pensions by introducing structural changes gradually over the period 2013-2027, so that the effect is not yet tangible.

The Theoretical Replacement Rates for Spain are currently among the highest in the EU, and average pension amounts have grown faster than CPI and wages in recent years. In response to the financial and economic crisis that Spain is involved, with special impact on the labour market that has caused high levels of unemployment, social protection system provides both contributory benefits and subsidies for the unemployed over 55 years. Moreover, the pension system grants special protection way to workers with short careers who are entitled to minimum pensions that provide income above the poverty line and the minimum wage in many cases.

In the future, the reforms will have a direct effect on pension amounts reducing future replacement rates, although Spain will still be among the countries with generous pension systems. Future Replacement Rates drop is due to the new calculation formula of pensions, which will reduce the growth in average amount of new pensions, resulting in pension adjustment closer to that for wages.

The reforms have strengthened the contributory aspects of the pension system by establishing a better relationship between the effort made throughout the working life and contributory benefits provided by the system. However, reforms have also taken in to account those groups with greater difficulties to accumulate contributory years, including workers affected by the economic crisis, who are protected by minimum pensions, and part-time workers, for whom there have been taken measures such as those contained in Law 1/2014 for the protection of this particular group. This workforce is mainly comprised of women, so the reforms also contribute to reduce gender gaps in the system, eliminating many of the difficulties in the access to benefits.

The main challenge currently faced by the Spanish pension system, once tackled the reforms aimed at achieving the sustainability of the system and the adequacy of pensions, is to monitor and assess the impacts of these reforms, ensuring that they follow foreseen trends and do not infringe the underprivileged groups.

5. Sustainability

The evolution of the demography, employment rate and expenditure can give us information about the sustainability of the pension system in the future.

Demography

The old-age dependency ratio (population aged 65 and over as a percentage of the population aged 20-64) in Spain is projected to increase from 28.8 percent in 2013 (EU-28: 30.3 percent) to 66.0 percent in 2053 (EU-28: 54.9percent).

Spain belongs to the group of Member States where the increase in old-age dependency ratio is projected to be above the EU-28 average. Over the period 2013 to 2053, the old-age dependency ratio is projected to increase by 37.2 p.p. (EU-28: 24.6 p.p.).

The share of working-age population (20-64) (62.5 percent of the total population in 2013) is projected to drop by 13.2 p.p. by 2053 (to 49.3 percent of the total population), compared with 9.2 p.p. for the EU as a whole by 2053.

The economic old-age dependency ratio for Spain is projected to rise by 28.1 p.p. from 48.3 percent in 2013 to 76.5 percent in 2053 and will be above the EU-28 average (66.2 percent in 2053).

Employment

The labour market participation rate (of people aged 20-64) in Spain (78.7 percent) was above the EU-28 average in 2013 (76.5 percent) and it is projected to be above the EU-28 average in 2053 (85.4 percent versus 79.9 percent). The participation rate of older workers (aged 55-64) in 2013 was similar (54.2 percent) to the EU-28 average (54.4 percent). Over the period 2013 to 2053, the participation rate of older workers is projected to increase by 27.7 p.p. to 81.9 percent in 2053, more than in the EU-28 (15.3 p.p.: from 54.4 percent in 2013 to 69.7 percent in 2053).

According to the 2015 Ageing Report, employment rate (of people aged 20-64) is projected to increase from 58.3 percent in 2013 (EU-28: 68.4 percent) to 79.1 percent in 2053 (EU-28: 74.9 percent). Employment rate of older people (aged 55-64) is projected to increase from 43.4 percent in 2013 to 77.4 percent in 2053 (EU-28: from 50.3 percent to 66.6 percent).

The employment rate for older workers (from 55 to 64 years) in Spain in 2013 was below the EU-28 average: 43.2 percent (50.5 percent – men, 36.3 percent – women) versus 50.3 percent at the EU-28 level (57.6 percent – men, 43.3 percent – women).

The effective exit age from the labour force in 2013 was 63.4 (62.8 – for men, 64.1 – for women) and it is slightly above the EU-28 average (63.1 – total, 63.5 – for men, 62.7 – for women).

Main drivers of pension expenditure

According to the 2015 Ageing Report, the gross public pension expenditure will decrease from 11.8 percent of GDP in 2013 to 11.0 percent of GDP in 2060.

In accordance with the 2015 Ageing Report, the demographic factor has the strongest downward effect (+8.9 p.p. of GDP) on gross public pension expenditure over 2013-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and career shift). The lowering effect of employment rate (-3.5 p.p.) and benefit ratio (-4.4 p.p.) on the public pension expenditure are more pronounced than the coverage ratio effect (-0.6 p.p.).

6. Main opportunities for addressing pensions-related challenges

- 1) Active ageing: Measures to promote active ageing must be strengthened from a holistic approach, not only by Social Security policies but also through employment policies in order to avoid age discrimination in the labour market.
- 2) Likewise, there should be promotion of employment policies that reduce the rate of part-time contracts, as well as promotion of social policies that favour work-life balance to enable the insertion and continuity of women in the labour market and enable their possibilities to get full-time jobs.
- 3) Maintenance of system resources: Having taken measures to ensure the cost-sustainability of the system, it is important to ensure that the current system resources are maintained through the promotion of employment.

- 4) Monitoring: Once the reforms aimed at achieving the sustainability of the system and the adequacy of pensions have been put in place, it is necessary to monitor and assess the impacts of these reforms, ensuring that outcomes follow foreseen trends and do not infringe on the underprivileged groups.
- 5) Supplementary pension schemes: Further steps should be taken to promote the development of the complementary social security in Spain such as improving transparency and the quality of information and enhancing the participation of members in supervision. Since a drop in replacement rates is projected in the future, access to supplementary pension schemes as a form of individual savings should be enhanced.

7. Background statistics – Spain

1. Relative incomes of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	1.00	1.05	0.96	0.21	0.24	0.18
Income quintile share ratio (S80/S20), 65+	4.5	4.6	4.3	0.3	0.1	0.3

2. Poverty and material deprivation

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+	14.5	13.8	15.0	-13.2	-11.1	-14.9
At-risk-of-poverty rate (AROP), 65+	12.7	12.1	13.2	-14.2	-12.0	-15.8
Severe material deprivation (SMD), 65+	2.7	2.5	3.0	0.8	0.7	1.0
At-risk-of-poverty or social exclusion (AROPE), 75+	14.9	15.7	14.4	-17.5	-13.5	-20.1
At-risk-of-poverty rate (AROP), 75+	13.3	13.8	13.0	-18.4	-14.6	-20.8
Severe material deprivation (SMD), 75+	2.4	2.8	2.1	0.5	0.7	0.4
Relative poverty gap, 65+	16.6	14.1	19.6	-1.4	-5.8	3.3
At-risk-of-poverty rate (AROP), 65+: 40 % threshold	3.7	3.5	3.9	-1.8	-2.1	-1.5
At-risk-of-poverty rate (AROP), 65+: 50 % threshold	6.3	5.7	6.7	-7.9	-8.4	-7.5
At-risk-of-poverty rate (AROP), 65+: 70 % threshold	23.6	20.5	25.9	-14.2	-13.9	-14.4

3. Housing situation of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Housing cost overburden rate, 65+	3.2	2.5	3.7	0.1	-0.3	0.3
Tenure status among people 65+: share of owners	90.1	91.2	89.2	1.0	0.8	1.1
Severe housing deprivation rate, 65+	0.2	0.2	0.2	-0.4	-0.4	-0.5

4. Income replacement by pension systems

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Aggregate Replacement Ratio (ARR)	0.60	0.62	0.50	0.11	0.08	0.02
Benefit Ratio (BR) (Public pensions)	59.7					
Gross Aggregate Replacement Rate (Public pensions)	79.0					
Gender Gap in Pension Income, % (65-79)	33.2*			0.2*		
Gender Gap in non-coverage rate (W-M in p.p.) (65-79)	27.7*			-2.4*		

5. Sustainability and context indicators

Indicator	2013			Projections for 2053		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65+, years	20.6	18.6	22.5	24.1	22.3	25.8
Old-age dependency ratio (20-64)	28.8	24.5	33.0	66.0	57.4	75.0
Economic old-age dependency ratio (15-64)	48.3	37.7	61.1	76.5	66.0	87.7
Employment rate, age group 55-64	43.2	50.5	36.3	77.4	74.5	80.3
Pension expenditure as % of GDP (ESSPROS)	12.0*			Projections for 2060		
Gross public pensions as % of GDP (AWG projections)	11.8			11.0		

Data source: Eurostat. Sustainability indicators and projections (EPC AWG) – Commission Services (DG ECFIN), based on The 2015 Ageing Report. Data on gender gaps – ENEGE. Notes: * - 2012 data.

6. Theoretical Replacement Rates (TRRs)

TRR case	Net				Gross				
	2013		2053		2013		2053		
	Men	Women	Men	Women	Men	Women	Men	Women	
Average Earnings	Base case I: 40 years up to age 65	96.2		86.8		88.2		79.5	
	Base case II: 40 years up to the SPA	96.2		86.8		88.2		79.5	
	Increased SPA: from age 25 to SPA	96.2		86.8		88.2		79.5	
	AWG career length case	81.7	89.1	81.3	83.4	74.3	82.0	74.0	76.8
	Longer career I: from age 25 to 67			90.9				85.9	
	Shorter career I: from age 25 to 63			74.7				67.6	
	Longer career I: from age 25 to SPA+2			90.9				85.9	
	Shorter career I: from age 25 to SPA-2			74.7				67.6	
	Career break – unemployment: 1 year			86.7				79.4	
	Career break – unemployment: 2 years			86.5				79.2	
	Career break – unemployment: 3 years			85.0				77.7	
	Career break due to child care: 0 year							86.8	
	Career break due to child care: 1 year							86.7	
	Career break due to child care: 2 years							86.6	
	Career break due to child care: 3 years							86.4	
	Short career (30 year career)			P.n.a.				P.n.a.	
	Early retirement due to unemployment			72.8				65.5	
	Early retirement due to disability			89.7				84.0	
	Indexation: 10 years after retirement			76.0				68.3	
	Low Earnings (66%)	Base case I: 40 years up to age 65	97.4		87.8		88.2		79.5
Base case II: 40 years up to the SPA		97.4		87.8		88.2		79.5	
Increased SPA: from age 25 to SPA		97.4		87.8		88.2		79.5	
AWG career length case		86.4	91.4	86.0	85.5	74.3	82.0	74.0	76.8
Longer career I: from age 25 to 67				90.7				85.9	
Shorter career I: from age 25 to 63				79.7				67.6	
Longer career I: from age 25 to SPA+2				90.7				85.9	
Shorter career I: from age 25 to SPA-2				79.7				67.6	
Career break – unemployment: 1 year				87.8				79.4	
Career break – unemployment: 2 years				87.6				79.2	
Career break – unemployment: 3 years				86.4				77.8	
Career break due to child care: 0 year								87.8	
Career break due to child care: 1 year								87.8	
Career break due to child care: 2 years								87.7	
Career break due to child care: 3 years								87.5	
Short career (30 year career)		69.5		P.n.a.		59.0		P.n.a.	
Early retirement due to unemployment				78.1				65.5	
Early retirement due to disability				89.7				84.0	
Pension rights of surviving spouses				143.0				142.2	
High		Base case I: 40 years up to age 65	86.3		75.7		76.8		67.1
	Base case II: 40 years up to the SPA	86.3		75.7		76.8		67.1	

Data source: TRRs for 2013 and 2053 – Member State. Note: p.n.a. – pension not available.

France (FR)

1. General description of the pension system

The French pension system is financed on a pay-as-you-go (PAYG) basis and is characterised by a relatively high degree of occupational fragmentation.

The *régime général* (basic scheme) covers around 60 percent of workforce, i.e. the private sector employees and the contractual public servants. The benefits provided from it reach up to 50 percent of the average pay from the 25 years of highest pay under ceiling. Non-statutory but mandatory supplementary PAYG schemes (*régimes complémentaires obligatoires*, AGIRC and ARRCO) established by collective agreements cover more than 18 million employees and nearly 12 million retirees. The AGIRC scheme is targeted at managers, while ARRCO is open also for non-managers (managers can cumulate both). While the *régime général* is based on annuities, AGIRC and ARRCO use points system. For civil servants and employees of major public companies special schemes (*régimes spéciaux*) are in operation.

To be eligible for a pension, employees need to reach the minimum statutory retirement age. Except for some special schemes, this age rose from 60 years for people born before July 1951 to 62 years for people born after 1954.

A full pension is only provided to those workers who have reached both the minimum legal pension age and the minimum duration of insurance. The minimum duration of insurance has risen from 40 years for people born before 1949 to 41½ years for people born in 1956. The 2014 reform planned a gradual increase up to 43 years for people born after 1972.

For workers who passed the minimum retirement age but who retired before reaching the minimum required duration of insurance, benefit levels are lowered more than proportionally to the number of missing trimesters (*décote*). However, a full benefit is offered to anyone over the age of 65, whatever the duration of their insurance. This threshold will be gradually increased, reaching 67 years for workers born after 1954. Conversely, people who have contributed more than required will get a pension bonus (*surcote*).

Workers with long careers – i.e. those who started working young and who have contributed for at least the minimum duration of insurance – can retire early (up to two years before the minimum statutory retirement age) and draw a full pension from the *régime général* and aligned schemes. Since 2012, this possibility is open to anyone who started working before the age of 20.

Full benefit and pension bonus is also offered before the age of 65 for the disabled and people taking care of a disabled parent or a child.

Pensions are indexed to inflation, with the exception of supplementary pensions for which special rules were introduced for 2013-2015 (1 percent in 2013, and one point less than inflation in 2014 and 2015, but not less than 0 percent).

Slowly growing non-mandatory pension schemes represented in 2013 4.3 percent of the total amount of pension contributions and 2.2 percent of benefits.

Next to these contributory schemes, the French pension system offers two types of statutory minimum pensions. One is a non-contributory means-tested minimum pension (*minimum vieillesse or allocation de solidarité aux personnes âgées*) for which all residents aged over 65 are potentially eligible after a means test. The second one, part of the public basic scheme, is a minimum pension for a full career (*minimum contributif*) which is offered only to workers who have reached the full rate.

The *allocation de solidarité aux personnes âgées*, as well as low-value pension benefits (up to EUR 9,690 annually in 2014) are exempt from taxes. Citizens aged over 65 or disabled can benefit from a reduced tax if their annual income is below EUR 23,698 (2014).

Pensions are subject to the general social tax (CSG, *contribution sociale généralisée*) of 6.6 percent (4.2 percent is deductible and 2.4 percent is non-deductible), the 0.5 percent contribution to the reimbursement of social debt (CRDS, *contribution pour le remboursement de la dette sociale*) and the 0.3 percent CASA (*contribution additionnelle de solidarité pour l'autonomie*) from 1 April 2013.

There is an exemption from CSG and CRDS for the lowest-income pensioners (i.e. those with taxable annual income under EUR 10 224 for a single person). The CSG rate is 3.8 percent (deductible) and the CRDS rate is 0.5 percent for the highest-income pensioners who pay less than EUR 61 of income tax. There is an exemption from CASA for pensioners whose income tax is below EUR 61.

2. Reform trends

Since 1993, eligibility criteria for pensions within *régime général* and *régimes spéciaux* have been becoming more stringent. Legislative reforms have been accompanied by regular changes in the mandatory supplementary pension schemes managed by the social partners in the private sector.

The supplementary pension schemes are under pressure despite their 2013 reform: although benefits are no longer indexed to inflation and contributions have been increased, these schemes have to cope with a 6 percent deficit and reserves will be depleted around 2025¹⁰⁹.

Institutional aspects of the law of 20 January 2014. The main new item in French pension legislation is the law “guaranteeing the future and justice of the pensions system” which puts in place a number of measures to reduce costs:

- Pensions paid out by the basic scheme will no longer be increased in April, but in October, except for disability pensions, solidarity benefits for the elderly, and compensations for occupational accidents and disease.
- The minimum duration of insurance required to benefit from a full pension rises from 166 quarters for people born in 1957 to 172 quarters for people born in 1972 (with a gradual increase of one quarter every three cohorts).
- The old-age social contribution on wages will gradually rise.
- The 10 percent increase in final pension payout in the public plan if people have raised three or more children for at least nine years before age 16 is taxed now.

The law also attempts to institute a form of steering using pension system indicators. This led to the creation of a pension monitoring committee (Comité de Suivi des Retraites – CSR). The CSR comprises five members including a president named by the council of ministers. The members must have recognized expertise on the subject of pensions. It also calls on a jury made up of eighteen citizens drawn by lot for three years.

The CSR give out a public and annual notice before 15 July on the respect of the main objectives of retirement system (in terms of sustainability, equity and solidarity). If the CSR reckon the system is taking away from those objectives, it can make recommendations which one cannot “increase by over 28 percent the sum of the pension contributions based on remunerations or earnings for a non-management employee (by adding together the basic

¹⁰⁹ Source : rapport de la Cour des Comptes – décembre 2014 - « Garantir l’avenir des retraites complémentaires des salariés (AGIRC et ARRCO) »

scheme and ARRCO) nor decrease by less than two thirds the ratio for a given year between the old-age benefits perceived in the commencement year and the average wage earned during the last year of work.”

This public and annual notice is particularly based on an annual public report on the pension system issued by the *Conseil d'orientation des retraites (COR)* not later than on 15 June. The document is mainly based on *six monitoring indicators* which include: (i) the theoretical replacement rate over ten years; (ii) the average duration of pension payments over twenty-five years; (iii) the replacement rate over ten years (this is defined as the ratio between the average old-age benefits received the year of commencement and the average working wage, including bonuses, received during the last year of work of a contributor who has spent his entire career working on his feet as category B civil servant); (iv) the ratio, depending on age of pensioners and for all legally obligatory pension schemes, between the pension threshold of the 10 percent least wealthy pensioners, and the average value of all of the pensions of all pensioners, split by gender; (v) pensioners' living standards in comparison with those of the population as a whole, split by gender; (vi) The annual accounting balances expressed in established entitlements of legally obligatory pension schemes for the current year and projected over twenty-five years, determined on the basis of financial forecasts of pension schemes underlying the public accounting forecasts presented in the stability programme of the current year.” The committee issued its first opinion in 2014, reassuring with regard to the financial situation of the basic scheme, which it expected to balance out in 2020.

Objective to redress inequalities. The legislation harmonizes the different schemes of combined work and retirement, eases phased retirement (i.e. the combination of a partial pension with part-time working) and attempts to target those on a particularly low pension or those at risk of falling below a certain level (women, young people and disabled people in particular).

- Validation of quarters is eased for part-time and low earnings workers. A pension quarter is validated for each wage equal to 150 hours at the minimum wage, instead of 200 hours at the minimum wage before;
- Early retirement is eased for people with full contributory period who entered the labour market before the age of 20: quarters of maternity and more quarters of unemployment can be taken into account for the contributory period;
- Women validate all the quarters of break due to maternity leave instead of the childbirth quarter only;
- Buying-back pension quarters missed because of higher education is facilitated for young workers (employees, farmers and other non-salaried workers). Up to two quarters of paid internships can be taken into account for the contributory period;
- Apprentices can validate more pension quarters. For instance, if an apprentice earns more than 33 percent of the minimum wage, he can validate 4 pension quarters per year;
- Early retirement due to handicap has been made easier¹¹⁰ by bringing down the disability rate from 80 percent to 50 percent. Retiring on a full pension is now possible at 62. Family caregivers already benefitted from free and obligatory affiliation to the old-age pension of the parents of the household, with the CNAF guaranteeing these carers lump-sum contributions to the pension insurance scheme, which validated their insurance quarters. However, it was means-tested, and this is no longer the case.

¹¹⁰ The early retirement age is fixed at 55 years old.

The final important point of the 2014 law is the consideration of arduous conditions. The measure is structured as follows: when employees¹¹¹ are exposed to certain risks (specified in a decree) above a particular threshold, the points acquired in their personal arduous conditions prevention account give employees an opportunity to:

- Take a vocational training course aimed at accessing employment that is not exposed, or less exposed, to arduous conditions;
- Reduce their working hours and benefit from additional pay and contributions;
- Retire earlier.

The measure is funded by a contribution paid by all companies and a supplementary contribution from companies that expose their employees to arduous conditions. The additional contribution is doubled in case of multiple exposure.

Changing the indexation rules for mandatory supplementary schemes. Until 2012, supplementary pensions were adjusted according to changes of the average salary, decreased by 1.5 p.p. and with a minimum increase equal to the average change in prices. In 2013, the indexation was 0.8 percent for ARRCO and 0.5 percent for AGIRC. In 2014, the benefits were not indexed.

3. Impact of the crisis on current pension systems and present pensioners¹¹²

According to 2014 COR report, the financial balance of the whole pension system has deteriorated throughout the period 2002-2013. The balance became negative in 2008, mainly due to the increased number of retirees (oldest baby-boomers reaching pensionable age). The worsening economic climate which resulted from sustained contraction since the 2008 crisis also contributed to the decline.

Between 2014 and 2018, the impact of economic conditions on balances of basic schemes is negative at around -0.2 percent of GDP (-0.1 percent in 2018). In 2013, the worsening economic conditions were responsible for about three fourths of the pension system's funding needs.

As regards supplementary schemes, their financial balance remained positive until 2010 (0.0 percent to 0.4 percent of GDP) and then deteriorated (-0.1 percent of GDP between 2011 and 2013). Between 2014 and 2018, pending a new AGIRC-ARRCO agreement, the financial balance of supplementary schemes as a whole remains negative (-0.2 percent of GDP per year over the period).

If the crisis is a strong pressure on the French pension system, it does not have a direct and immediate impact on the financial situation of pensioners. The lack of recent increase in the amount of pensions is more a consequence of structural reforms than a response to the crisis situation.

4. Assessment of adequacy

Current adequacy

In France, people aged over 65 are relative wealthy: their income is slightly higher (102 percent) than that of the population as a whole. This is unusual compared to other Member States (the EU-28 average is 96 percent). The relative higher revenue results from an increase

¹¹¹ Employees in the private sector not affiliated to a special scheme that includes an arduous conditions compensation measure.

¹¹² Source : rapport du COR – décembre 2014

in old people's income along with a drop in income for younger people, as indicated in the INSEE report, "*Enquêtes Revenus fiscaux et sociaux de 2005 à 2012*". As stated in the 2014 COR report, the average amount of the direct right to retirement served to all pensioners grew on average by 1.2 percent over inflation per year between 2004 and 2011 (0.9 percent for men and 1.9 percent for women). This "bonus" increase is due to the duration of insurance validated by women, the generalization of complementary regimes since the 1960s, and higher wages.

At-risk-of-poverty and social exclusion rates are relatively good in France: 10.4 percent of over-65s are at risk, compared to 18.3 percent on average in the EU. This situation is linked to a French measure by which anyone aged over 65 is eligible for a guaranteed minimum income (*Allocation de Solidarité des Personnes Agées*). The poverty rate declined between 2008 and 2013 by 3.7 percent, reflecting a 25 percent increase of the guaranteed minimum income between 2007 and 2012.

Few French people aged over 65 are concerned by housing issues in comparison with the European average: 2.9 percent are overburdened with housing costs¹¹³ vs. an EU-28 average of 10.2 percent, and 0.4 percent have no accommodation, compared to 2.1 percent for the EU-28.

The French pension system ensures a greater continuity of income for those taking retirement than other European countries on average: the Aggregate Replacement Ratio is 64 percent compared to an average 56 percent in EU-28 countries.

Gender pension gap

The gender gap in pensions was equal to 37 percent in France in 2012.

This is partly due a lower Full Time Equivalent employment rate (13.4 percent gap) which leads to a shorter contribution period (23.5 years for women vs. 33.8 for men¹²).

The pay gap is another cause for gender gap in pensions: women's annual earnings are lower by 19.2 percent than those of men. The pay gap is larger in the private sector (28 percent vs 18 percent in the public sector).¹¹⁴

The average retirement pension paid to women on the basis of their own professional activity is below 40 percent in 2012 to that of men. The difference in the total pension is reduced to 26 percent, thanks to the pension related to the family (child, payment of a portion of the deceased spouse's pension) or statutory minimum pension. The marital status has a significant impact on gender gap in pension: 50.8 percent for married women (who do not directly benefit from their spouse pension) vs. 22.8 percent for others.

The non-contributive character of pensions leads to a low level of gender gap in non-coverage: the French rate is 2.1 percent compared to 6.8 percent for EU-27.

Majority (54 percent) of women receive the minimum pension, compared to 34 percent men. When checked for employees with full careers only, the respective figures are 42 percent vs. 31 percent.

Retirees who have had or raised three children can benefit from a bonus pension of 10 percent (basic and supplementary schemes).

As retirees age, the gender gap separating their incomes decreases: it is 37.6 percent among younger pensioners (aged 65-69) and 36.8 percent in the whole retiree group (65 years of age or more).

¹¹³ Housing cost overburden rate

¹¹⁴ Source : INSEE

The economic situation for women over 65 in France has always been less favorable than for men, although their circumstances improved considerably from 2008-2013.

Gender gaps in employment and pay. The gender pension gap indicator presents a snapshot of developments in the employment and pension system factors, which determine the size of the gap. Since it is calculated for the entire population of 65-79 year olds there is a certain inertia in its development. To get a sense of whether it is likely to reduce or increase one can look at trends in the various gender gaps in employment and at how the pension system is changing.

The gender gap¹¹⁵ in the *employment rate of older workers* (age 55-64) has decreased by 6.2 p.p. over the period of 2004-2014 (EU-28: -5 p.p.) and amounted to 3.5 p.p. in 2014 (EU-28: 13.7 p.p.). The gender gap in the *duration of working life*, which in 2013 came to 3.7 years (EU-28: 5.2 years) has decreased by 1.0 year since 2004 (EU-28: -1.2 years). The gender gap¹¹⁶ in *part-time employment* (for people aged 20-64), which reached 23.3 p.p. in 2014 (EU-28: 23.5 p.p.), has decreased by 1.9 p.p. since 2004. The gender *pay gap*¹¹⁷, which in 2013 at 15.2 percent was lower than the EU-28 average (16.4 percent), has decreased by 2.1 p.p. since 2007 (EU-28: increase by 0.3 p.p. over the period of 2010-2013). This implies a trend towards a reduction of the gap as far as the employment factors are concerned.

Future adequacy

The TRR (Theoretical Replacement Rate) is due to fall from 80.2 in 2013 to 69.0 in 2053 for a career from age 25 to SPA (Standard Pensionable Age). This is due to the increase in the minimum contributory period from 160 quarters to 172 quarters. The worker who retired in 2013 reached the full contributory period (i.e. 160 quarters). The worker who will retire in 2053 will have 4 quarters missed to reach the full contributory period (i.e. 172 quarters). So, the pension amount will be reduced *pro rata* of the contributory period missing to reach the full contributory period. The case “40 years up to the SPA” shows an even larger decrease since in this case the contributory period remains constant from 2013 to 2053, whereas in the case above (age 25 to the SPA) the contributory period increases slightly. In the AWG case, net TRR fall by smaller amounts, -8.7 pp among men and -7.2 pp among women; this is due to the projected decreasing gap between the effective exit age from the labour market and the SPA, and its relationship with the contributory periods.

Similar results apply to low earners, i.e., those earning two-thirds as much as average earners. In fact, low earners have the same replacement rates as average earners. A comparison on short careers (30 years) is only possible for low-earners; the net TRR would decrease by some 10 pp, as a consequence of increased full contributory periods; this decrease is lower than that expected for full careers.

For high earners the decrease is milder albeit still substantial. In the case of 40 years up to the SPA, the net TRR decrease from 56.2 in 2013 to 47.3 in 2053.

¹¹⁵ Difference between values for men and women.

¹¹⁶ Difference between values for women and men (for part-time employment).

¹¹⁷The unadjusted Gender Pay Gap (GPG) represents the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. Industry, construction and services (except public administration, defense, compulsory social security). Data source: Eurostat [earn_gr_gpgr2]

Challenges for pension adequacy

The diminishing share of wages and salaries in the French GDP has been a long-term trend with potentially adverse impact on pension adequacy: lower earnings mean lower social contributions from which pension benefits are financed. The planned increase of social contributions might fail to offset this.

The sustainability of supplementary pension schemes is uncertain, in a very close future. Technical deficit (deficit excluding interest) in 2013 already represented EUR 4.44 billion, or 0.22 percent of GDP, but could reach more than EUR 15 billion in 2030, leading to a cumulative financing needs of more than EUR 100 bn, or about 5 percent of GDP. Having experienced a decade of surpluses between 1998 and 2008, these schemes now face the prospect of a rapid depletion of their financial reserves.¹¹⁸

5. Sustainability

The evolution of the demography, employment rate and expenditures provide some insight into the future sustainability of the pension system.

Demography

The old-age dependency ratio (population aged 65 and over as a percentage of the population aged 20-64) in France is projected to increase from 30.9 percent in 2013 (EU-28: 30.3 percent) to 48.3 percent in 2053 (EU-28: 54.9 percent). The French increase in old-age dependency ratio (17.4 p.p. between 2013 and 2053) is projected to be below the EU-28 average (24.6 p.p.).

The share of working-age population (20-64) (57.8 percent of the total population in 2013) is projected to drop by 6.1 p.p. by 2053 (to 51.7 percent of the total population), compared with 9.2 p.p. for the EU as a whole by 2053.

The economic old-age dependency ratio for France is projected to rise by 18.6 p.p. from 42.8 percent in 2013 to 61.4 percent in 2053 but it will be below the EU-28 average (66.2 percent in 2053).

Employment

According to the 2015 Ageing Report, the employment rate (of people aged 20-64) is projected to increase from 69.6 percent in 2013 (EU-28: 68.4 percent) to 74.6 percent in 2053 (EU-28: 74.9 percent). Employment rate of older people (aged 55-64) is projected to increase from 45.8 percent in 2013 to 60.5 percent in 2053 (EU-28: from 50.3 percent to 66.6 percent).

The employment rate for older workers (from 55 to 64 years) in France in 2013 was below the EU-28 average: 45.8 percent (48.5 percent – men, 43.3 percent – women) versus 50.3 percent at the EU-28 level (57.6 percent – men, 43.3 percent – women).

The effective exit age from the labour force in 2013 was 60.9 (60.8 – for men, 60.9 – for women) and it is below the EU-28 average (63.1 – total, 63.5 – for men, 62.7 – for women).

¹¹⁸ Rapport de la Cour des Comptes – décembre 2014 - « Garantir l'avenir des retraites complémentaires des salariés (AGIRC et ARRCO) » <https://www.ccomptes.fr/Publications/Publications/Garantir-l-avenir-des-retraites-complementaires-des-salaries-Agirc-et-Arrco>

Main drivers of pension expenditure

According to the 2015 Ageing Report, the gross public pension expenditure will decrease from 14.9 percent of GDP in 2013 to 12.1 percent of GDP in 2060.

In accordance with the 2015 Ageing Report, benefit ratio will have the strongest downward effect (-4.7 p.p.) on gross public pension expenditure over 2013-2060, followed by coverage ratio (-3.2 p.p.) and labour market effect (-1.2 p.p.). Those positive budgetary effects will be partially offset by demographic factor (+6.7 p.p. of GDP).

6. Main opportunities for addressing pensions-related challenges

The complex and wide-reaching reforms (see Section 2 above) need time to bring results, following which their effectiveness can be assessed and next steps to address adequacy challenges designed. However, already in December 2014 the French Cour des Comptes proposed further action to improve the functioning of the supplementary pension schemes, AGRIC and ARRCO. Those involve the simplification of administrative procedures (including a merger of both schemes), reduction of IT costs, and rationalisation of the management and support centres network.¹¹⁹

¹¹⁹ Rapport de la Cour des Comptes – décembre 2014 - « Garantir l’avenir des retraites complémentaires des salariés (AGIRC et ARRCO) » <https://www.ccomptes.fr/Publications/Publications/Garantir-l-avenir-des-retraites-complementaires-des-salaries-Agirc-et-Arrco>

7. Background statistics – France

1. Relative incomes of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	1.02	1.06	0.99	0.07	0.06	0.07
Income quintile share ratio (S80/S20), 65+	4.1	4.1	4.0	-0.3	-0.3	-0.3

2. Poverty and material deprivation

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+	10.4	9.0	11.5	-3.7	-1.7	-5.1
At-risk-of-poverty rate (AROP), 65+	8.7	7.4	9.6	-3.2	-1.7	-4.4
Severe material deprivation (SMD), 65+	2.7	2.4	3.0	-0.6	-0.1	-0.9
At-risk-of-poverty or social exclusion (AROPE), 75+	12.2	10.5	13.4	-3.8	-0.1	-6.0
At-risk-of-poverty rate (AROP), 75+	10.7	8.6	12.0	-2.9	-0.1	-4.7
Severe material deprivation (SMD), 75+	2.7	2.7	2.6	-0.6	0.1	-1.2
Relative poverty gap, 65+	11.6	11.7	11.4	3.5	4.7	2.6
At-risk-of-poverty rate (AROP), 65+: 40 % threshold	0.6	0.6	0.6	-0.3	-0.1	-0.4
At-risk-of-poverty rate (AROP), 65+: 50 % threshold	3.0	2.7	3.2	0.5	0.8	0.2
At-risk-of-poverty rate (AROP), 65+: 70 % threshold	16.6	14.0	18.5	-6.7	-4.5	-8.4

3. Housing situation of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Housing cost overburden rate, 65+	2.9	1.1	4.2	-1.9	-1.1	-2.4
Tenure status among people 65+: share of owners	78.5	83.1	75.2	0.0	-0.9	0.7
Severe housing deprivation rate, 65+	0.4	0.7	0.1	-0.3	0.0	-0.6

4. Income replacement by pension systems

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Aggregate Replacement Ratio (ARR)	0.64	0.64	0.62	-0.01	0.36	-0.29
Benefit Ratio (BR) (Public pensions)	51.3					
Gross Aggregate Replacement Rate (Public pensions)	50.6					
Gender Gap in Pension Income, % (65-79)	37.6*			-1.9*		
Gender Gap in non-coverage rate (W-M in p.p.) (65-79)	2.1*			-0.5*		

5. Sustainability and context indicators

Indicator	2013			Projections for 2053		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65+, years	21.0	18.9	22.9	24.3	22.5	26.1
Old-age dependency ratio (20-64)	30.9	26.5	35.1	48.3	41.8	55.0
Economic old-age dependency ratio (15-64)	42.8	34.3	52.2	61.4	50.5	73.8
Employment rate, age group 55-64	45.6	48.4	43.1	60.5	61.9	59.1
Pension expenditure as % of GDP (ESSPROS)	15.2*			Projections for 2060		
Gross public pensions as % of GDP (AWG projections)	14.9			12.1		

Data source: Eurostat. Sustainability indicators and projections (EPC AWG) – Commission Services (DG ECFIN), based on The 2015 Ageing Report. Data on gender gaps – ENEGE. Notes: * - 2012 data.

6. Theoretical Replacement Rates (TRRs)

TRR case	Net				Gross				
	2013		2053		2013		2053		
	Men	Women	Men	Women	Men	Women	Men	Women	
Average Earnings	Base case I: 40 years up to age 65	80.2		59.8		67.9		50.4	
	Base case II: 40 years up to the SPA	80.2		66.0		67.9		55.6	
	Increased SPA: from age 25 to SPA	80.2		69.0		67.9		58.1	
	AWG career length case	74.1	63.6	65.4	56.4	62.7	53.9	55.1	47.5
	Longer career I: from age 25 to 67			69.0				58.1	
	Shorter career I: from age 25 to 63			51.0				43.0	
	Longer career I: from age 25 to SPA+2			73.3				61.8	
	Shorter career I: from age 25 to SPA-2			59.8				50.4	
	Career break – unemployment: 1 year			68.7				57.9	
	Career break – unemployment: 2 years			68.5				57.7	
	Career break – unemployment: 3 years			68.1				57.4	
	Career break due to child care: 0 year							77.6	
	Career break due to child care: 1 year							77.2	
	Career break due to child care: 2 years							76.8	
	Career break due to child care: 3 years							76.4	
	Short career (30 year career)			46.2				39.0	
	Early retirement due to unemployment			70.6				59.5	
	Early retirement due to disability			70.6				59.5	
	Indexation: 10 years after retirement			59.2				49.9	
	Low Earnings (66%)	Base case I: 40 years up to age 65	80.2		59.8		67.9		50.4
Base case II: 40 years up to the SPA		80.2		66.0		67.9		55.6	
Increased SPA: from age 25 to SPA		80.2		69.0		67.9		58.1	
AWG career length case		72.9	63.6	65.4	56.4	61.6	53.9	55.1	47.5
Longer career I: from age 25 to 67				69.0				58.1	
Shorter career I: from age 25 to 63				51.0				43.0	
Longer career I: from age 25 to SPA+2				73.3				61.8	
Shorter career I: from age 25 to SPA-2				59.8				50.4	
Career break – unemployment: 1 year				68.7				57.9	
Career break – unemployment: 2 years				68.5				57.7	
Career break – unemployment: 3 years				68.1				57.4	
Career break due to child care: 0 year								77.6	
Career break due to child care: 1 year								77.2	
Career break due to child care: 2 years								76.8	
Career break due to child care: 3 years								76.4	
Short career (30 year career)		56.4		46.2		47.7		39.0	
Early retirement due to unemployment				70.6				59.5	
Early retirement due to disability				70.6				59.5	
Pension rights of surviving spouses								87.4	
High		Base case I: 40 years up to age 65	56.2		43.0		48.0		36.6
	Base case II: 40 years up to the SPA	56.2		47.3		48.0		40.3	

Data source: TRRs for 2013 and 2053 – Member State

Croatia (HR)

1. General description of the pension system

Since 2002 the Croatian pension system is a mixed system consisting of three schemes, popularly referred to as 3 pillars. The legislative framework has been changed frequently, but is now based on Laws introducing a new parametric reform that came into effect at the beginning of 2014. The first pillar is a pay-as-you-go defined benefits scheme financed by contributions, with any deficit financed from the State Budget. The second and third pillars are fully funded defined contribution schemes based on individual accounts financed by contributions and investment returns. The second pillar is mandatory, while the third pillar is a voluntary supplementary scheme including both open funds for citizens and closed funds sponsored by employers, trade unions or other professional associations. Croatia has no specific occupational defined benefit pension schemes.

The first pillar covers all economically active persons and some others including full time volunteers and apprentices. An unemployed parent may be granted pension insurance during the first year of child's life, based on a personal claim, and the unemployed carer parent as long as specific care is needed. All covered persons who were under 40 at the time of the 2002 reform had to participate in both the first and second pillars. There is no possibility of being covered only by the second pillar. Those between 40 and 50 could choose between staying in the PAYG scheme or additionally joining a second pillar scheme while those over 50 had to remain within the first pillar.

The dependency ratio grew rapidly from 1990 from 35.31 percent to 85.02 percent in 2013. At the end of 2014 the first pillar had 1.39 m. contributors and 1.22 m. pensioners, a dependency ratio of 85.98 percent or 1.14 contributors for every pensioner.

The total contribution rate for mandatory pension insurance is 20 percent. Persons covered only by the PAYGO scheme pay all contributions only to the first pillar, while persons insured under both pillars pay 15 percent to the 1st pillar and 5 percent to the 2nd pillar. The contribution is paid from employee wages or from the "pension insurance base" (for self-employed persons and some other categories). Contributions paid for mandatory pension schemes are tax exempt. Pensions in payment from the mandatory schemes (1st and 2nd pillar) are taxed; however, under preferential regime there is a tax allowance which is higher than for wages.

The number of individual accounts within the second pillar is growing by approximately 50,000 insured persons per year. The number of persons saving within the voluntary third pillar remains low, despite a number of state incentives, but has been increasing slowly.

The mandatory schemes cover the traditional risks of old-age, death, disability, physical injury, including also higher rights if the risks of death and disability were caused by accidents at work and occupational diseases. Benefits in terms of pensions under the mandatory schemes comprise an old-age pension (including early retirement pension), survivors' pension and disability pension. In order to acquire a right to old age pension or early retirement pension persons must fulfil two conditions: 1) pensionable age and 2) qualifying years. The pensionable age still differs for men and women. For men it is 65 years for the old age pension and 60 years for early retirement. For women there is a gradual equalisation transitional period with the retirement age increasing by 3 months a year from 2011, to become equalised with men by 2030. From 2031 to 2038, a new transitional period is envisaged, increasing the retirement age to 67, and the early retirement age to 62, by 2038.

Croatia has two categories of disability pension within the first pillar – for non-occupational and occupational risks, covering long-term benefits for those facing permanent loss of work

capacity – total or partial. Entitlement to the disability pension requires fulfilment of the following conditions: partial or total disability and completed necessary qualifying period. Differently from before when the eligibility for disability pension was assessed based on the decrease in the level of capacity to work (so called "occupational incapacity for work"), from January 2014 it started to be assessed based on the residual work capacity, involving reassessment every three years. There is also the possibility of random check-ups. There are 3 types of disability pensions within the 1st pillar: Total disability pension, Partial disability pension and Temporary disability pension. The latter was newly introduced for persons who completed the occupational rehabilitation but remained unemployed for at least 5 years period during which they attained the age of 58 years.

Persons assessed to be disabled are eligible if they have completed the qualifying period of one third of working life (the full number of years between the age of 20, or 23 for persons with post-secondary qualifications, 26 for persons with university degree and the day of disability). Persons below 30 or 35 years are entitled under more favourable conditions. There is no minimum qualifying period if disability is the consequence of a work injury or an occupational disease. Moreover, for those persons disability pension benefit is calculated as if they completed a qualifying period of 40 years. Other beneficiaries of disability pension have the right to a fictive period to be added to the years of service so as to increase their qualifying period, which in this case also increases their pension benefits.

Since 1 January 2014 pensions can be paid, in full, to beneficiaries of old-age pensions employed up to half-time of full working hours. This measure does not apply to self-employment activities and neither to early retirement pensioners.

Deferment of pension is possible up to age 70 (for 5 years maximum). The bonus of 0.15 percent per each month of later retirement (maximum 9 percent for 5 years) is granted provided that the beneficiary has completed 35 years of insurance and the pension is taken for the first time.

Persons performing hazardous and arduous occupations have the right to additional years of service and a lower retirement age with a 12 month contribution period counted as 14 to 18 months, depending on the occupation and working conditions, while the retirement age is reduced according to the years worked in such occupations. Employers pay additional contributions for these workers.

2. Reform trends

The Pension Insurance Act of 1998 laid the foundation for systemic reform, implemented in 2002, when a mixed three pillar pension system became operational.

In terms of improving the sustainability of the pension system, a number of reforms have been implemented. In July 2010 and January 2014, reductions were introduced for some privileged pensions (please see the section "Impact of the Crisis on Current Pension Systems and Present Pensioners"). In 2011, a deferred pension was introduced as the incentive to work longer amounting to 0.15 percent per each month of later retirement (as mentioned in the previous section). As noted above, 2011 saw the start of gender equalisation of retirement age such that by 2030 the retirement age will be set at age 65 for both men and women. In the second phase from 2030 onwards, by 2038 the retirement age for both men and women will rise to 67.

A number of reforms have sought to improve adequacy in the first and/or second pillars. The 2014 Pension Insurance Act introduced a new indexation formula, index proofing pensions twice a year. The 1 July indexation maintains the Swiss formula (50 percent wages: 50 percent prices) which was used between 1999 and 2013, except when indexation was

suspended completely as an austerity measure in 2010 and 2011. The 1 January indexation is based on whichever of three wages: price ratios (70:30, 50:50, and 30:70) gives the highest increase. In addition, pensions cannot be indexed downwards. This reform is likely to impact positively on pension adequacy but with a long-term negative impact on the pension system's deficit. In 2011, those who previously opted to combine pensions from the first and second pillar were allowed to abandon the second pillar if they find it more favourable. In 2014, changes in the pension formula for payments under the first pillar were introduced for those who earned a pension in both the first and second pillars. The management fee element of second pillar funds has been reduced from 1.2 percent in 2006 to 0.45 percent in 2013. From 2016, it will continue to be reduced, to reach 0.3 percent in 2020.

In 2007 the 'penalty' for taking early retirement was reduced from 0.34 percent to 0.15 percent per month. Instead of losing 20.4 percent of their basic pension, those who retired five years early stood to lose only 9 percent. In 2011, the size of the penalty was changed so that it varied also based on the number of years of contributions. In 2014, the formula was changed again so that the penalty for retiring five years early now varies between 6 percent and 20.4 percent. In addition, from 2014, those retiring at age 60 who completed at least 41 years of contributions can retire early without the penalty. Those who have been unemployed for at least two years as a result of the bankruptcy of their previous employer were also allowed to take early retirement with no penalty. Changes in eligibility criteria for disability pensions introduced in 2014 resulted in decrease of disability pensions. From 1 January 2015 total disability pensions will be converted to old age pensions when the recipient reaches retirement age. This will result in a reduction in the number of disability pension recipients but without impacting on the level of overall pension expenditures. Amendments to the Income Tax Act which entered into effect on 1 January 2015 continue a policy of treating earned income from employment and pension income differently. Whilst wage earners and the self-employed will enjoy a basic personal tax free allowance of 2,600 HRK, pensioners will be entitled to a monthly personal deduction of HRK 3,800.

The Government currently revises the existing system of entitlements based upon employment in arduous and hazardous jobs, with the aim of reducing the number of workplaces and occupations for which the insurance period is calculated with extended duration. The new Act on Categorisation of the Harmful Impact of Work Activities on the Worker's Health is being drafted. Furthermore, new Act on pension entitlements of active military personnel, police forces personnel and authorised officials is being drafted with the aim of prolonging the career period requirement.

3. Impact of the crisis on current pension systems and present pensioners

The economic and financial crisis and resulting fiscal consolidation measures have tended to hit working age persons, and children, harder than pensioners and those close to the statutory retirement age.

The pensions of most of the 14 privileged categories (pensioners receiving pensions within the general system but under more favourable conditions) that were above a certain threshold were cut in two phases.¹²⁰ The first cut was in 2010 by 10 percent for benefits above 3,500 HRK (EUR 460). The second cut was in 2014, also by 10 percent applicable only to benefits above 5,000 HRK (EUR 658), albeit on a temporary basis, until the real GDP growth in each of the three previous consecutive quarters according to the Croatian Bureau of Statistics is at least 2 percent compared to the same quarter of the previous calendar year and if the state budget deficit in the same period is less than 3 percent. In the same manner, since January

¹²⁰ Pursuant to the 2010 Act on Reduction of Certain Pensions that are Acquired in Accordance with Special Regulations (amended in 2011 and 2013)

2015, indexation of the privileged parts of the pension benefits has been separated from the “earned” first pillar pensions and tied to a GDP trigger. They will be adjusted by Government decision.

Regarding the indexation of pensions from the general system, above mentioned new indexation formula will positively impact pension adequacy but might have a long-term negative impact on the pension system’s deficit.

The Act on the Single Expertise Body of 2014 (OG 85/2014) was adopted. Central Disability Certification Institute within the Institute for Disability Certification, Professional Rehabilitation and Employment of Persons with Disability was established with the intention to help limit the inflow of disability pensioners and reduce fraud by unifying disability assessments. This, alongside stricter disability pension eligibility rules curbed down total number of disability pensions (from 327.729 disability pensions in 2011 to 302.332 in 2014). Share of new disability pensions in the total number of new pensions declined from 25 percent in 2008 to 6.7 percent in 2014.

Further, the Government and Parliament in order to enhance pension adequacy for blue colour workers with long working careers introduced two early entry options into the pension system without pension benefit decrease, namely:

- Early retirement pension due to long-time insurance (introduced since 2014, and renamed from January 2015 into the “old-age pension for the long-insured”), for persons after reaching 60 years of age and 41 qualifying years. The amount of pension is determined without early retirement decrease.
- Early retirement pension due to bankruptcy (from 2014), for persons fulfilling conditions for early retirement and whose insurance status was terminated due to employer’s bankruptcy and provided they have been unemployed for at least 2 years continuously. Early retirement decrease is also not applicable.

It seems that many persons have used the first option (altogether 3,545 persons in the first 9 months of 2014) while fewer fulfilled the conditions for the second type of pension (only 6 persons until the end of September 2014).¹²¹

Further on, the larger take-up of old-age pensions could be also the result of measures preventing people to work longer even if they are capable and willing after reaching statutory retirement age, since many laws in the public sector still link automatic termination of employment to becoming 65 (e.g. civil service, public administration, education, health sector), thus jeopardizing the general idea of favouring later retirement and increasing the retirement age.

Regarding the fully funded second pillar in Croatia, it was not rolled back, unlike in some other Member States. Moreover, several measures were taken to improve the two-pillar pensioner’s situation. In 2011 was enacted the possibility to opt-out from the two-tier system for optional participants (i.e. those who were between 40 and 50 years of age in 2002) with a view to improving their pension level, which was lower than pensions from the single-pillar system. This was due to several reasons. Second pillar pensioners were not entitled to pension supplement (it was and still is reserved only for single-tier pensioners – those insured only within 1st pillar, older than 50 in 2002). Also, the majority of such pensioners were women who due to the crisis and unemployment took up early retirement from mostly low paid jobs and who were paying contributions for funded 2nd pillar scheme for a very short time (only 7

¹²¹ Data available from Croatian Pension Insurance Institute, Statistical information, 3/2014, p. 37, <http://www.mirovinsko.hr/default.aspx?ID=723> (accessed 27 January 2015).

years approximately). Their average retirement age was 55-57 years. As a result, the average amount of pension acquired from the 2nd pillar was extremely low.

For those who are still employed, the possibility to abandon the second pillar at the time of retirement is allowed. The “basic pension formula” (i.e. formula for 1st pillar pension for persons acquiring rights under the two-pillar system) was changed and since 2014 is based on the same elements as the general formula multiplied by the so called “basic pension factor” that represents the average ratio of contribution rate to the 1st pillar scheme in relation to the total contribution rate. Also, since August 2014 life-style funds were introduced into the 2nd pillar. Each mandatory pension fund (currently there are 4) has to have 3 sub-funds of different investment risk exposure (A - aggressive, B - balanced, C - conservative). Participation in the sub-funds automatically changes with age (A is for fund members that have 10 or more years until the statutory old age, B is for those who have 5 or more years, and C is for those who have less than 5 years). However, fund members are allowed to make a more conservative choice. If no choice is made, the B sub-fund (that is the “successor” of the previous funds) is a default fund until 5 years before the statutory old age. Predominant majority of 2nd pillar participants stayed within B funds (98.86 percent in October 2014).¹²²

4. Assessment of adequacy

Current adequacy

The median relative income ratio of older people in Croatia is improving (0.82 in 2011, 0.84 in 2012, 0.88 in 2013, Eurostat data), although it remains below the EU-28 average (0.93 in 2013). It is likely that the improvement was driven by the decline in incomes for the population under 65 due to the economic crisis and the rise in unemployment. Furthermore, for women, the situation is less positive than for men (in 2013 the relative income ratio was at 0.8 compared to men at 0.95). This can be explained by women’s lower retirement age and shorter periods of contribution 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 ratio S80/S20, is 5.1 for 2013.

The overall risk of poverty or social exclusion for those over 65 remains higher (in 2013 it was 31.9 percent) than the risk for the total population (in 2013 it was 29.9 percent) and the risk for those under 65 (in 2013 was 29.5 percent). The risk for those over 75 is significantly higher (in 2013 it was 36.5 percent). The at-risk-of-poverty rate for those aged over 65 has also been decreasing (29.4 percent in 2011, 25.6 percent in 2012, and 23.4 percent in 2013 compared to 13.8 percent for EU-28, Eurostat, 2014.) In addition, as noted above, it is also the case that part of the reduction is simply a result of a lower poverty threshold. It is important to note that the gap between the risk of poverty and social exclusion for those under 65, over 65 and over 75 has reduced considerably between 2010 and 2013 suggesting that, in the context of the crisis, the incomes of those over 65 have tended to be more protected than those of the working age population and children. The gender differences in rates of poverty and social exclusion are, however, much more pronounced for women over 75 who are at significantly higher risk than their male peers, with the tendency of slightly narrowing the gender differences between 2008 and 2013.

The rate of severe material deprivation for those aged over 65 and over 75 rose in 2013, especially for males. In 2013, rates of severe material deprivation for those over 65 (16.9

¹²² Croatian Financial Services Supervisory Agency, Monthly Report for October 2014, no. 11/2014, table 1, <http://www.hanfa.hr/EN/nav/110/monthly-report.html#section0>

percent) and those over 75 (18.0 percent) were higher than for those 0-64 (14.7 percent)¹²³. The relative median income ratio, compared to equalized disposable income for persons over 65 and to persons below the age of 65, shows the gap between older persons and the rest of the population in terms of median income narrowing over time, reflecting the greater impact of the crisis on the working age population. Indeed, for men, the median relative income rate is close to parity, equal to the rate for the EU-28 as a whole.

Housing deprivation is a problem of 5.6 percent of persons aged over 65, again more for women (6.5 percent), than for men (4.3 percent). Nevertheless, in general, one could say that the housing situation of older people in Croatia (65+) is good, since 97.2 percent are home owners; however 9.3 percent are overburdened with housing costs. This can be explained by high utility bills for spacious flats/homes that single-person households usually suffer from. Thus, there is a potential in using homes for building up income in retirement.

Namely, pensioners experience a significant drop in living standards compared to their pre-retirement income. Aggregate replacement ratio in 2013 was 0.37 v. EU-28 average 0.55. This can be explained by several factors. Low pensions can be linked to short periods of service (qualifying years). Only 13.4 percent of pensioners receive pensions on the basis of 40 or more qualifying years, while 42.21 percent of pensioners have less than 30 years of service, women being represented more than men, since retirement age for women has been lower¹²⁴.

The table of background statistics provides indicators of relative income, poverty and material deprivation and income replacement for older people in Croatia.

Gender pension gap

According to the information from September 2014¹²⁵ only 13.4 percent of total pension recipients in Croatia receive pensions based on 40 or more qualifying years. This includes twice as many men than women, however. In the group of 30.27 percent of all pension beneficiaries that have less than 25 years of service, the proportion of women (33.74 percent) is higher than that of men (25.56 percent).

Croatia has a gender gap in pensions of 24.2 percent which is much lower than the EU-27 average of 40.2 percent. The main drivers of the gender gap are the lower average years of contribution of women, a product of a lower retirement age and more frequent periods of non-contributions, combined with the lower average salaries of women compared to men. In addition, a small but significant group of women have never worked. Equalising of the retirement age, which may further reduce the gender gap, will be completed in 2030.

The gender gap in terms of non-coverage of pensions aged 65-79 in Croatia was low and actually moved in favour of women (-0.8).

Gender gaps in employment and pay. The gender pension gap indicator presents a snapshot of developments in the employment and pension system factors, which determine the size of the gap. Since it is calculated for the entire population of 65-79 year olds there is a certain inertia in its development. To get a sense of whether it is likely to reduce or increase one can look at trends in the various gender gaps in employment and at how the pension system is changing.

The gender gap¹²⁶ in the *employment rate of older workers* (age 55-64) has decreased by 1.1 p.p. over the period of 2004-2014 (EU-28: -5 p.p.) and amounted to 18.5 p.p. in 2014 (EU-28: 13.7 p.p.). The gender gap in the *duration of working life*, which in 2013 came to 7.3

¹²³ http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=ilc_mddd11&lang=en

¹²⁴ Information from the Croatian Pension Insurance Institute, 2014.

¹²⁵ Data from the Croatian Pension Insurance Institute.

¹²⁶ Difference between values for men and women.

years (EU-28: 5.2 years), has decreased by 1.5 years since 2004 (EU-28: -1.2 years). The gender gap¹²⁷ in *part-time employment* (for people aged 20-64), which reached 2.6 p.p. in 2014 (EU-28: 23.5 p.p.), has decreased slightly by 0.8 p.p. since 2004. This implies a trend towards a reduction of the gap as far as the employment factors are concerned. The gender *pay gap*¹²⁸, which in 2013 at 7.4 percent was substantially lower than the EU-28 average (16.4 percent), has, however, increased by 1.7 p.p. since 2007 (EU-28: increase by 0.3 p.p. over the period of 2010-2013).

Future adequacy

The net theoretical replacement rate for Croatian average earners for 2013 for three theoretical replacement rate variants amounted to 55.5 percent for men. Regarding women, the first variant is higher than for men, amounting to 59.7 percent although the standard pensionable age for women in 2013 is lower than for men (it is 60 years and 9 months, while for men is 65), women working above their pensionable age until age 65 are entitled to deferred pension bonus of 0.15 percent per each month of deferment of the retirement and hence in the first base case the bonus of 7.65 percent resulted in a replacement rate higher than for men. Differently from that, women who started to work at the age of 25 and having worked until SPA in 2013 had a lower TRR reaching only 49.6 percent that can be explained by having completed shorter years of career.

By 2053, the TRR will drop significantly, being among the lowest in EU-28. Croatia's net TRR of an average earner that worked for 40 years up to the SPA, that will be 67 by that time, will be only 41.7 percent. Those with longer career delaying retirement above the SPA by 2 years will have higher pensions by 4.6 p.p. (47.3 percent). Hence, an increase in retirement age and career length results in higher pension entitlements. Contrary to this, persons working shorter than SPA have lower pension entitlements due to early pension penalties and shorter years of career (e.g. person having 40 years of service but only 65 years of age when SPA will be 67, will have a TRR of 40.2 percent, and person retiring at the age of 63 with 38 years of career the rate of 35.2 percent). Persons forced into early retirement due to unemployment are at higher risk from a lower TRR (31.6 percent in 2053 for the average earner). However, persons retiring earlier due to disability are in a much better position (in 2053 the net TRR is estimated to be 43.1 percent for the average earner) because an additional fictive period is credited and there are no penalties as for early retirement.

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 to gross values can be linked to tax policy, especially to the higher non-taxable portions of the income for pensioners than for wage earners and self-employed, as indicated above.

Comparing TRR by earning profiles, it is evident that low-earners (with 2/3 of average earnings) have a higher TRR than average earners and much higher than high earners (for base case II: 40 years up to SPA net TRR in 2053 amounts to 50.8 percent compared to 41.7 percent). This can be explained by the redistributive character of the 1st pillar PAYGO scheme, where low earners have a right to the minimum pension without a means test.

However, the adequacy of individual pension 10 years after retirement is mostly preserved due to low "pension erosion" based on pension indexation rule.

¹²⁷ Difference between values for women and men (for part-time employment).

¹²⁸ The unadjusted Gender Pay Gap (GPG) represents the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. Industry, construction and services (except public administration, defense, compulsory social security). Data source: Eurostat [earn_gr_gpgr2] 8

The mandatory second pillar defined-contribution scheme will have an increasingly important role in the future TRR. Apart from that, individual and occupational private schemes that are currently not widely used (within the voluntary 3rd pillar) will become a significant factor in the enhancement of pension adequacy in the future. Nevertheless, without significant policy change, Croatia appears destined to be part of the group of Member States which, in the next 40 years, faces significant declines in the theoretical replacement rate.

Challenges for pension adequacy

There are a number of significant challenges to pension adequacy in Croatia, many of which produce the poor scenario regarding theoretical replacement rates. The first of these is the fact that Croatia is an ageing society which has low employment rates. Although the employment rates might increase in next decades, dependency ratio of retired persons to those employed seems likely to continue to worsen in the future. Croatia's natural population change was -2.5 per 1000 inhabitants in 2013¹²⁹. The projected population change from 2010 via 2035 to 2060 based on medium fertility and medium migration scenarios shows a dramatic increase in the proportion of the old population over time.

Issues relating to the low rate of employment in Croatia are also important, especially in the context of high rates of unemployment amongst older workers and high rates of long-term unemployment. Anyone made redundant within ten years of retirement age in Croatia risks not only a significantly lower pension than they expected, as a result of a reduction in contribution years, but also a considerable decrease in assets prior to retirement, making the risk of poverty in old age all the greater.

In addition, the greatest challenge to adequacy is the need to balance adequacy with sustainability in the context of the continued economic crisis, lack of growth of GDP, and the growth of the deficit in Croatia.

5. Sustainability

The evolution of the demography, employment rate and expenditure can give us information about the sustainability of the pension system in the future.

Demography

The old-age dependency ratio (population aged 65 and over as a percentage of the population aged 20-64) in Croatia is projected to increase from 29.9 percent in 2013 (EU-28: 30.3 percent) to 55.1 percent in 2053 (EU-28: 54.9 percent).

Croatia belongs to the group of Member States where the increase in old-age dependency ratio is projected to be similar to the EU-28 average. Over the period 2013 to 2053, the old-age dependency ratio is projected to increase by 25.2 p.p. (EU-28: 24.6 p.p.).

The share of working-age population (20-64) (61.1 percent of the total population in 2013) is projected to drop by 8.7 p.p. by 2053 (to 52.4 percent of the total population), compared with 9.2 p.p. for the EU as a whole by 2053.

The economic old-age dependency ratio for Croatia is projected to rise by 27.6 p.p. from 50.6 percent in 2013 to 78.2 percent in 2053, i.e. significantly above the EU-28 average (66.2 percent in 2053).

¹²⁹ Croatian Bureau of Statistics (2014) First release: Natural Change in Population, 24 July. http://www.dzs.hr/Hrv_Eng/publication/2014/07-01-01_01_2014.htm (accessed 5 December 2014)

Employment

The labour market participation rate (of people aged 20-64) in Croatia (68.5 percent) was below the EU-28 average in 2013 (76.5 percent) and it is projected to stay below the EU-28 average in 2053 (70.2 percent versus 79.9 percent). The participation rate of older workers (aged 55-64) in 2013 (41.4 percent) was below the EU-28 average (54.4 percent). Over the period 2013 to 2053, the participation rate of older workers is projected to increase by 9.9 p.p. to 51.3 percent in 2053, less than in the EU-28 (15.3 p.p.: from 54.4 percent in 2013 to 69.7 percent in 2053).

According to the 2015 Ageing Report, the employment rate (of people aged 20-64) is projected to increase from 58.5 percent in 2013 (EU-28: 68.4 percent) to 60.0 percent in 2053 (EU-28: 74.9 percent). Employment rate of older people (aged 55-64) is projected to increase from 37.1 percent in 2013 to 49.2 percent in 2053 (EU-28: from 50.3 percent to 66.6 percent).

The employment rate for older workers (from 55 to 64 years) in Croatia in 2013 was below the EU-28 average: 37.1 percent (44.5 percent – men, 30.1 percent – women) versus 50.3 percent at the EU-28 level (57.6 percent – men, 43.3 percent – women).

The effective exit age from the labour force in 2013 was 61.9 (62.4 – for men, 61.4 – for women) and it is below the EU-28 average (63.1 – total, 63.5 – for men, 62.7 – for women).

Main drivers of pension expenditure

According to the 2015 Ageing Report, the gross public pension expenditure will decrease from 10.8 percent of GDP in 2013 to 6.9 percent of GDP in 2060.

In accordance with the 2015 Ageing Report, the demographic factor has the strongest upward effect (+6.4 p.p. of GDP) on gross public pension expenditure over 2013-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate and benefit ratio). The lowering effect of coverage ratio (-3.3 p.p.) and benefit ratio (-5.0 p.p.) on the public pension expenditure are more pronounced than the employment rate effect (-1.4 p.p.).

6. Main opportunities for addressing pensions-related challenges

In the context of continued problems of pensions' sustainability, Croatia's growing public debt, and lack of economic growth, the scope for new measures to increase pensions' 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, however, there are still some measures that can be introduced in the future, e.g., the pension supplement for multi-pillar participants instead of the one applicable only to the first pillar pension beneficiaries.

The current first pillar contributory minimum pension is means tested only against the level of the first pillar pension. The amount depends on the years of insurance period completed and therefore it results in a lower amount for those who completed a shorter qualifying period. It is supporting the longer working lives of the poorest economically active population but at the same time there are some groups of self-contributors who pay lower contributions because their contribution base is by law set at a level much lower than the average wage, while at the same time they earn higher incomes from self-employment and cannot be deemed poor. In any case, more evidence is needed to be able to target the groups of persons over 65 who are at risk of poverty and social exclusion in order to make an effort towards the mitigation of old age poverty for these groups.

In addition, the new indexation formula needs to be given time to demonstrate results.

In the context of a more general concern with social spending across different scales, a review of schemes which provide income or benefits for pensioners at county, city and/or municipal level may need to be considered, not least to ensure equity for pensioners across the country. Ultimately, more resources for the poorest pensioners should be found from further cuts to 'privileged pensions', based on precise evaluations being the base for social dialogue and national consensus. For those currently able to retire early from arduous jobs, it may be that more incentives need to be found in order to promote transfers to other jobs in order to postpone retirement.

Although this report is focused primarily on adequacy, the link with sustainability can be made if there is a renewed focus on measures which lengthen working life and delay retirement. The social dialogue supported by evaluations should be initiated regarding the possibility of speeding up the increase in retirement age, achieving an equalisation between men and women before 2030 and raising the retirement age for both men and women before 2038.

7. Background statistics – Croatia

1. Relative incomes of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.88	0.96	0.83	0.13	:	:
Income quintile share ratio (S80/S20), 65+	5.1	4.7	4.8	-0.2**	-0.4**	-0.3**

2. Poverty and material deprivation

Indicator	2013			Change 2010-2013		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+	31.9	26.8	35.3	-5.6	-4.5	-6.3
At-risk-of-poverty rate (AROP), 65+	23.4	18.6	26.6	-7.8	-7.5	-7.8
Severe material deprivation (SMD), 65+	16.9	15.0	18.1	1.2	2.4	0.5
At-risk-of-poverty or social exclusion (AROPE), 75+	36.5	29.4	40.4	-7.7	-6.2	-8.4
At-risk-of-poverty rate (AROP), 75+	28.1	20.9	32.0	-9.5	-9.2	-9.6
Severe material deprivation (SMD), 75+	18.0	16.3	18.9	0.1	3.5	-1.8
Relative poverty gap, 65+	24.1	26.7	23.2	-0.9	0.8	-1.8
At-risk-of-poverty rate (AROP), 65+: 40 % threshold	8.0	6.7	8.9	-4.6	-3.9	-5.0
At-risk-of-poverty rate (AROP), 65+: 50 % threshold	14.4	12.2	15.7	-4.8	-3.9	-5.5
At-risk-of-poverty rate (AROP), 65+: 70 % threshold	33.2	27.2	37.2	-6.0	-6.1	-5.9

3. Housing situation of older people

Indicator	2013			Change 2010-2013		
	Total	Men	Women	Total	Men	Women
Housing cost overburden rate, 65+	9.3	6.0	11.4	-14.1	-13.8	-14.4
Tenure status among people 65+: share of owners	97.2	97.3	97.1	-0.1	-0.4	0.1
Severe housing deprivation rate, 65+	5.6	4.3	6.5	-2.2	-1.5	-2.5

4. Income replacement by pension systems

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Aggregate Replacement Ratio (ARR)	0.37	0.39	0.37	-0.10	-0.17	-0.06
Benefit Ratio (BR) (Public pensions)	30.8					
Gross Aggregate Replacement Rate (Public pensions)	27.9					
Gender Gap in Pension Income, % (65-79)	24.2*			:		
Gender Gap in non-coverage rate (W-M in p.p.) (65-79)	-0.8*			:		

5. Sustainability and context indicators

Indicator	2013			Projections for 2053		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65+, years	16.9	15.0	18.7	21.7	20.0	23.4
Old-age dependency ratio (20-64)	29.9	23.5	36.2	55.1	47.9	62.6
Economic old-age dependency ratio (15-64)	50.6	36.7	66.5	78.2	65.0	93.0
Employment rate, age group 55-64	37.8	45.0	31.0	49.2	49.2	49.1
Pension expenditure as % of GDP (ESSPROS)	10.7*			Projections for 2060		
Gross public pensions as % of GDP (AWG projections)	10.8			6.9		

Data source: Eurostat. Sustainability indicators and projections (EPC AWG) – Commission Services (DG ECFIN), based on The 2015 Ageing Report. Data on gender gaps – ENEGE. Notes: * - 2012 data, ** - 2010 data.

6. Theoretical Replacement Rates (TRRs)

TRR case	Net				Gross				
	2013		2053		2013		2053		
	Men	Women	Men	Women	Men	Women	Men	Women	
Average Earnings	Base case I: 40 years up to age 65	55.5	59.7	40.2		38.5	41.5	27.9	
	Base case II: 40 years up to the SPA	55.5		41.7		38.5		29.0	
	Increased SPA: from age 25 to SPA	55.5	49.6	43.5		38.5	34.4	30.2	
	AWG career length case	52.1	51.9	39.2	35.8	36.2	36.1	27.2	24.8
	Longer career I: from age 25 to 67			43.5				30.2	
	Shorter career I: from age 25 to 63			35.2				24.4	
	Longer career I: from age 25 to SPA+2			47.3				32.9	
	Shorter career I: from age 25 to SPA-2			40.2				27.9	
	Career break – unemployment: 1 year			42.5				29.5	
	Career break – unemployment: 2 years			41.5				28.8	
	Career break – unemployment: 3 years			40.4				28.1	
	Career break due to child care: 0 year				43.5				30.2
	Career break due to child care: 1 year				43.5				30.2
	Career break due to child care: 2 years				42.9				29.8
	Career break due to child care: 3 years				41.9				29.1
	Short career (30 year career)			31.2				21.7	
	Early retirement due to unemployment			31.6				21.9	
	Early retirement due to disability			43.1				29.9	
Indexation: 10 years after retirement			41.4				28.8		
Low Earnings (66%)	Base case I: 40 years up to age 65	59.5	64.1	49.1		44.6	48.0	36.8	
	Base case II: 40 years up to the SPA	59.5		50.8		44.6		38.0	
	Increased SPA: from age 25 to SPA	59.5	53.2	52.9		44.6	39.8	39.6	
	AWG career length case	55.9	55.7	48.0	43.5	41.9	41.7	36.0	32.6
	Longer career I: from age 25 to 67			52.9				39.6	
	Shorter career I: from age 25 to 63			42.9				32.1	
	Longer career I: from age 25 to SPA+2			57.4				43.0	
	Shorter career I: from age 25 to SPA-2			49.1				36.8	
	Career break – unemployment: 1 year			51.6				38.7	
	Career break – unemployment: 2 years			50.4				37.8	
	Career break – unemployment: 3 years			49.2				36.8	
	Career break due to child care: 0 year				52.9				39.6
	Career break due to child care: 1 year				52.9				39.6
	Career break due to child care: 2 years				52.5				39.3
	Career break due to child care: 3 years				51.2				38.4
	Short career (30 year career)	44.6		37.9		33.4		28.4	
	Early retirement due to unemployment			38.3				28.7	
	Early retirement due to disability			46.2				34.6	
Pension rights of surviving spouses				69.7				48.4	
High	Base case I: 40 years up to age 65	45.1	48.3	32.6		28.9	31.1	20.9	
	Base case II: 40 years up to the SPA	45.1		33.8		28.9		21.6	

Data source: TRRs for 2013 - Member State; TRRs for 2053 – OECD.

Notes: (1) Statutory pensions are considered to be the public PAYG system (I pillar) and mandatory fully-funded DC system privately managed (II pillar). Coverage rate refers to an average number of insured persons in 2013 as share of the labour force (15-64). Labour force data are the same as used in the AWG Ageing Report 2015 projections. Contribution rates refer to I pillar (15) and II pillar (5), in percent of gross earnings (after employer's contributions).

Italy (IT)

1. General description of the pension system

The Italian pension system is in a transition from a traditional single-pillar structure – i.e. characterized by public schemes aimed at providing both means-tested “social pensions” to poor elderly and income maintenance to the whole workforce (Ferrera M. and Jessoula M., 2007) – towards a multi-pillar architecture.

The first public pillar is multi-tier. The “old-age social allowance” (*assegno sociale*, formerly “social pension”) constitutes the first tier of the public pillar as well as its main redistributive component. It is actually an income-tested programme financed by general revenues, providing flat-rate and modest social assistance benefits to poor people aged 65 years/3 months and above. The yearly amount is EUR 5,818.93 – paid out in 13 monthly installments of EUR 447.61¹³⁰.

The main component of the first pillar is however represented by its second tier PAYGO schemes, covering 100 percent of the employed population – i.e., private and public employees, the self-employed and so-called *parasubordinati*, i.e. “project workers”. While in the past these were all defined-benefits (DB) schemes, since the 1995 reform a Notional Defined Contribution (NDC) system applies to new entrants in the labour market after 1.1.1996¹³¹.

Contribution rates vary from 33 percent of gross earnings for private and public employees¹³² to 20/21 percent for the self-employed and 28 percent for “project workers”. As an effect of the 2011 reform, contribution rates for the self-employed will be gradually increased to 24 percent of declared income by 2018; also, the 2012 labour market reform (Law 92/2012) included a gradual increase of the contribution rate for project workers from 27 percent to 33 percent by 2018.

Eligibility conditions for old age and early retirement pensions as well as the old age social allowance are linked and automatically adjusted to changes in life expectancy; also, they are being rapidly tightened due to reforms adopted in 2009, 2010 and 2011 (see next section). In 2015, the pensionable age is set to 66 years/3 months for both (male and female) employees in the public sector and male workers (employees, self-employed and so called *parasubordinati*) in the private sector, while it is still lower (63 years/9 months) for female employees in the private sector (64 years/9 months for self-employed and *parasubordinati*). A minimum contribution period of 20 years is also required. For workers fully included in the NDC system a further condition applies: retirement before age 70 years/3 months is actually allowed only in case 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 to retire prior to reaching the pensionable age, seniority pensions¹³³ were abolished in 2011 and a new “early retirement scheme” – so called *pensione anticipata* – was introduced, applying 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-long run). For the

¹³⁰ 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 5,818.93/year (single person). Eligible persons must have been residing continuously in the country for at least 10 years.

¹³¹ The DB system remained in force for workers with at least 18 years of contributions in 1995. For those with fewer than 18 years the NDC system applies *pro rata*: i.e. for working years after 1995 only.

¹³² Contributions are not levied on gross earnings above EUR 100,324.

¹³³ 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.

first group, in 2015 retirement is possible after contributing for 42 years/6 months if males, 41/6 months if females¹³⁴. Penalizations however apply in case of retirement before age 62. Differently, workers fully included in the NDC system are allowed to retire at 63/3 months, provided the fulfillment of two conditions: 1) the payment of contributions for at least 20 years; 2) the pension amount being at least 2.8 times the old age social allowance (second “pension value threshold”).

The special rules for people on arduous jobs were also modified by the 2011 reform. These rules apply to some categories of dependent employees, allowing them to retire 5 years before reaching the pensionable age provided that they have been on an arduous job for 7 years out of the last 10, including the last one.

Old-age or early-retirement pensions cannot be combined with income from dependent employment; by contrast, self-employment is compatible with retirement, this allowing many retirees to be employed as project workers (*parasubordinati*), since the latter are *de jure* considered self-employed.

In addition to public pension provision, private sector employees and public employees hired after 2000 are entitled to a severance-payment benefit - so called TFR, *Trattamento di Fine Rapporto* - when they retire or change their employer¹³⁵.

Also, alongside the reformed and increasingly less generous public pillar (see below), since the 1992-3 reform the new regulatory framework for funded pensions has aimed to develop Defined Contribution (DC) supplementary funded pillars, mainly relying on tax incentives and especially the voluntary transfer of the TFR to pension funds. The regulatory framework allowed the setting up of different types of supplementary pension schemes: i) “Closed” pension funds (CPFs) are typical occupational pensions for specific groups of employees set up by collective agreements (2nd pillar); ii) “Open” pension funds (OPFs) are hybrid institutions comprising both 2nd and 3rd pillar forms depending on affiliation modes (that is, individual vs collective) and, iii) Personal pension plans through life insurance contracts (PIPs) constitute the 3rd pillar. Importantly, since 2007, a “silent-consent” mechanism for the transfer of TFR contributions (roughly 7 percent of gross wage) to funded occupational pension schemes has been operating for private sector employees (Jessoula M., 2011). Despite attempts to extend funded pension coverage, in September 2014, only 6.6 million workers were enrolled in supplementary pension schemes out of an employed population slightly above 22 million.

Also in light of such big coverage gap in supplementary pillars, it has to be stressed that while the plan launched in the early-to-mid 1990s envisaged a fully-fledged multi-pillar pension system for workers that will retire roughly after 2030, in fact the various pillars are not at all integrated and the pension policymaking has actually been “duplicated” (Jessoula M., 2011a). It means that, at least since the mid-2000s, public pension reforms are designed independently from changes in supplementary funded pillars – and vice versa – this possibly leading to inconsistent developments.

2. Reform trends

Italy has undergone three major waves of reforms since the 1990s (1992-95; 2001-07 and 2009-11)¹³⁶. The reforms adopted after the outbreak of the financial-economic shock and the

¹³⁴ The different contribution requirement for men and women has led to EC’s infringement procedure no. 2013_4199 for violation of the equal treatment principle.

¹³⁵ Project workers and obviously the self-employed are not entitled to the TFR

¹³⁶ In the first wave, between 1992 and 1995, the cornerstones of the new pension system were introduced and the overall pension architecture was redesigned by, first, shaping the regulatory framework for voluntary

following sovereign debt crisis (the last wave) have all aimed at reducing expenditure in the short-medium term by both modifying *eligibility conditions* for both *old age* and *seniority pensions* - and accelerating the phasing in of the NDC system. As outlined below, changes of eligibility conditions are particularly relevant in a gender perspective since they mostly affected women.

The main changes introduced by L. 102/09, Law 122/2010 and Law 214/11 included the following (Jessoula M. and Pavolini E., 2012):

Old age pensions:

- i) very rapid increase of the *pensionable age for female employees* in the *public sector* - from 60 to 65 between 2010 and 2012 – and for *female employees* in the *private sector* from 60 in 2011 to 66 and 7 months in 2018. In the same year, the pensionable ages will be fully equalized both between sexes and across professional categories¹³⁷;
- ii) extension of the minimum contributory period to be entitled to old age pensions in the NDC system from 5 to 20 years (5 years only in case of retirement at 70 years);
- iii) introduction of “pension value threshold” outlined in the previous section to be entitled to old age pensions.

Early and late retirement:

- i) abolition of seniority pensions;
- ii) introduction of the possibility to retire prior to reaching the pensionable age (*pensione anticipata*):
 - a) provided the fulfilment of a contribution period of 42 years/1 month (males) 41 years/1 month (women) in 2012, with penalisation in case of retirement before 62 years of age;
 - b) at 63 years of age in 2012 – only workers fully subject to the NDC system, see above – with 20 years of paid contributions and if expected pensions is above the second pension value threshold outlined above;
- iii) introduction of the possibility of *late* retirement at 70 *de facto* re-introducing a flexible pensionable age in the bracket 63-70 in 2012 – the age bracket will move upwards after 2013 due to the “linking” mechanism, see below;
- iv) introduction of the “pension value threshold” outlined in the previous section to be entitled to early retirement pensions.

“Linking”:

Eligibility conditions for old age pensions, early retirement pensions and the old age social allowance are linked and automatically adjusted to increase of life expectancy at 65 years – as reported annually by the National Statistical Office (ISTAT) and validated by Eurostat. The first *forfetaire* adjustment (3 months) was implemented in 2013; the following adjustments are scheduled in 2016, 2019 and every two years afterwards.

supplementary funded pensions (1993), second, replacing the DB system with the NDC system in the public pillar (1995) for the new entrants in the labour market. Fine tuning measures and also contradictory interventions followed in the second phase (2001-2007), mostly concerning eligibility conditions for *old age* and *seniority pensions*, as well as the introduction of the “silent-consent” mechanism for enrolment in second pillar occupational schemes with the aim to extend supplementary pension coverage. Though important, most measures adopted in the first two waves were implemented gradually due to long phasing-in periods and exemptions from the new rules (Ferrera M. and Jessoula M., 2007; Jessoula M., 2011).

¹³⁷ Independently from automatic adjustments, a “safeguard clause” set the standard pensionable age at 67 in 2021.

Benefit calculation (old age and early retirement):

i) faster phasing-in of the NDC system: the latter is actually applied *pro-rata* for working years after 2011 also to previously exempted workers (i.e. workers who had contributed for at least 18 years in 1995).

ii) temporary freeze (2012 and 2013) of benefit indexation for pensions above EUR 1400 gross/month. The 2014 Budget and Stability Law re-introduced partial pension indexation for benefits between EUR 1500 and EUR 3000 gross/month. In the period 2014-16, indexation will vary between 95 percent for pensions ranging EUR 1500 - EUR 2000 and 40 percent in 2015 (45 percent in 2016) for pensions above EUR 3000 gross/month - the latter provision implying that higher pensions will not be indexed in 2014.

The 2015 Budget and Stability Bill, enacted in December 2014, included some amendments to existing rules which regard both the public and supplementary pillars.

In the first pillar, the main novelty is represented by the non-application (until 2017) of penalizations in case of early retirement before age 62 – provided the fulfillment of contributory periods presented in the previous section.

As for funded pensions, the Budget and Stability Bill a) increased the tax rate on investment returns from the current 11.5 percent to 20 percent; most importantly, b) it allowed private employees to opt for receiving the severance payment TFR in their payroll between 1st March 2015 and 30th June 2018. This measure, which aims at tackling persistently sluggish internal demand by stimulating consumption, is likely to drain resources from supplementary pillars whose main funding source is actually the transfer of TFR contributions.

3. Impact of the crisis on current pension system and present pensioners

When analysing the impact of the crisis on the Italian pension systems two main types of effect can be distinguished: i) *direct effects* both on public PAYG and funded schemes, respectively due to negative/slow economic growth and financial market crisis; ii) indirect effects as a consequence of budgetary consolidation measures affecting pensions.

Direct effects. Since the overwhelming majority of pensions paid in recent years are still DB, the economic crisis has not impacted hard on pension value, rather representing a challenge on the sustainability side – worsening the pension expenditure/GDP ratio, the reduction of GDP is in fact likely to jeopardize achievements made through recurrent pension reforms¹³⁸.

As for supplementary pillars, the decline of employment rate which followed the economic shock since 2008 has slowed the pace of growth of funded scheme coverage especially in 2009 and 2010.

Supplementary pillars were also significantly affected by the global financial market shock. At the peak of the financial crisis in 2008, Italian pension funds reported comparatively moderate losses, albeit with much variation between 2nd and 3rd pillar schemes. Occupational closed fund registered negative returns of around 6 percent, open funds around 14 percent,

¹³⁸ Despite faster population ageing than in most other European countries and recent negative economic trends, public pension expenditure trends appear under control in Italy both in the short term and the long run. According to the projections by the National General Accounting Office of the Ministry of Economy (MEF, 2013), public pension expenditure is actually expected to decrease by slightly more than 1 p.p. after 2013, reaching 14.8 percent of GDP in 2029 - mostly due to the recently legislated changes in eligibility conditions and faster implementation of the NDC system (pro rata). An increase up to 15.6 percent in 2045 is then expected because of the growing pensions/employed population ratio due to demographic transformation; a decrease should follow afterwards (15.3 percent in 2050, 13.9 percent by 2060) due to the full implementation of the NDC system, the gradual disappearance of the “baby boomers” cohorts (born between the mid-1950s and the mid-1960s) as well as the automatic tightening of eligibility conditions (MEF, 2013).

while losses were much higher for PIP, around 25 percent. All types of supplementary schemes recovered (at least partly) in 2009 already (CPF +8.5 percent, OPF +11.3, PIP +16.3) and the trend was confirmed in 2010, though at a slower pace: returns were around +3.0 percent for CPF, +4.2 percent for OPF and +5.1 percent for PIP. However, figures turned to negative again in 2011 for 3rd pillar forms - PIP (-5.7 percent) and Open funds (-2.4 percent) - while only closed funds reported no losses (+0.1 percent) (Covip 2011, 2012). This said, the negative trends presented here will affect future pensions, while their impact is negligible for current pensioners who almost completely rely on public pension provision.

Indirect effects. As outlined in the previous sections, the recent pension measures included in the three austerity packages adopted in 2009, 2010 and 2011 aimed at reducing pension costs in the short-medium term while contributing to regulatory harmonization across generations, between genders and among professional categories. Also, the reforms have implied a significant increase of the standard pensionable age, which is currently among the highest in the EU.

Notably, these reforms were mostly “externally driven” in spite of the fact that Italy has not received a country specific recommendation on pension since the launch of the European Semester in 2010. Rather, the 2009 and 2010 reforms can be seen as responses to both a ruling of the European Court of Justice (Case C-46/07) and subsequent pressures from the EU Commission to raise the pensionable age (especially for women). The 2011 was prompted, and even shaped in its content, by the joint letter sent to the Italian government by Mario Draghi (then Governor of the Bank of Italy) and the then President of the European Central Bank Trichet, in which they urged to introduce more stringent eligibility criteria for seniority pensions, rapidly aligning the retirement age of women in the private sector to that established for public employees, thereby achieving savings already in 2012.

The consequences of the three reforms are indeed much more substantial than the direct effects of the crisis summarized above.

Firstly, current pensions were affected by the temporary freezing of indexation for benefits above EUR 1400 gross/month included in the 2011 reform. These measures were harshly criticized by the unions and the leftist parties, not least because they impacted relatively low net pension incomes, slightly above EUR 1000/month. These concerns have led to the re-introduction of - full or partial – indexation as outlined in section 2 above.

Second, as a consequence of both the rapid tightening of eligibility conditions for old age pensions/early retirement, the Italian government had to face the problem, emerged in 2012, of workers who had previously agreed with employers on a contracted exit pathway and actually risked being left with no job and no pension for relatively long periods due to the new age and contribution requirements introduced by the 2011 reform. Between mid-2012 and 2015, 6 subsequent adjustments were legislated to protect this category of workers, known as “salvaguardati”, via special derogations.

Third, the severity and especially the short-term impact of measures adopted in the last wave of reform have prompted a lively domestic debate among the main political and social actors, primarily the unions. Apart from the measures needed to address the “salvaguardati” problem mentioned above, two main concerns have emerged respectively related to:

- i) the sharp income inequalities in old age due to extreme variation of public pension levels (see the previous sections). This triggered a debate increasing flexibility in the application of the 2011 pension reform eligibility conditions. so far, there are no legislated proposals;
- ii) the the rapid tightening of eligibility conditions especially in a phase of prolonged economic stagnation and labor market difficulties.

The very fast tightening of eligibility conditions for retirement - a 6-year increase of female pensionable age in 7 years (2012-2018), together with the elimination of seniority pensions¹³⁹ – during the worst economic recession and employment crisis since decades - is contributing to two main developments.

1) A “*old in, young out*” effect: 1 million more older workers (aged 50-64) in employment *vis à vis* a 0.9 million fewer young workers (15-34 years) in 2008-13 – as well as clearly divergent employment rates between old (increasing) and young (decreasing) 2012-13 – that is, since the implementation of the 2011 reform.

2) The appearance of the phenomenon of *unemployment in old age*. Though employment rates for older workers (55-64) have continuously and remarkably increased (31.5 percent in 2005, 34.4 percent in 2008, 42.7 percent in 2013) in spite of the reduction of total employment from 22.5 million in 2008 to 22.4 million in 2013, also the old unemployed have increased dramatically. The number of unemployed among those aged 50 and above has risen steeply to 438,000 individuals in 2013, after remaining low and stable in the last three decades - oscillating between 153,000 individuals in 1983, 203,000 in 1998 and only 130,000 in 2007.

Both developments are not only detrimental per se but also taking into account - across policy sectors - the non-encompassing nature of the unemployment benefit system and the underdevelopment of active labour market policies (ALMPs), especially Life Long Learning programmes.

From another perspective, the very rapid increase of the pensionable age for women is putting pressure on households when it comes to caring for children and dependent adults. In a nutshell, if later retirement for women is unavoidable in light of demographic and economic trends and a “farewell to familialism” might actually constitute a virtuous development for Italy in the medium-long run, the very rapid implementation of the new eligibility conditions for retirement is likely to create severe work/life balance problems to (most) Italian families - read, women - because investments in reconciliation policies and social care services have traditionally been, and still are, scarce.

4. Assessment of adequacy

Current adequacy

Italy has traditionally been – and still is – a “big spender” in pensions, allowing a relatively high economic security in old age. Thus, when considering most output/outcome indicators of the adequacy dimension, Italy performs fairly well in comparative terms; nevertheless - as it will be shown below and subsequently discussed in the next section – major weaknesses emerge when considering how resources are distributed, and more generally when fairness criteria are considered.

In accordance to what just mentioned, in 2011 Italy had the sixth highest ratio in the EU between the median disposable income of older people and the median disposable income of those aged below 65: 96 percent vs. 93 percent for the EU-28 average.

Also, as far as poverty prevention is concerned, in Italy the share of the population aged 65 and above exposed to the “risk of poverty or social exclusion” (AROPE) is smaller (22.6 percent in 2013) than in the age bracket 0-64 (29.9 percent) and among children 0-6 yrs (27.9 percent). This is consistent with both sub-indicators – the “at risk of poverty rate” (AROP)

¹³⁹ The increase of pensionable age and especially its equalization between men and women (by 2018) can in principle be considered positive developments aimed at overcoming the traditional “syndrome” of low retirement age/low employment rates for older workers. Nevertheless, both the *timing* and the *pace* of adjustment are producing substantial negative consequences on the labour market.

and “severe material deprivation rate” (SMD) – which present a very similar pattern: 15.3 percent at risk of poverty among those aged 65 years and above vs. 20.1 percent for people aged 0-64 and 22.3 percent among children 0-6 years; as for severely materially deprived individuals, these are 10.7 percent among the elderly vs. 12.9 percent and 12.1 percent in the age brackets 0-64 years and 0-6 years respectively.

These figures are however the result of rather different trends in the last five years. While the AROPE indicator shows a modest improvement since 2008 (-1.8 p.p.), this is actually due to divergent developments of AROP and SMD. The share of elderly population “at risk of poverty” has substantially decreased (-5.6 p.p.), while the percentage of “severely materially deprived” has critically grown (4 p.p.) since 2008. These two trends being considered jointly, the slight improvement of the AROPE can hardly indicate a general improvement of the economic situation of elderly in Italy.

The rapid increase of severe material deprivation in old age during the crisis can also be neatly captured by comparing the Italian SMD rate in 2013 (10.7 percent) and its increase since 2005 (+5.2 p.p.) with the EU-28 figures (7.0 percent SMD in 2013), which declined by 0.6 p.p. since 2008. In other words, while Italy had a below-average SMD for older people in 2010 - 6.3 percent vs. 6.7 percent for the EU-28 - the situation has rapidly deteriorated since the start of the sovereign debt crisis.

The relatively weak protection against poverty in old age is indeed apparent when Italian figures are compared to the EU average. In fact, if on the one hand, the Italian elderly are relatively better off compared to their younger counterparts, on the other the share of older people at risk of poverty or social exclusion (22.6 percent ITA) is well above the EU-28 average (18.3 percent).

By contrast, Italian figures improve in comparative terms when income maintenance in old age is concerned. All indicators show a high level of income from pensions in Italy compared to most other Member States. In more details, in 2013 the Aggregate Replacement Ratio (ARR) was 62 percent in Italy vs. 56 percent in the EU-28. Also, the ARR was on the rise in Italy between 2008 and 2013 – +11 p.p. vis a vis an increase of only 6 p.p. in the EU-28 – this suggesting that the gross income position of “young” pensioners (aged 65-74) is improved compared to older workers’ (50-59) median gross income. In a similar vein, the level of the Benefit Ratio (BR) is higher in Italy (48.5 percent) than in the EU-27 (44.7 percent) and the gap is even bigger when considering the Gross Aggregate Replacement Rate (GARR: 79.5 percent in Italy vs. 48 percent in the EU-27).

In sum, the analysis allows drawing the following considerations: i) Italian elderly people enjoy relatively high living standard, close to that of the population aged below 65; ii) people aged 65 and above are less exposed to the risk of poverty and social exclusion, although material deprivation has increased fast since the start of the crisis; iii) older people’s relatively high living standards rely on the high expenditure on public pensions in Italy; nevertheless, iv) resource distribution in old age is uneven, and in spite of both the high expenditure and above the EU average figures on income maintenance indicators (ARR, BR, GARR) people aged 65 and above are significantly more at risk of poverty or social exclusion than in the EU-28 on average.

Not surprisingly, then, income inequality in old age (65+) is higher in Italy than in the EU-28, the figures of the S80/S20 indicator being 4.4 vs. 3.9 in 2013.

Gender pension gap

Total figures presented above hide, however, the importance of the gender dimension as far as economic security in old age is concerned. In a nutshell, all indicators show that women fare

systematically worse than men. However, the relative position of female pensioners in Italy as compared to EU's varies according to the indicator.

This is particularly evident when considering the Aggregate Replacement Ratio which presents a 14 point gap between men (65 percent) and women (51 percent) compared to a 4 point gap only in the EU-28. Furthermore, while the ARR for men is in Italy remarkably above the EU-28 average (65 percent vs. 58 percent), the reverse is true for women (51 percent in Italy vs. 54 percent in the EU-28). Although a positive sign may be detected in the higher increase of the ARR for women (+12 p.p.) than for men (+7 p.p.) in 2008-13 – this reflecting increased female labour market participation in the last three decades - it has to be noted that the growth of female employment has stopped since the 2008-9 crisis and subsequent prolonged economic stagnation.

Differently, the Gender Gap in Pensions (GGP) was equal to 36 percent in Italy in 2012 and it was actually 4.5 p.p. lower than the EU average. Also, the GGP was relatively stable in Italy over the period 2008-2012, ranging between 35 and 36 percent. Somewhat lower appears to be (31 percent) the Central Gender Gap (CGP: 65-79 years), again with a rather stable trend over time (30-32 percent) over the period 2008-2012.

The main reason for the relevant Gender Gap in Pensions in Italy has to be found in the marginal position of most Italian women in the labour market: in fact, not only the female employment rate has been traditionally low in Italy – and it is still below the EU-28 rate (46.5 percent vs 58.8 percent in the age bracket 15-64 years) - also figures reported by Bettio, Betti and Tinios (2015) show that the median value for working career years is 25 for women vis à vis 40 for men. In addition, roughly 30 percent of Italian women has been in employment for less than 14 years, this resulting in: i) a high Gender Gap in Pension Coverage Rate in Italy (15 p.p.) which is more than double the EU average (7 p.p.); ii) an overrepresentation of women among poor pensioners – there are actually twice as many pension-poor women and pension-poor men (Bettio F. et al. 2015).

Last but not least, considering poverty outcome indicators the weaker condition of elderly women appears clearly. 25.2 percent of older women are actually “at risk of poverty and social exclusion” in Italy compared to 19.2 percent of men, and 20.6 percent of women in the EU-28. This is consistent with both sub-indicators: the AROP is 17.4 percent for women vs. 12.4 percent for men, while the SMD rate is 2 p.p. above for female older people (11.5 percent) than for males (9.5 percent) – again both indicators for women in Italy are substantially worse than EU-28 averages (AROP - 15.6 percent, SMD - 7.9 percent).

Gender gaps in employment and pay. The gender pension gap indicator presents a snapshot of developments in the employment and pension system factors, which determine the size of the gap. Since it is calculated for the entire population of 65-79 year olds there is a certain inertia in its development. To get a sense of whether it is likely to reduce or increase one can look at trends in the various gender gaps in employment and at how the pension system is changing.

The gender gap¹⁴⁰ in the *employment rate of older workers* (age 55-64) has decreased by 3.3 p.p. over the period of 2004-2014 (EU-28: -5 p.p.) and amounted to 19.9 p.p. in 2014 (EU-28: 13.7 p.p.). The gender gap in the *duration of working life*, which in 2013 came to 9.5 years (EU-28: 5.2 years), has decreased by 2.2 years since 2004 (EU-28: -1.2 years). The gender gap¹⁴¹ in *part-time employment* (for people aged 20-64), which reached 24.3 p.p. in 2014 (EU-28: 23.5 p.p.), has thereby increased by 4.1 p.p. since 2004. The gender *pay gap*¹⁴²,

¹⁴⁰ Difference between values for men and women.

¹⁴¹ Difference between values for women and men (for part-time employment).

¹⁴² The unadjusted Gender Pay Gap (GPG) represents the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male

which in 2013 at 7.3 percent was substantially lower than the EU-28 average (16.4 percent), has, however, increased by 2.2 p.p. since 2007 (EU-28: increase by 0.3 p.p. over the period of 2010-2013).

From 2013 to 2053 the Ageing Report employment projections see a steep rise in overall employment participation and especially so among women. Increases in women education levels compared to men can also reduce the pay gap, thus attenuating the impact of potentially rising occupational pensions. As a result, the gap is likely to decrease in the medium term.

Future adequacy

Before commenting on comparisons between the projected 2013 and 2053 replacement rates, it must be observed that even in 2013 the SPA in Italy was above 65 and thus pensions from careers running up to age 65 would be penalised. As the SPA in Italy will increase in linking with life-expectancy, from 66y3m (men) in 2013 to 70¹⁴³y in 2053 (men and women), comparisons based on a career ending at fixed age need to be made with much caution. In addition, the Italian replacement projections are on the basis of its own statistical office (ISTAT) life-expectancy projection; these are substantially higher than Eurostat and thus not consistent with AR projections or projections elsewhere in this document.

There is one more, and perhaps more interesting, qualitative difference between the projected replacement in 2013 and 2053. 2013 pensions are computed almost exclusively under the old defined benefit regime, still largely applying. On the other hand, 2053 pensions are computed under a notional defined contributions (NDC) regime. As it happens, the NDC rewards longer careers and pensions claimed at later ages; this is due, in particular, to an actuarial rate which rises with pension age. In 2053 the TRR cases that assume a career up to the SPA will see people working up to age 70 and this is rewarded. For instance, the age-25-to-SPA case in Italy is based on a 45-year long career to start a pension at age 70; the case ending the career at SPA+2 is even more rewarded. The AWG case is an intermediate one as the AR employment projections are lower since they assume and exit around age 67. As regards high-earners, replacement rates are near 100 percent because the NDC system takes into account, in addition to age at pension and career length, also the yearly contributed amounts.

On the basis of a labour market exit at age 65, the replacement rates in Italy are set to decline substantially, by some ten p.p.; this is also due to the statutory pension age (SPA) rising to well-above 65 – and all the more so as ISTAT's life expectancy projections are higher than Eurostat's, and Italy has linked SPA to life expectancy –. On the assumption of a fixed-length career running up to the SPA, replacement is set to increase slightly. What's more if employment rates grow as projected in the Ageing Report, careers will become substantially longer. On the basis of such longer careers, the replacement rate would instead increase by over 6 points for men and almost 8 point for women, making women replacement rates almost equal to men's. This applies to net as well as gross replacement rates.

For the long-term, notwithstanding the projected decline (*coeteris paribus*) of Theoretical Replacement Rates due to the application of the NDC formula in the next decades (EC-SPC, 2012; Jessoula M., 2012), changes of eligibility conditions introduced with the 2009-11 reforms outlined above will contribute to maintaining high pension levels in the future at least for workers with full uninterrupted careers. Actually, in the NDC system, the higher the age of retirement is the higher the pension benefit. Thus, in contrast with past debates about potentially inadequate old age protection in the new NDC system, a report (Patriarca S., 2011) for the National Social Insurance Institute (INPS) and the more recent calculations included in

paid employees. Industry, construction and services (except public administration, defense, compulsory social security). Data source: Eurostat [earn_gr_gpgr2]

¹⁴³ Using life expectancy projections from ISTAT.

the annual report of the Ministry of Economy and Finance (MEF 2013) indeed show that public pillar pensions are expected to remain at a high level in the next decades because of expected higher retirement ages. The Net Replacement Rate for a worker retiring at *66 year/2 months in 2040*, after a full career of *38 years* as a dependent worker, is expected to be around 71 percent (62 percent gross) – around 80 percent net (70 percent gross) in case of retirement at 69 years/2 months with 39 years/2 months of paid contributions (MEF, 2013). In addition, if the same worker has subscribed a supplementary pension plan (occupational or individual), she/he might receive an additional 28 percent (net) replacement rate from the second/third pillar pension, thus totaling around 107 percent net replacement rate (Patriarca S., 2011). These figures must nonetheless be qualified by taking into account both the structure of the Italian labor market – characterized by a relevant share of “non standard” employment (temporary and part-time) – and its weak performance, with below EU average employment rates in all age brackets and for both sexes (see next section).

Challenges for pension adequacy

The outcome indicators for the current situation presented above relate to the features of the traditional single-pillar Italian pension system, which combined generous defined benefits for all professional categories (since 1990 when the DB system was extended to the self-employed) with limited protection against poverty due to the modest amount of the means-tested “old age social allowance” (the social pension in the past) – currently set at EUR 447/month.

All figures thus point at the limited vertical redistributive capacity of the Italian public pension system, which distributes resources unevenly. Considering aggregate data for 2012, EUR 7.5 billion were dedicated to pay pensions below EUR 500/month to 2.2 poorer million pensioners vis à vis EUR 15 billion spent for pensions ranging between EUR 5,000 and EUR 10,000/month (200,000 beneficiaries) and EUR 1.8 billion for roughly 11,000 richer pensioners receiving pensions above EUR 10,000/month (INPS-ISTAT, 2014).

Therefore, notwithstanding the still high public pension expenditure in Italy, the level of the average contributory pension is relatively low – EUR 881/month – with remarkable differences between old age benefits (EUR 695/month on average), seniority pensions (avg. EUR 1,527/month) and invalidity pensions (EUR 606/month) (INPS, 2012).

42.6 percent of pensioners receive a pension income below EUR 1000/month (13.3 percent below EUR 500/month), the share of those receiving pensions between EUR 1000 and EUR 1,499/month is 22.6 percent, while 34.8 percent is above EUR 1,500/month¹⁴⁴. Meanwhile, extremely generous public pensions calculated with the old DB formula are paid¹⁴⁵: the top ten pensions delivered by INPS range from EUR 41,700/month and EUR 91,300/month¹⁴⁶.

The distributional profile shows an improvement, however, when only contributory old age pensions (including both old age and seniority benefits) are considered, with 31.7 percent of pensioners with a pension income below EUR 1000/month (5.1 percent below EUR 500/month), 23.9 percent between EUR 1000 and EUR 1,499/month and 44.4 percent is above EUR 1,500/month (INPS-ISTAT, 2014).

¹⁴⁴ For a purposeful comparison, the average gross earnings in industry and service were EUR 28.230/year in 2010 (Eurostat).

¹⁴⁵ The introduction of the NDC system, which includes a cap on contribution set at EUR 100,324 of gross earnings in 2014, will reduce the favorable treatment ensured by the old DB system to workers with major income increases in the last years of their careers.

¹⁴⁶ Figures reported by the Deputy Ministry of Labour and Social Policies during question time at the Chamber of Deputies (6 August 2013) based on data provided by INPS.

Also, along the distributional dimension, it should be noted that women receive lower pension benefits than their male counterparts: since female workers have generally shorter employment careers than males, they more often retire when reaching the pensionable age, thus the “typical” *old age* benefit for a female employee retiring in 2012 was (on average) EUR 710/month compared to EUR 2.130/month for the “typical” *seniority* benefit of a male employee (INPS, 2012)¹⁴⁷.

For the medium-to-long run, as mentioned above, the figures calculated for a standard worker with a long, uninterrupted career should be assessed by taking into account labor market features and performances. In fact, despite the high pension levels (Patriarca S., 2011), the risk of inadequate old age protection in future decades persists for non-standard workers, particularly those with atypical/fragmented careers and the self-employed. This is mainly due to system design based on the combination of NDC public schemes with voluntary DC supplementary schemes (Jessoula M., 2012). On the one hand, NDC/DC systems directly transfer career fragmentation – and lower contribution rates as in the case of self-employed – into lower pension levels, with the consequence of rapidly declining replacement rates in presence of shorter contribution periods: with *36 years of paid contribution* a dependent worker retiring at *66 years/2 months* would receive a (gross) pension around *58 percent of last wage* (i.e. a 2 year reduction of the contributory period implies a replacement rate decrease of 4 p.p.). On the other hand, atypical – i.e. fixed term and temporary workers as well as project workers/false self-employed – are generally not covered by supplementary funded pensions schemes¹⁴⁸ and will likely rely on (much lower) public pension only. This is critical because workers with lower expected public pensions would benefit most from receiving additional pension income from supplementary schemes.

The distributional differences for the long term presented here raise the issue of adequacy and social viability of the Italian pension system, which is based on a peculiar combination of NDC public pensions with voluntary DC supplementary pensions (Jessoula M., 2012). In a nutshell, twenty years after the 1992-1995 reforms which launched the multi-pillar transformation of the pension architecture with the aim to provide future retirees with lower public pensions complemented with supplementary old age benefits from funded schemes, it can well be said that such a “grand plan” has failed. In fact, not only supplementary pillar coverage is far from universal (see above), but also the role of supplementary pillars is not entirely clear after the latest wave of reforms which, by introducing much stricter eligibility conditions, will likely lead to higher pensions in the future. As a consequence, on the one hand, for a share of the employed population – mostly workers on “standard” contracts with less fragmented careers in core economic sectors – public pension might be sufficient to enjoy adequate old age protection; however, these workers are also more likely to become members of supplementary pension funds, this leading to some sort of “overprotection” for this groups (with replacement rates above 100 percent). On the other hand, workers with lower public pensions due to career fragmentation and job instability are also less likely to subscribe to supplementary schemes and they might well turn into poor pensioners in the next decades.

Such considerations also suggest that the *gender dimension* of pension adequacy is likely to remain relevant in future decades, since women currently constitute the majority of non-standard workers – representing roughly 75 percent of part-timers and 50 percent of workers on temporary contracts. Actually, their pension prospects are likely to be severely affected by

¹⁴⁷ The term “typical” points at the traditionally different exit routes from labour market for male/female employees in Italy: given their longer contributory periods, men usually retired before pensionable age when they became entitled to seniority benefits; by contrast women retired when reaching the (lower in the past) pensionable age. As a consequence, 76.8 percent of seniority benefits are paid to male retirees, 58.6 percent of old age benefits are paid to female pensioners (data INPS-ISTAT, 2014).

¹⁴⁸ Formally these workers might become members of supplementary pension schemes but lack of resources and employment instability usually prevent them from subscribe (Jessoula M., 2012).

multiple disadvantages such as the following: i) weaker attachment to the labour market in light of much lower employment rates, ii) more frequently interrupted careers, due to temporary contracts and spells of non-employment for caring, iii) relatively lower pay due to high feminization of part-time, iv) “mirroring” effect of both NDC (first pillar) and DC (supplementary pillars) pension schemes, with very limited redistribution, v) less participation of women in supplementary pension schemes due to weaker attachment to labour market.

5. Sustainability

The evolution of the demography, employment rate and expenditure can give us information about the sustainability of the pension system in the future.

Demography

The old-age dependency ratio (population aged 65 and over as a percentage of the population aged 20-64) in Italy is projected to increase from 35.3 percent in 2013 (EU-28: 30.3 percent) to 57.8 percent in 2053 (EU-28: 54.9 percent).

Italy belongs to the group of Member States where the increase in old-age dependency ratio is projected to be below to the EU-28 average. Over the period 2013 to 2053, the old-age dependency ratio is projected to increase by 22.4 p.p. (EU-28: 24.6 p.p.).

The share of working-age population (20-64) (60.1 percent of the total population in 2013) is projected to drop by 8.4 p.p. by 2053 (to 51.7 percent of the total population), compared with 9.2 p.p. for the EU as a whole by 2053.

The economic old-age dependency ratio for Italy is projected to rise by 22.9 p.p. from 57.2 percent in 2013 to 80.1 percent in 2053, i.e. significantly above the EU-28 average (66.2 percent in 2053).

Employment

The labour market participation rate (of people aged 20-64) in Italy (67.8 percent) was below the EU-28 average in 2013 (76.5 percent) and it is projected to stay below the EU-28 average in 2053 (70.5 percent versus 79.9 percent). The participation rate of older workers (aged 55-64) in 2013 (45.4 percent) was below the EU-28 average (54.4 percent). Over the period 2013 to 2053, the participation rate of older workers is projected to increase by 23.0 p.p. to 68.4 percent in 2053 (in the EU-28 – by 15.3 p.p.: from 54.4 percent in 2013 to 69.7 percent in 2053).

According to the 2015 Ageing Report, employment rate (of people aged 20-64) is projected to increase from 59.7 percent in 2013 (EU-28: 68.4 percent) to 65.5 percent in 2053 (EU-28: 74.9 percent). Employment rate of older people (aged 55-64) is projected to increase from 42.8 percent in 2013 to 66.1 percent in 2053 (EU-28: from 50.3 percent to 66.6 percent).

The employment rate for older workers (from 55 to 64 years) in Italy in 2013 was below the EU-28 average: 42.8 percent (53.1 percent – men, 33.2 percent – women) versus 50.3 percent at the EU-28 level (57.6 percent – men, 43.3 percent – women).

The effective exit age from the labour force in 2013 was 62.3 (62.4 – for men, 62.1 – for women) and it is below the EU-28 average (63.1 – total, 63.5 – for men, 62.7 – for women).

Main drivers of pension expenditure

According to the 2015 Ageing Report, the gross public pension expenditure will decrease from 15.7 percent of GDP in 2013 to 13.8 percent of GDP in 2060.

In accordance with the 2015 Ageing Report, the demographic factor has the strongest upward effect (+8.0 p.p. of GDP) on gross public pension expenditure over 2013-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate and benefit ratio). Strong downward effect of the coverage ratio on public pension expenditure is projected in Italy (-5.0 p.p.). The benefit ratio (-2.1 p.p.) and the employment rate (-1.4 p.p.) is lowering the public pension expenditure. The labour intensity contribution has an increasing effect of +0.1 p.p. of GDP.

6. Main opportunities for addressing pensions-related challenges

Most recent (both national and supranational) figures show that fast population ageing should entail low risk for public finances and pension system financial sustainability in Italy. The series of major reforms adopted from the early-1990s until 2011 are expected to immunize the pension system from the impact of the demographic transformation in the next decades. This is especially due to the rapid implementation (by 2018) of tighter eligibility conditions as well as the presence of automatic expenditure stabilizers - regarding benefit calculation, the annual valorisation of paid contributions and the automatic link of eligibility conditions with demographic changes. Consequently, the projected increase of pension expenditure in Italy after 2030 is among the lowest in the EU and remains below 1 p.p. However, while improving financial sustainability, recent reforms also created challenges mostly related to their interplay with labour market performance in light of expected higher participation rates for older cohorts. In this perspective, a claim can be made that pension retrenchment should be urgently accompanied by:

- i) expansionary measures aimed at strengthening “active” social policies, indeed crucial for a better match between increased labour offer and labour demand;
- ii) provisions aimed at both reducing the uneven impact of quickly tightening eligibility conditions on the least well-off (due to variation in life expectancy) and repealing the regressive “pension value thresholds” to be eligible for retirement in the NDC – not least because these clauses critically violate the NDC logics.

More broadly, the overall design of the pension system and especially its distributional profile should possibly be (re-) assessed after the three waves of reforms in the last two decades. In fact, the distributive impact of the Italian pension systems appears uneven both in the short and in the long run. This requires reconsidering existing pension arrangements in order to reconcile adequacy and fairness in a condition of persistently scarce resources. Redistributive-solidarity mechanisms should be reinforced in the first pillar, while the role of supplementary funded pillars should be carefully assessed two decades after the launch of the (to date much incomplete) multipillar transition as well as effects of most recent reforms on replacement rates in future decades.

7. Background statistics – Italy

1. Relative incomes of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.96	1.00	0.94	0.08	0.09	0.09
Income quintile share ratio (S80/S20), 65+	4.4	4.5	4.3	0.0	0.0	0.0

2. Poverty and material deprivation

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+	22.6	19.2	25.2	-1.8	-0.9	-2.3
At-risk-of-poverty rate (AROP), 65+	15.3	12.4	17.4	-5.6	-4.7	-6.2
Severe material deprivation (SMD), 65+	10.7	9.5	11.5	4.0	3.9	4.0
At-risk-of-poverty or social exclusion (AROPE), 75+	23.9	19.3	26.7	-1.3	0.0	-2.0
At-risk-of-poverty rate (AROP), 75+	15.6	12.1	17.8	-6.3	-4.7	-7.1
Severe material deprivation (SMD), 75+	11.0	9.2	12.1	4.5	4.7	4.5
Relative poverty gap, 65+	14.4	14.4	14.5	-4.9	-1.8	-5.8
At-risk-of-poverty rate (AROP), 65+: 40 % threshold	2.8	2.2	3.2	-1.4	-0.9	-1.8
At-risk-of-poverty rate (AROP), 65+: 50 % threshold	6.7	5.5	7.7	-4.8	-2.8	-6.1
At-risk-of-poverty rate (AROP), 65+: 70 % threshold	23.7	20.7	26.0	-5.9	-4.5	-6.8

3. Housing situation of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Housing cost overburden rate, 65+	5.9	3.8	7.4	-2.3	-1.4	-2.9
Tenure status among people 65+: share of owners	83.8	85.6	82.5	2.3	1.6	2.8
Severe housing deprivation rate, 65+	3.3	3.2	3.4	0.2	0.3	0.2

4. Income replacement by pension systems

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Aggregate Replacement Ratio (ARR)	0.62	0.65	0.51	0.11	0.07	0.12
Benefit Ratio (BR) (Public pensions)	58.8					
Gross Aggregate Replacement Rate (Public pensions)	:					
Gender Gap in Pension Income, % (65-79)	35.7*			-0.2*		
Gender Gap in non-coverage rate (W-M in p.p.) (65-79)	15.4*			5.1*		

5. Sustainability and context indicators

Indicator	2013			Projections for 2053		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65+, years	20.3	18.4	22.0	23.8	22.1	25.5
Old-age dependency ratio (20-64)	35.3	30.4	40.2	57.8	51.6	64.1
Economic old-age dependency ratio (15-64)	57.2	41.1	79.4	80.1	63.7	101.2
Employment rate, age group 55-64	42.7	52.8	33.2	66.1	71.2	60.8
Pension expenditure as % of GDP (ESSPROS)	16.6*			Projections for 2060		
Gross public pensions as % of GDP (AWG projections)	15.7			13.8		

Data source: Eurostat. Sustainability indicators and projections (EPC AWG) – Commission Services (DG ECFIN), based on The 2015 Ageing Report. Data on gender gaps – ENEGE. Notes: * - 2012 data; : - not available.

6. Theoretical Replacement Rates (TRRs)

TRR case	Net				Gross				
	2013		2053		2013		2053		
	Men	Women	Men	Women	Men	Women	Men	Women	
Average Earnings	Base case I: 40 years up to age 65	80.2		70.2		70.8		60.7	
	Base case II: 40 years up to the SPA	80.3	80.0	82.3		70.9	70.6	73.0	
	Increased SPA: from age 25 to SPA	83.9	75.7	89.3		74.5	66.2	80.1	
	AWG career length case	72.1	68.9	78.7	76.8	63.1	59.8	69.4	67.4
	Longer career I: from age 25 to 67			76.4				67.0	
	Shorter career I: from age 25 to 63			66.1				56.1	
	Longer career I: from age 25 to SPA+2			91.7				82.1	
	Shorter career I: from age 25 to SPA-2			81.3				72.0	
	Career break – unemployment: 1 year			89.1				79.9	
	Career break – unemployment: 2 years			87.4				78.2	
	Career break – unemployment: 3 years			85.7				76.5	
	Career break due to child care: 0 year				89.3				80.1
	Career break due to child care: 1 year				89.0				79.8
	Career break due to child care: 2 years				88.5				79.4
	Career break due to child care: 3 years				85.5				76.3
	Short career (30 year career)			65.0				55.5	
	Early retirement due to unemployment			75.2				66.6	
	Early retirement due to disability			82.3				73.0	
	Indexation: 10 years after retirement			76.0				68.2	
	Low Earnings (66%)	Base case I: 40 years up to age 65	80.8		70.8		70.8		60.7
Base case II: 40 years up to the SPA		80.9	80.6	82.9		70.9	70.6	73.0	
Increased SPA: from age 25 to SPA		84.5	76.3	89.6		74.5	66.2	80.1	
AWG career length case		72.6	69.4	81.6	77.4	63.1	59.8	69.4	67.4
Longer career I: from age 25 to 67				77.1				67.0	
Shorter career I: from age 25 to 63				66.6				56.1	
Longer career I: from age 25 to SPA+2				91.7				82.1	
Shorter career I: from age 25 to SPA-2				81.3				72.0	
Career break – unemployment: 1 year				89.5				79.9	
Career break – unemployment: 2 years				87.9				78.2	
Career break – unemployment: 3 years				86.4				76.5	
Career break due to child care: 0 year					91.4				80.1
Career break due to child care: 1 year					91.2				79.8
Career break due to child care: 2 years					90.7				79.4
Career break due to child care: 3 years					87.8				76.3
Short career (30 year career)		84.7		65.7		51.9	53.1	55.5	
Early retirement due to unemployment				75.8				66.6	
Early retirement due to disability				82.9				73.0	
Pension rights of surviving spouses					93.3				86.1
High		Base case I: 40 years up to age 65	63.9		79.2		52.8		69.1
	Base case II: 40 years up to the SPA	64.0	63.7	99.2		52.9	52.6	90.2	

Data source: Member State

Cyprus (CY)

1. General description of the pension system

The current pension system in Cyprus consists of:

First pillar – public pensions:

- (i) 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 self-employed; and
- (ii) The Social Pension Scheme, a pension income-tested scheme, as well as the Household Income Support Scheme of low-income pensioners, an income-tested scheme, which covers residents of Cyprus with no or low pension income.

Second pillar – occupational pensions:

- (i) The Government Employees Pension Scheme (GEPS), which provide supplementary pensionable benefits to civil servants, members of the educational service, the police and the armed forces;
- (ii) The Semi-government Sector Employees Pension Schemes, which operate on a funded basis and provide cover to permanent employees of semi-state utility organizations, local governments and of other public law authorities under the same terms and conditions as for government employees; and
- (iii) 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 approximately 35 percent of private sector employees.

General Social Insurance Scheme (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 by employers, employees and the government. From January 2014, the total contribution rate for employees is 20.2 percent (with an upper ceiling of EUR 4,533 monthly income) and is paid 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 14.6 percent by themselves and 4.6 percent by the government.

The statutory retirement age is 65 for both males and females, but early retirement at the age of 63 is possible when the applicant either: (i) has paid or credited contributions for at least 70 percent of the number of years over 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 old-age pension entitlement; or (ii) is entitled to an invalidity pension. In 2013 certain financial disincentives (actuarial reductions in old-age pensions) were introduced to discourage retirement before the age of 65¹⁴⁹. In parallel, the GSIS provides incentives for the prolongation of working life, such as the option to postpone pension entitlement and keep working until the age of 68 in order to increase their pension by 0.5 percent for each additional worked month.

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 gross insurable earnings. The basic part

¹⁴⁹ The old-age pension amount is subject to an actuarial reduction 0.5 percent for every month included in the period between the date the person chooses to claim the pension and the date of reaching the minimum age for entitlement to an unreduced pension, which increases from 63 to 65 (by 6 months per year) between 2013 and 2016.

is indexed yearly to the annual increase of the average gross insurable earnings, while the supplementary part is indexed to the consumer price index.

Government Employees Pension Scheme (GEPS). The GEPS provides an occupational pension to central government employees, teachers, academics, policy officers and personnel of the armed forces.

Prior to the December 2012 reform, GEPS compulsory retirement age was 63 years, with early retirement allowed from the age of 58 without any actuarial reduction of benefits. Following the recent reform, the normal retirement age gradually increases from 63 to 65 over the period 2013-2016 (different increases apply for different types of public servants). Corresponding gradual increases are also applied to the early retirement age, i.e., the minimum age from which the member becomes eligible for a pension. The GEPS is financed by employee contributions of 5 percent of pensionable emoluments supplemented by general taxation on a pay-as-you-go basis. Effective October 1, 2011, GEPS became closed to newcomers into the public sector.

2. Reform trends

For the purposes of addressing the challenges of fiscal sustainability, old-age poverty risk mitigation and redistributive fairness of the national pension system, Cyprus government introduced two waves of reform measures over the last six years:

First wave (2009-10): pre-crisis period – Social Insurance Law and Income Support Scheme for low-income pensioners:

- In April 2009, legislated increases in social insurance contribution rates allocated to long-term benefits – seven increases by 1.3 p.p. every five years over the period 2009-39 – primarily aiming at mitigating the impact of population ageing;
- In April 2009, stricter eligibility conditions to old-age social insurance pension introduced gradually until January 2012 – increase of the minimum requirement from 3 to 10 years of paid contributions; and
- In January 2010, a means-tested top-up Income Support Scheme for low-income pensioners was implemented in order to reduce the high rates of poverty in old age in Cyprus, which at that time were amongst the highest in the EU.

Second wave (2011-12): Crisis period – Social Insurance Law and GEPS Pension Law:

- Effective 1 October, 2011, GEPS became closed to new members and the contribution rate for existing members of the GEPS increased. The objective of this reform was to strengthen the fiscal viability of GEPS and reduce pension inequalities between the public and private sectors.
- In December, 2012, a number of reform measures, primarily aiming towards securing the long-term viability of the GSIS, were introduced, including:
 - ✓ As of 1 January 2013, actuarial reduction of pension entitlements from the GSIS by 0.5 percent per month for retirements earlier than the statutory retirement age in line with the planned increase in the minimum age for entitlement to an unreduced pension to reach 65 (by 6 months per year), between 2013 and 2016;
 - ✓ Freeze of pensions in payment (all types) under the GSIS for the period 2013-2016;

- ✓ Stricter eligibility conditions to old-age pension - as of 1 April, 2013 gradual extension of the minimum contributory period (one year per year) from 10 to 15 years over the period 2013-17;
 - ✓ Increase of contributions, as of 1 January, 2014, of employees and employers to the GSIS by an additional 1 p.p. over the increase which was legislated to take effect in 2014 as per 2009 GSIS reform; and
 - ✓ Introduction of an automatic adjustment of the statutory retirement age every 5 years in line with changes in life expectancy at the statutory retirement age – first adjustment to be effected with respect to the period 2018-2023.
- In December 2012, a number of reform measures aiming at the containment of the future increase in the GEPS expenditure were introduced, including:
 - ✓ Pension Benefits - the pension calculated for any service after 1 January 2013 is based on the career-average salary, revalued based on the changes of the Basic Insurable Earnings under the GSIS;
 - ✓ Normal Retirement Ages - early and normal retirement ages are gradually increased. Normal retirement age is gradually extended by two years over the period 2013-16;
 - ✓ Early Retirement Reduction Factors - early retirement pensions are actuarially reduced by certain factors, but only the part that corresponds to the service after 1 January 2013 is affected; and
 - ✓ Freeze of GEPS pensions for the period 2013-2016 and subsequent future yearly increases of pensions are set to 50 percent of the rate of increase of the COLA indexation.

3. Impact of the crisis on current pension systems and present pensioners

In 2011, the country entered a period of economic recession, the precise magnitude of which was impossible to predict. Thereupon, the government introduced a number of austerity measures for fiscal consolidation and reform measures in the public pension system that can be justified not only in terms of long-term financial sustainability and redistributive fairness, but also contributing towards the fiscal consolidation. Most of the reform measures during the second wave (2011-12), as mentioned above, contributed towards the short-term fiscal consolidation, the most important of which was the closure of GEPS to new members and the increase in the employee contribution rate of existing GEPS members. The provisions of GEPS were generous to public sector employees and had generated substantial inequality between public and private sector pensioners.

After 2011, the government, as part of the Memorandum of Understanding agreed with the “Troika”, focused on two directions: (i) across-the-board reductions in pension levels of public and private sector and (ii) short-term containment of GSIS pension expenditure.

The reductions in pension levels took the form of special contributions (see Table 1) and special taxes (see Table 2). It is noted that same deduction rates were applied to salaries too.

Table 1: Special Contributions to pensioners

Contribution rate	Time period		
	1 st September 2011-31 st December 2011	1 st January 2012-31 st December 2013	1 st Jan 2014 – 31 st December 2016
0%	0-1,500	0-2,500	0-1,500
1.5%	1,501-2,500	-	-
2.5%	2,501-3,500	2,501-3,500	1,501-2,500
3.0%	3,501-4,500	3,501-4,500	2,501-3,500
3.5%	4,501+	4,501+	3,500+

Source: Ministry of Finance

Table 2: Scaled tax deductions in pensions

Income brackets	Tax deduction rates		
	From 1 st December 2012	From 1 st June 2013	From 1 st January 2014
0-1,000	0%	0.8%	3%
1,001-1,500	6.5%	7.3%	3%
1,501-2,000	8.5%	9.3%	3%
2,001- 3,000	9.5%	10.5%	3%
3,001-4,000	11.5%	13%	3%
4,001-above	12.5%	14.5%	3%

Source: Ministry of Finance

With respect to short-term containment of GSIS pension expenditure, the government suspended the automatic indexation of pensions over the period 2013-16 and introduced financial disincentives (actuarial reductions) for early retirement (see above).

The Cypriot crisis is marked by the collapse of the banking system in 2013 and the ensuing economic adjustment programme imposed by Troika (IMF, EC and ECB), which was accompanied by an economic contraction of 5.4 percent in the same year. The financial crisis had severe consequences for the private pension system. In particular, private pension and provident funds incurred in considerable investment losses since a large part of their assets was invested in Cypriot banks.

It is obvious that all the above measures have reduced the average economic well-being of the elderly. On the positive side is the fact that most cuts were designed in a progressive manner so as to minimise the financial burden on low-income groups, including pensioners. In relative terms, the income position of people over 65 improved and this was registered in a reduction of the at-risk-of-poverty (AROP) and at-risk-of-poverty or social exclusion (ARPE) rates among the elderly. This phenomenon has a simple statistical explanation; the elderly's income (mostly comprised of pensions) was largely unaffected by the economic crisis, whereas the income of the working-age population decreased considerably in a weakened labour market. Perhaps, this is one of the reasons explaining the rather half-hearted political and social opposition to pension reductions.

Finally, as concerns repercussions in the labour market, the pension reforms impacted on the take-up of old-age and early-retirement pensions mostly in the public sector. Many senior employees in the public (or semi-public) sector opted for early retirement, fearing - perhaps justifiably - a reduction of their lump-sum retirement benefits and pension rights. No other detectable patterns of exit from the labour market can be linked to the economic crisis. Of course, the unemployment rate increased among those near pensionable age (i.e. the 55-64 age group) from 4.7 percent in 2010 to 9.7 percent in 2012 and 12.4 percent in 2013). Individuals in this age group experience formidable obstacles to re-enter the labour market

and income support is offered to them through social schemes such as the newly introduced Guaranteed Minimum Income (GMI) scheme. This scheme functions as a safety net of last resort for persons experiencing acute income deprivation and not eligible for the unemployment benefit.

4. Assessment of adequacy

Current adequacy

The AROP among the elderly decreased sharply over the last few years. Specifically, it dropped from 46.4 percent in 2009 to 20.1 percent in 2013. The AROP of the very elderly (75+), which was at extremely high levels in 2009 (60.3 percent), also decreased considerably during the 2009-2013 period. Over the same period the proportion of elderly people AROPE shows a declining pattern similar to that of AROP.

The sharp decline of poverty among the old in Cyprus during the last few years reflects a relative improvement (i.e. vis-à-vis poverty in other population groups). On the other hand, more recently, there is evidence that the absolute standard of living of older people is decreasing. This argument is supported by the fact that severe material deprivation among the elderly increased in 2013, despite the reduction that took place between 2010 and 2012.

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) has been steadily improving during the last few years to reach 0.77 in 2013 from 0.61 in 2009. Again, it should be emphasised that this is a 'relative' improvement, in the sense that all incomes are falling, but this affects proportionately more the income of non-retired population. Finally, the aggregate replacement ratio increased from 0.37 to 0.40 over the period 2009-2013.

The reasons behind the gradual decrease in relative poverty among the elderly include:

- A cohort effect. The current pension system was introduced in the '80s and therefore it has not matured yet, and pensioners at the top end of the age scale retired before making enough contributions to be entitled to full pension. Poverty among the elderly declines over time in proportion to the decline of the share of these retirees in the pensioner population.
- A transfer effect. The increase in social insurance contribution rates affected only the net income of non-pensioners, thereby improving the relative income position of the elderly vis-à-vis the non-elderly.
- A redistribution effect. The policies which were introduced during 2009 and 2010 in order to combat poverty, as discussed elsewhere in this report, targeted low-income pensioners.
- A tax effect. Most of the cuts in income and tax increases included in the austerity packages, which have been introduced since 2011 to combat the fiscal effects on economic crisis, targeted the income of non-pensioners.
- A crisis effect. The economic crisis has affected the income of working age individuals rather than that of pensioners.

An assessment of the distributional impact of austerity measures by Koutsampelas and Polycarpou (2013) show that the ‘first-order’ distributional effects¹⁵⁰ of fiscal consolidation were progressive, meaning that the immediate burden of adjustment fell mostly upon households located at the middle and upper part of income distribution. This finding is reinforced by the two key welfare programmes providing support to poor pensioners: (i) the scheme for the financial aid to low-income pensioners, which was incorporated into the newly introduced GMI scheme; and (ii) the social pension.

Gender pension gap

According to the ENEGE, the gender gap in pensions in Cyprus reached 37 percent in 2012; being slightly lower compared to the EU-27 average. There is a decreasing trend over time (from 44 percent in 2008 to 37 percent in 2012). But there are no gender differences in pension coverage.

The statutory retirement age in Cyprus is 65 for both men and women. However, the effective retirement age is considerably higher for men (65.3 years) than women (60.8 years).¹⁵¹ Furthermore, according to most recent data, the gender gap in pension income for the 65-79 age group stood at 37.7 percent in 2012 (slightly below the EU average at 40.2 percent); while the corresponding figure for the 65+ age group is 35.2 percent (again, below the EU average at 38.5 percent). The trend also appears to be decreasing. As one would expect, these disparities affect gender differences in poverty outcomes among the elderly.

Table 3 presents differences in indicators of poverty and replacement ratios between men and women in Cyprus over the period 2009-2013. The situation does not deviate from the international experience.¹⁵² As discussed earlier, the AROP for both genders has been steadily declining; nevertheless, males face a lower risk of poverty than females.

- In 2013 the AROP for older men was 16.2 percent (which was very close to the population average), while the corresponding figure for women exceeded 20.1 percent. The same difference is found in the 75+ age group.
- The overall aggregate replacement rate increased from 0.37 to 0.40 during 2009-2013. However, this increase mostly reflects the rising replacement ratio of men from 0.39 in 2009 to 0.45 in 2013. The replacement rate for females also increased from 0.39 to 0.42 between 2009 and 2011, but then declined in 2013 to its 2009 level.

¹⁵⁰ First-order effects are the immediate distributional effects caused by the austerity measures on disposable income and do not include the effects which are caused by changes of household behaviour and conditions in the labour market.

¹⁵¹ Betti et al (2014), “Gender Equality Chapter for the 2015 SPC Pension Adequacy Report: Country fiches”. We could not find evidence that this is linked to SPA differences between the private and public sector.

¹⁵² A stylised fact is that women face a higher risk of poverty in old age than men (Zaidi 2006a, 2006b, Bettio et al, 2013) due to demographic factors (e.g. higher life expectancy of females), certain features of the pension system (e.g. pension indexation) and the interaction of the pension system with the labour market.

Table 3: Gender differences in poverty and replacement ratios

Year	2009	2010	2011	2012	2013
AROP 65+	46.4	39.9	35.5	29.3	20.1
Males	42.4	36.8	31.7	24.2	16.2
Females	49.6	42.4	38.8	33.6	23.4
AROP 75+	60.3	53.4	48.2	43.1	31.7
Males	58.0	50.7	44.6	36.9	26.3
Females	62.0	55.3	50.8	47.7	36.0
Repl/nt Ratio ¹⁵³	0.37	0.37	0.39	0.39	0.40
Males	0.39	0.41	0.42	0.43	0.45
Females	0.39	0.41	0.42	0.41	0.39

Source: EU-SILC, Eurostat online database, 1-5 November 2014

Notes: Years refer to survey years.

Most of the measures taken in the framework of the Memorandum of Understanding between Cyprus and the Troika focus on the fiscal sustainability of the GSIS and GEPS funds and are not likely to affect the gender gap among pensioners either in a positive or a negative way. Overall, there are no reasons to believe that gender disparities among the elderly in Cyprus are produced by specific structural features of the pension system. Instead, these disparities are likely to be due to persisting gender discrimination in the labour market that causes lower employment and lower earnings for women compared to men. In other words, gender pension gaps are linked to labour force participation and pay gaps and reflect cumulated disadvantages from gender discrimination in the labour market rather than features of the pension system itself.¹⁵⁴

Gender gaps in employment and pay. The gender pension gap indicator presents a snapshot of developments in the employment and pension system factors, which determine the size of the gap. Since it is calculated for the entire population of 65-79 year olds there is a certain inertia in its development. To get a sense of whether it is likely to reduce or increase one can look at trends in the various gender gaps in employment and at how the pension system is changing.

The gender employment gap¹⁵⁵ for older workers (age 55-64) has decreased by 18.1 p.p. over the period of 2004-2014 (EU-28: -5 p.p.) and amounted to 20.2 p.p. in 2014 (EU-28: 13.7 p.p.). The gender gap in the duration of working life, which in 2013 came to 7.3 years (EU-28: 5.2 years) has decreased by 3.1 years since 2004 (EU-28: -1.2 years). The part-time gender gap¹⁵⁶ in employment (for people aged 20-64), which reached 6.3 p.p. in 2014 (EU-28: 23.5 p.p.), has decreased slightly by 2.7 p.p. since 2004.

The unadjusted Gender Pay Gap (GPG)¹⁵⁷, which in 2013 at 15.8 percent was lower than the EU-28 average (16.4 percent), has decreased by 6.2 p.p. since 2007 (EU-28: increase by 0.3 p.p. over the period of 2010-2013). This implies an overall trend towards a reduction of the

¹⁵³ The indicator is defined as the ratio of the median individual gross pension of the 65-74 age category relative to the median individual gross earnings of the 50-59 age category.

¹⁵⁴ It is also possible that women face a higher AROP in old age because they live longer. Thus, more women than men among pensioners do not enjoy the post-80 pension benefits. This point is supported by the fact that the gender AROP gap is wider in the 75+ than the 65+ age group (Table 2).

¹⁵⁵ The difference between the employment rates of men and women.

¹⁵⁶ The difference between the incidence of part time among female and male workers.

¹⁵⁷ The difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. It includes workers in Industry, construction and services (except public administration, defence, compulsory social security).

gap as far as the employment factors are concerned, and a reduction which is stronger than the average EU.

In addition, in the public pension system, recent reforms have improved the level of minimum income benefits which would benefit women in particular.

Together these trends in employment and in the pension system are likely to reduce the gender pension gap in the Cyprus pension system.

Future adequacy

According to recent estimates, Cyprus is likely to experience a substantial increase in the net and gross theoretical replacement rates (TRRs) during the period 2013-2053. In particular, the baseline scenario (40 years up to SPA) suggests that the net TRR is expected to increase from 58 to 70 percent (see Statistical Annex) for both genders. The corresponding increase of gross TRR is 9 p.p. The simulation exercise shows a further increase to 75 percent in 2053 for both genders in the case of increased SPA. The same pattern of sizeable increase in replacement rates - although smaller for females - is predicted by the AWG estimates, which make country-specific assumptions about average career length. The gender difference in the AWG estimates reflects difference in assumptions about the average career length between men and women in Cyprus.

Overall, the projected gradual rise in replacement rates (irrespective of the underlying assumptions) can hardly be surprising given that the current pension system was initiated in 1980 (succeeding the previous flat rate scheme) and is still in the process of maturation. As we have already noted, the relatively low current replacement rates were partly the culprits behind the observed high incidence of relative poverty among the elderly in Cyprus.

Since the eruption of the economic crisis, career breaks due to unemployment spells have become more common for an increasing number of employees. However, the prospective replacement rates for both genders under the assumption of unemployment spells of 1, 2 and 3 years show that such spells do not impact heavily on the pension adequacy of the average earner. Net TRR remain stable for one year of unemployment and reduces by two and three p.p. for two and three years, respectively. As the data provided in the Statistical Annex indicate, the impact is marginally lower for those with low earnings; for example, it is one p.p. lower for low earners in case of career interruption of three years of unemployment.

As regards career interruptions due to child caring, the results obtained from simulation show that three years of child care can result in a rather marginal reduction in retirement income. On the other hand, the reduction in replacement rate is considerably smaller for women with low earnings.

Overall, the impact of short career breaks (due to either unemployment or child caring) on replacement rates seems to be moderate. However, the economic crisis is having large and far-reaching adverse impacts on the labour market. These negative developments imply that absence from labour markets is likely to be long, thereby causing large replacement rates reductions for an increasing number of employees. The short-career scenario (30-year career) translates into a considerable reduction of gross replacement rates (16 p.p. compared to the "increased SPA" scenario). Still this reduction cannot be considered as excessively large.

Finally, the differences between current and prospective replacement rates for low and high earners show that the pension system will maintain its redistributive role at a great extent.

Challenges for pension adequacy

As we have cautioned previously one reason why pensioners in Cyprus at the moment fare better in the poverty statistics compared to previous years is that pensions are less sensitive to economic cycles than other incomes, and the current cycle is low. However, despite the fact

that this and other factors (e.g. the gradual maturity of the pension system) are largely behind the reduction in AROP and AROPE rates for both 65+ and 75+ age groups, the Cyprus government has also played a substantial role in containing elderly poverty. This was done through targeted actions aimed at improving the welfare of poor pensioners, the most important being the scheme for the support of low income pensioners, which was introduced in January 2010. According to most recent statistics, the AROP rate for elderly stands at 20.1 percent. While above the population average, this figure is considerably below the staggering 46.4 percent AROP rate among the elderly, which was witnessed in 2009.

The reduction in poverty among the elderly, however, should not cause complacency because AROP and AROPE rates among pensioners are still high, while the pension system itself might face considerable adequacy challenges in the future. The Ministry of Labour, Welfare and Social Insurance is in the process of establishing monitoring and simulation tools to assess the impact of these (and other) policies on poverty. Yet, the economic environment is volatile and further action is necessary to restore confidence in the economy. The adequacy and sustainability of the pension system in Cyprus is difficult to assess while the economy is still struggling to come out of a deep crisis, in the context of which the future macroeconomic conditions are difficult to predict.

In conclusion, our opinion is that despite the attention paid and the actions implemented or planned to improve the adequacy and sustainability of the pension system, the deteriorating conditions of the Cyprus economy (especially, in the labour market) pose new threats:

- Negative repercussions on elderly poverty can arise in the future from the increasing number of people with irregular or intermittent employment. The share of persons employed in part-time jobs increased from 8.6 percent in 2009 to 12.7 percent in 2013 (the corresponding figure for women in 2013 reached 16.1 percent). During the same period the share of employees with a contract of limited duration increased from 13.7 percent to 17.4 percent.
- Even if the adequacy and sustainability of the first pillar is safeguarded, the damage on the provident funds of the second pillar caused by the economic crisis will increase uncertainty about income adequacy in the old age. It should be noted that, even before the financial crisis, a large number of employees (especially in the private sector) had no supplementary pension protection and their retirement income depended entirely on the GSIS.
- People in the 75+ age group continue to face higher AROPE than other age groups, despite the fact that poverty among this group has decreased considerably during the last few years. Again, this can be a transition effect as people in the 75+ age group receive a lower pension because they did not work (or contributed) enough years under the post-1980 pension system.

5. Sustainability

The evolution of the demography, employment rate and expenditure can give us information about the sustainability of the pension system in the future.

Demography

The old-age dependency ratio (population aged 65 and over as a percentage of the population aged 20-64) in Cyprus is projected to increase from 21.1 percent in 2013 (EU-28: 30.3 percent) to 48.4 percent in 2053 (EU-28: 54.9 percent).

Cyprus belongs to the group of Member States where the increase in old-age dependency ratio is projected to be above the EU-28 average. Over the period 2013 to 2053, the old-age dependency ratio is projected to increase by 27.2 p.p. (EU-28: 24.6 p.p.).

The share of working-age population (20-64) (63.6 percent of the total population in 2013) is projected to drop by 9.5 p.p. by 2053 (to 54.1 percent of the total population), compared with 9.2 p.p. for the EU as a whole by 2053.

The economic old-age dependency ratio for Cyprus is projected to rise by 22.3 p.p. from 29.4 percent in 2013 to 51.7 percent in 2053 but it will be below the EU-28 average (66.2 percent in 2053).

Employment

The labour market participation rate (of people aged 20-64) in Cyprus (79.2 percent) was above the EU-28 average in 2013 (76.5 percent) and it is projected to be above the EU-28 average in 2053 (84.8 percent versus 79.9 percent). The participation rate of older workers (aged 55-64) in 2013 was higher (57.0 percent) than the EU-28 average (54.4 percent). Over the period 2013 to 2053, the participation rate of older workers is projected to increase by 20.3 p.p. to 77.3 percent in 2053. It is more than in the EU-28 (15.3 p.p.: from 54.4 percent in 2013 to 69.7 percent in 2053).

According to the 2015 Ageing Report, employment rate (of people aged 20-64) is projected to increase from 66.3 percent in 2013 (EU-28: 68.4 percent) to 79.8 percent in 2053 (EU-28: 74.9 percent). Employment rate of older people (aged 55-64) is projected to change from 49.8 percent in 2013 to 73.7 percent in 2053 (EU-28: from 50.3 percent to 66.6 percent).

The employment rate for older workers (from 55 to 64 years) in Cyprus in 2013 was similar to the EU-28 average: 49.8 percent (61.2 percent – men, 38.8 percent – women) versus 50.3 percent at the EU-28 level (57.6 percent – men, 43.3 percent – women).

The effective exit age from the labour force in 2013 was 63.9 (64.9 – for men, 62.8 – for women) and it is slightly above the EU-28 average (63.1 – total, 63.5 – for men, 62.7 – for women).

Main drivers of pension expenditure

According to the 2015 Ageing Report, the gross public pension expenditure will decrease from 9.5 percent of GDP in 2013 to 9.3 percent of GDP in 2060.

In accordance with the 2015 Ageing Report, the demographic factor has the strongest upward effect (+8.7 p.p. of GDP) on gross public pension expenditure over 2013-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate and benefit ratio). The lowering effect of coverage ratio (-2.1 p.p.) and benefit ratio (-3.8 p.p.) on the public pension expenditure are more pronounced than the employment rate effect (-1.7 p.p.).

6. Main opportunities for addressing pensions-related challenges

We consider the measures introduced by the Cyprus government to meet the challenges of uncertainty concerning the sustainability of the pension system and the high incidence of elderly poverty to be in the right direction.

As regards poverty in the old age, the government's interventions have contributed to the impressive reductions in AROP and AROPE rates among the elderly in the last few years, albeit several other factors (discussed elsewhere in this report) have also played an important role. At the same time, a number of reform measures introduced aimed to enhance the fiscal

sustainability of the system, like the dismantling of the GEPS pension for newcomers in the public sector, are likely to increase income insecurity in the old age. Therefore, a close monitoring of the effectiveness of the pension system is essential and, if needed, further reforms might be undertaken in order to address this and other concerns about the long-term sustainability and adequacy of the pension system.

To gather political support for its implementation, any pension reform should be perceived by the society as fair and promoting redistributive justice¹⁵⁸. Furthermore, it should be subject to: (i) actuarial analysis to confirm its long-term viability and (ii) impact assessments to examine how various population groups are affected, especially those most vulnerable in old age (e.g., women). Finally, it should be understood that the economic well-being of the elderly does not depend only on income transfers (contributory and non-contributory), but also on the provision of high-quality public services. This means that pension adequacy should be understood and assessed within a wider framework, which takes into account both the pecuniary and non-pecuniary resources available to retirees.

The main recommendations are as follows:

- Increasing (non-contributory) income transfers to the elderly may not be feasible in the current economic circumstances. Nevertheless, there might be further scope for redistributing income from better-off to worse-off pensioners, thereby reducing inequality and poverty among the elderly without adding to the fiscal demands.
- There is increasing consensus in favour of reforms that aim at re-reinforcing supplementary pillar schemes. In this respect, the country is in need of a sufficiently and effectively regulated and monitored framework that can be trusted by employees so as to encourage them to set-up their own occupational pensions.
- Prior to recent pension reforms, certain occupational groups, such as public sector employees, used to enjoy favourable treatment. Following the recent pension reform, the pension differences between private and public sector retirees were diminished by a great extent. It is recommended that the above differences are further examined to establish whether there is room for diminishing them further.
- Emphasis should be placed on the provision of public services to the elderly; especially, adequate health and long-term care services to meet their increased medical needs and help them maintain a socially acceptable living standard. In particular, the public provision of long-term care services is grossly underdeveloped in Cyprus.

¹⁵⁸ As the economic recession deepened, public opinion in Cyprus became more sensitive to equity concerns. An example of the increasing inequality aversion was the wide public outcry against the Supreme Court's ruling that government retirees re-appointed to a new government post are entitled to also receive their state pension. Although the across-the-board large cuts in wages and pensions had a far greater negative effect on household budgets, the reactions accompanying them were comparatively much milder. In other words, people in Cyprus appear to be willing to accept economic sacrifices that are perceived as fair, but unwilling to condone excess pay to some individuals, even when the latter is a right protected by constitutional law.

7. Statistical Annex: Background statistics – Cyprus

1. Relative incomes of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.77	0.80	0.75	0.18	0.17	0.18
Income quintile share ratio (S80/S20), 65+	4.8	5.6	4.1	0.2	0.7	-0.1

2. Poverty and material deprivation

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+	26.1	21.6	30.0	-23.2	-22.0	-24.0
At-risk-of-poverty rate (AROP), 65+	20.1	16.2	23.4	-26.2	-24.8	-27.3
Severe material deprivation (SMD), 65+	9.0	7.6	10.1	-1.9	-2.2	-1.7
At-risk-of-poverty or social exclusion (AROPE), 75+	36.4	30.4	41.1	-27.0	-30.7	-23.9
At-risk-of-poverty rate (AROP), 75+	31.7	26.3	36.0	-29.7	-32.5	-27.3
Severe material deprivation (SMD), 75+	8.3	6.5	9.7	-4.3	-6.5	-2.6
Relative poverty gap, 65+	13.2	13.2	13.2	-4.5	-2.5	-6.6
At-risk-of-poverty rate (AROP), 65+: 40 % threshold	1.9	1.5	2.2	-7.8	-5.1	-10.1
At-risk-of-poverty rate (AROP), 65+: 50 % threshold	7.9	6.5	9.1	-17.0	-13.0	-20.3
At-risk-of-poverty rate (AROP), 65+: 70 % threshold	36.2	31.5	40.2	-22.5	-20.7	-24.0

3. Housing situation of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Housing cost overburden rate, 65+	1.1	0.5	1.5	-0.4	0.3	-1.0
Tenure status among people 65+: share of owners	55.2	60.4	50.7	9.1	9.7	8.3
Severe housing deprivation rate, 65+	0.6	0.4	0.7	-0.1	-0.3	0.1

4. Income replacement by pension systems

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Aggregate Replacement Ratio (ARR)	0.40	0.45	0.39	0.07	0.07	0.02
Benefit Ratio (BR) (Public pensions)	64.4					
Gross Aggregate Replacement Rate (Public pensions)	:					
Gender Gap in Pension Income, % (65-79)	37.7*			-6.5*		
Gender Gap in non-coverage rate (W-M in p.p.) (65-79)	-0.7*			-0.2*		

5. Sustainability and context indicators

Indicator	2013			Projections for 2053		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65+, years	19.6	18.3	20.8	23.2	21.9	24.5
Old-age dependency ratio (20-64)	21.1	20.1	22.1	48.4	42.1	54.8
Economic old-age dependency ratio (15-64)	29.4	24.9	34.3	51.7	41.4	63.4
Employment rate, age group 55-64	49.6	61.1	38.3	73.7	78.4	68.9
Pension expenditure as % of GDP (ESSPROS)	9.5*			Projections for 2060		
Gross public pensions as % of GDP (AWG projections)	9.5			9.3		

Data source: Eurostat. Sustainability indicators and projections (EPC AWG) – Commission Services (DG ECFIN), based on The 2015 Ageing Report. Data on gender gaps – ENEGE. Notes: * - 2012 data; : - not available.

6. Theoretical Replacement Rates (TRRs)

TRR case	Net				Gross					
	2013		2053		2013		2053			
	Men	Women	Men	Women	Men	Women	Men	Women		
Average Earnings	Base case I: 40 years up to age 65	58.0		n.a.		52.0		n.a.		
	Base case II: 40 years up to the SPA	58.0		70.0		52.0		61.0		
	Increased SPA: from age 25 to SPA	58.0		75.0		52.0		66.0		
	AWG career length case	58.0	55.0	71.0	68.0	52.0	51.0	62.0	61.0	
	Longer career I: from age 25 to 67			65.0				57.0		
	Shorter career I: from age 25 to 63			n.a.				n.a.		
	Longer career I: from age 25 to SPA+2			78.0				69.0		
	Shorter career I: from age 25 to SPA-2			67.0				58.0		
	Career break – unemployment: 1 year			75.0				65.0		
	Career break – unemployment: 2 years			73.0				64.0		
	Career break – unemployment: 3 years			72.0				63.0		
	Career break due to child care: 0 year							72.0		64.0
	Career break due to child care: 1 year							71.0		64.0
	Career break due to child care: 2 years							70.0		63.0
	Career break due to child care: 3 years							69.0		62.0
	Short career (30 year career)			57.0				50.0		
	Early retirement due to unemployment			68.0				59.0		
	Early retirement due to disability			69.0				60.0		
Indexation: 10 years after retirement			69.0				60.0			
Low Earnings (66%)	Base case I: 40 years up to age 65	64.0		n.a.		60.0		n.a.		
	Base case II: 40 years up to the SPA	64.0		70.0		60.0		63.0		
	Increased SPA: from age 25 to SPA	64.0		73.0		60.0		66.0		
	AWG career length case *	64.0	67.0	69.0	68.0	60.0	62.0	62.0	61.0	
	Longer career I: from age 25 to 67			65.0				59.0		
	Shorter career I: from age 25 to 63			n.a.				n.a.		
	Longer career I: from age 25 to SPA+2			76.0				68.0		
	Shorter career I: from age 25 to SPA-2			66.0				59.0		
	Career break – unemployment: 1 year			73.0				65.0		
	Career break – unemployment: 2 years			71.0				64.0		
	Career break – unemployment: 3 years			71.0				64.0		
	Career break due to child care: 0 year							73.0		65.0
	Career break due to child care: 1 year							72.0		65.0
	Career break due to child care: 2 years							72.0		65.0
	Career break due to child care: 3 years							72.0		64.0
	Short career (30 year career) *	56.0		58.0		52.0		52.0		
	Early retirement due to unemployment			68.0				61.0		
	Early retirement due to disability			69.0				62.0		
Pension rights of surviving spouses							129.0		152.0	
High	Base case I: 40 years up to age 65	50.0		n.a.		40.0		n.a.		
	Base case II: 40 years up to the SPA	50.0		59.0		40.0		47.0		

Data source: TRRs for 2013 and 2053 – Member State. Note: n.a. – not available. * This amount is not directly comparable with the corresponding figure used for the current (2013) pensioner's TRR case because the minimum income top-up amounts in

year 2013 are assumed to remain constant throughout the projection period. Such an assumption does not reflect the reality because certain revisions of those amounts are expected to take place in order to maintain the real value of those amounts.

Latvia (LV)

1. General description of the pension system

The old-age pension system consists of a state administered mandatory notional defined contribution (NDC) scheme, a mandatory funded scheme and voluntary private pensions.

The 1st pillar is a pay-as-you-go NDC scheme. The amount of the individual pension from the 1st pillar 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 earnings in 1996-1999 (average earnings in the economy for those with low wages and 30 year career). To calculate the individual amount of annuity at retirement, the aggregate individual pension capital is divided by the gender-neutral average life expectancy at the age when the pension is claimed. The notional pension capital is indexed by internal rate of return based on the real growth of the amount of total social insurance contributions.

The pensionable age in the mandatory pension system was increased to 62 years by 2008, for both men and women. The pensionable age is set to increase with 3 months every year from 2014 to 2025, whereby the pensionable age will be 65 years. The minimum insurance period to qualify for an old-age pension was 10 years until 2013. From 2014, it has been extended to 15 years and from 2025 to 20 years. From 2014, the early retirement age will also increase by 3 months every year and reach 63 years by 2025. Individuals also have the possibility to defer retirement without an age limit and to combine retirement and work. Many Latvian pensioners are using this opportunity, so the effective retirement age is higher than pensionable age for both men (63.7 in 2009, 65.2 in 2011) and women (63.5 in 2009, 64.5 in 2011).

The 2nd pillar is a statutory funded defined contribution scheme, launched in 2001. The 2nd pillar was mandatory only for those born after 01/07/1971. The vast majority of all those born between 02/07/1951 and 30/06/1971 who had right to join the pillar voluntarily have exercised this right. There were 1.2 mln members of the state funded pension scheme and the total worth of assets adds more as EUR 2 billion in 2014. Contributions to the mandatory funded scheme are deducted together with the social security contributions. The contributory burden is shared between the employer and employee, with the employer contributing around two-thirds of it. Total pension contributions to both the state administered PAYG scheme and the mandatory funded scheme amount to 20 percent of gross earnings for all individuals. For those participating in the mandatory funded scheme, 5 p.p. (2015) of total pension contributions are currently diverted to accumulations there. The benefit is accrued by transferring part of the social insurance contributions to one of 7 mandated asset managers offering 20 pension plans of various risk profiles (in 2014). 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. In 2013 first payments were carried out for those participants of the statutory funded defined contribution scheme who had reached pensionable age.

The 3rd pillar is voluntary, any person and employers can make contributions to a private pension fund: 6 asset managers offer 18 pension plans, and then convert the accumulated capital into annuity. There were 235 thousand participants and assets made EUR 280 million in 2014.

2. Reform trends

Taken together, mandatory social insurance contributions to the first and the second pillar make up 20 percent of the insured person's gross wage. The proportion transferred to the second pillar was gradually increased from 2 percent to 8 percent in 2008. The initial plan was to reach 10 percent in 2010, but due to the crisis it was reduced to 2 percent in 2009-2012 to support the revenues of the PAYG scheme. The final split between the first and the second pillars was revised to 14 percent + 6 percent, to be phased in by 2016.

In 2006 the system of pension supplements was introduced as a transitory measure. For the pensioners with contribution and/or service record above 30 years a supplement (EUR 1) was granted for each service year completed before 1st of January 1996, the date when the new NDC system came into force. The government decided to discontinue granting these supplements from 2012 for new cohorts of pensioners, however payment of those already granted before the 1st January 2012 will continue.

The income ceiling for contributions, which had been suspended between 2009 and 2013 as a revenue-boosting measure during the crisis, was reintroduced in 2014 at the level of EUR 46 400 per year (5.4 times higher than gross average earnings). In subsequent years the ceiling will be kept roughly at the same level (indexed by the expected annual increase in the average gross earnings). According to the Latvian authorities the main purpose for reintroducing the income ceiling is to avoid cases of excessively high short term benefits and pensions in future.

In 2012, the Parliament adopted an increase of the pensionable age, aiming to offset the long-term impact of the ageing of population and ensure sustainability of the social insurance budget. Starting from 2014 the pensionable age increases for both men and women from the previous 62 years by three months yearly reaching the age of 65 by 2025. The option of early retirement two years before the pensionable age was safeguarded as a permanent provision (temporary before). During early retirement the pension is paid on the level of 50 percent (80 percent before the crisis) of the pension amount calculated from the individual capital. The contribution period required for the entitlement to pension (qualification period) increased from previous 10 years to 15 years from 2014 and will increase further up to 20 years from 2025.

Indexation of pensions had been suspended during the crisis but was resumed, under strong pressure from the pensioner organizations, in September 2013, when the pensions below EUR 285 per month were increased by 4 percent. CPI for the period of non-indexation since 2009 had reached 7.1 percent. After ad hoc pension indexation in 2014 which applied to all pensions, but only to the part below EUR 285, the parliament has accepted amendments to the pension legislation concerning future indexation of pensions. The indexation will apply only to the part of pension equal to 50 percent of average national earnings for the previous year and the indexation ratio to be based on both consumer price index and 25 percent of real increase in the social insurance wage bill. While lower pensions will grow faster than CPI, about 30 percent of all pensions will be indexed only partly¹⁵⁹. In 2014, the Parliament adopted amendments to the Law on State Funded Pensions. The guaranteed fee of the asset manager at 1 percent was set. Another part of the fee will be variable up to 1 percent of assets depending on the financial performance of the pension fund. This provision entered into force in January 2015¹⁶⁰.

¹⁵⁹ Rajevska, O. Adequacy of pensions in the Baltic Region, *Regional Review*, vol. 10 (2014), pp. 41-51, Daugavpils University

¹⁶⁰ Valsts fondēto pensiju likums, 17.02.2000., *Latvijas Vēstnesis* [tiešsaiste] Nr.78/87., 08.03.2000. Available: www.likumi.lv (skat. 11.11.2014). (in Latvian)

3. Impact of the crisis on current pension system and present pensioners

Analyzing impact of crisis on pension system and pension policy in Latvia it is reasonable to follow approach that distinguishes three subgroups: 1) those retired before the beginning of crisis; 2) those who went on pension during the crisis years; 3) future pensioners that are now in preretirement age. The effect of crisis shows up in different ways, as the role of certain socio-economic factors varies between those subgroups significantly. Those who were already on retirement were relatively well protected, since their benefits remained the same. Even freezing of indexation did not matter too much: the pre-crisis indexation formula was based on inflation rate and increase in insured wages, but during the crisis years the prices almost did not grow while the wages even went down. As concerns the second group – those taking retirement during 2009-2012 – the observed trend was “the later the worse”. The luckiest were those who retired in 2009, when high and only positive annual valorisation indices for notional pension capital were in force. In the next three consecutive years annual valorisation indices fell below 1, so newly retired pensioners received lower remunerations for the same amount of contributions (Rajevska, 2013), while the return to high indexes for the last 3 years 2012 (1.0618), 2013 (1.0758) and 2014 (1.0766) and expected for the next years gives a high positive effect for the next retirees. The majority of the examined crisis consequences relate mainly to future pensioners that are now in preretirement age at the stage of accumulation their pension capital in both NDC and funded pillars.

4. Assessment of adequacy

Current adequacy

The majority of current pensioners rely on the pensions only from the 1st tier PAYG scheme. The statutory minimum old age pension varies from EUR 70.43 to EUR 108.85 per month depending on the length of the contribution record, unchanged since 2006. At EUR 70 per month, the lowest pension was below 10 percent of the gross average salary (Central Statistical Bureau, 2013)¹⁶¹. The share of minimum pensions is growing. In 2011, 13.4 percent of all newly granted pensions were at the minimum level, in 2012 – 12.3 percent, in 2013 – 15.5 percent, in 2014 – 13.6 percent¹⁶².

Latvia's contribution-based pension scheme contains practically no mechanism for redistributing income from highly paid employees to the less well-to-do, except for the higher indexation of small pensions. During the crisis, the stratification of Latvian pensioners by their material situation only deepened. While the average pension was remaining practically constant, the percentage of the poorest and the percentage of the richest are growing.

Regarding the indicators of income replacement, the median relative income ratio for the people 65+ as a ratio of income of the age group 0-64 was 77 percent in 2013, below the EU-28 average (93 percent in 2013)¹⁶³. The aggregate replacement ratio in Latvia was 47 percent in 2013 (the EU-28 average was 56 percent).

In 2013, the at-risk-of-poverty rate for people aged 65+ was 17.6 percent compared to 13.8 percent in the EU-28. For persons older than 75 years it was 17.4 percent in 2013 (14.9 percent in the EU-28). Risk of poverty for elderly in 2010 and 2011 was considerably lower than for any other age group of the Latvian population, but it increased noticeably in

¹⁶¹ Rajevska, O. (2013) Equity criterion in pension systems assessment and its manifestation in Estonian and Latvian pension schemes. The Journal of Economics and Management Research, vol.2. Rīga: University of Latvia

¹⁶² Data source: Ministry of Welfare

¹⁶³ Data source: EUROSTAT, viewed 17 November 2014

2012, when the income situation of the majority of households improved as a result of economic recovery, but pensions stayed unchanged. The difference of the at-risk-of-poverty rate between older men and women is increasing due to the increase of poverty rate among elderly women in Latvia (17.5 in 2012 and 22.1 in 2013). Relative poverty median gap for persons aged 65+ was 11.2 in 2012 and 11.9 in 2013.

The expansion of poverty risk in the pre-crisis years is explained by unequal growth of income in various social groups. Earnings were growing rapidly while pensions changed insignificantly. Thus the poverty threshold moved up in line with positive economic growth, leaving more and more elderly below it. During the crisis time wages decreased significantly, while pensions remained stable. As a result the poverty rate for elderly became lower. However, this should not be interpreted as a real improvement in the income situation of the elderly, but just as a change in their condition in comparison with other age groups.

The rate of severe material deprivation for people above 65 in 2013 was much higher in Latvia (26.6 percent) than in the EU-28 (7.0 percent). The Latvian population suffers from severe material deprivation mainly due to lower living standards. Latvia's GDP per capita in PPS in 2013 was 67 percent of the EU-28 average (in 2012 it was 64.3 percent)¹⁶⁴.

The gender break-up of all these indicators shows that older women currently face higher risk of poverty or social exclusion and in general enjoy lower standards of living than old-age men in Latvia. In 2013 the share of older men at risk of poverty or social exclusion was at the level of 28.3 percent, but for women at 39.8 percent.¹⁶⁵ The poverty rate for a two adult households with at least one person aged 65 years or older is lower than for the households of equivalent composition, but with persons younger than 65.

The 2nd tier funded scheme launched in 2001 has not sufficiently matured to have a real influence on pension incomes.

In September 2014, 228 thousand participants were enrolled in third-tier private pension plans¹⁶⁶. The contributions of the participants reached a new maximum, which was triggered by the improvement of the economic situation of the population, the growth of awareness and interest in long-term investment products, as well as the possibility to get a tax refund. In 2014, the average accrued pension capital per one individual participant was EUR 1 628, but for participants of the collective contract (i.e. workplace-based) – EUR 2 299.

Gender pension gap

The gender gap in pensions is about 16 percent in Latvia in 2012; being significantly lower (by 25 p.p.) compared to the EU-27 average. The existing gender gap in pensions can be attributed to the gender pay gap and the historically shorter working record for women, while for newly granted pensions the average social insurance period of women is longer than that of men. The gender pay gap¹⁶⁷ in 2013 was 14.4 percent, lower than the EU-28 average (16.4 percent). Gender Gap in Pensions in Latvia increased from 9 percent in 2009 to 16 percent in 2012. Gender gap in coverage rate is negligible in Latvia. This has roots in the virtually total employment among both men and women in Soviet times, accompanied by low

¹⁶⁴ Data source: Eurostat, retrieved on 17 November 2014

¹⁶⁵ Data source: Eurostat, viewed on 17 November 2014

¹⁶⁶ Data source: Financial and Capital Market Commission (http://fktk.lv/en/statistics/pension_funds/quarterly_reports/)

¹⁶⁷ The unadjusted Gender Pay Gap (GPG) represents the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. Industry, construction and services (except public administration, defense, compulsory social security). Data source: Eurostat [earn_gr_gpgr2]

eligibility threshold (only 15 working year record). Pension income stratification among men is more pronounced¹⁶⁸.

Survivors' pensions are not separately identified in national administrative data. Anchored poverty rate fixed at 2008 poverty threshold is very high for both genders, but for women 65+ is higher for 18.4 p.p. than for men 65+ in 2013. High employment of women: in 2013, the employment rate for the age group 20-64 was 67.7 percent for women. This is above the EU-28 average (62.5 percent). The gender employment gap was only 4.2 p.p. This is the 3rd lowest gender gap in the EU-28. Dual-earner couples remain more common also because of relatively low wages.

Gender gaps in employment and pay. The gender pension gap indicator presents a snapshot of developments in the employment and pension system factors, which determine the size of the gap. Since it is calculated for the entire population of 65-79 year olds there is a certain inertia in its development. To get a sense of whether it is likely to reduce or increase one can look at trends in the various gender gaps in employment and at how the pension system is changing.

The gender gap⁸⁰ in the employment rate of older workers (age 55-64) has decreased by 10.8 p.p. over the period of 2004-2014 (EU-28: -5 p.p.) and amounted to -0.1 p.p. in 2014 (EU-28: 13.7 p.p.). In 2014, the employment rate of men was lower than that of women. The gender gap in the duration of working life, which in 2013 came to 0.4 years (EU-28: 5.2 years), has thereby decreased by 2.1 years since 2004 (EU-28: -1.2 years). The gender gap⁸¹ in part-time employment (for people aged 20-64), which reached 4.3 p.p. in 2014 (EU-28: 23.5 p.p.), has decreased by 1.4 p.p. since 2004. This implies a trend towards a reduction of the gap as far as the employment factors are concerned. The gender pay gap⁸², which in 2013 at 14.4 percent was lower than the EU-28 average (16.4 percent), has, however, increased by 0.8 p.p. since 2007 (EU-28: increase by 0.3 p.p. over the period of 2010-2013).

Future adequacy

Effect of the increases in the qualifying period (15 from 2014 and 20 years from 2025) should be closely monitored. Taking into account the turbulence in the labour market in the 90ies 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 insufficient contribution record will certainly grow.

In a June 2013 survey most of the respondents suppose that their pension will be equal to 60-65 percent of their salary. Such expectations are unrealistic, because the Latvian pension formula generates a much lower replacement rate¹⁶⁹.

The government has adopted the concept paper "Setting of the minimum income level" on October 21, 2014, according to which the minimum income level should be attributed to 40 percent from median income of the equivalent consumer (as of the 2015 – 139 EUR per single or first member of the household). It should be outlined that the regulation of the new minimum income level should come into force only as of January 1, 2017.¹⁷⁰

¹⁶⁸ Rajevska O., Rajevska F. (2015). Notional Defined Contribution Pension Scheme Experience in Latvia: Some Lessons. To be published

¹⁶⁹ Rajevska, F., Rajevska, O., Stāvausis, D. (2014) ch.2 Challenges for the sustainability of Latvian pension system in Sustainable Nation. Latvia. Human Development Report 2012/2013. Editor Baiba Bella. Riga, University of Latvia

¹⁷⁰ Par koncepciju „Par minimālā ienākuma līmeņa noteikšanu”, 30.10.2014. *Latvijas Vēstnesis* [tiešsaiste] Nr.216., 31.10.2014. Available: www.likumi.lv (skat. 11.11.2014). (in Latvian) Concept paper in English is available at the webpage of Ministry of Welfare http://www.lm.gov.lv/upload/sociala_ieklausana/conceptet_paper_en_fin.pdf

The Theoretical Replacement Rate projections in the present report show that by 2053 replacement rate for an employee with average earnings having 40 year service record will decrease from current 65 percent to 53.7 percent. Shorter career (30 years) would result in only 31.1 percent TRR. Indexation rules would not save pension benefits from devaluating: in 10 years after retirement the TRR falls from 53.7 percent to 46.2 percent. The figures for low earners are even more pessimistic: from current 95 percent their TRR would fall down to 54.2 percent that appears inadequately low.

Until now, the second pillar pension funds have demonstrated relatively weak results. The actual rate of return in the last 10 years was 4.04 percent¹⁷¹. No guaranteed rate of return is stipulated by legislation, only the limits of administrative charges are set in the range of 1 percent -2 percent.

Challenges for pension adequacy

Experience of the functioning pension system during the years of crisis proved the overall sustainability of the system, yet it made apparent some intrinsic weaknesses of Latvian NDC scheme. The pensioners who retired from 2010 to 2013 were explicit losers compared to those having practically identical insurance record but who retired immediately before the crisis. The purely mathematical result of pension formula was perceived as a very unfair aspect, spurring calls that financial self-regulating sustainability mechanisms should be complemented by additional resources to compensate losses for some cohorts.

The formula for the first pillar benefits includes the so-called valorisation coefficient, which is calculated as the annual increase (or decrease) in nationwide wage-bill. This coefficient is used annually to multiply social insurance contributions of each employee accrued in the individual virtual pension accounts. When the nationwide wage-bill drops, the “yield” is lower than 1, the capital is not growing but actually decreasing for all prospective Latvian pensioners. From the point of view of potential pension recipients, the trend for the pension capital index to drop below 1 (in 2009 – 0.9622, in 2010 – 0.7978, in 2011 – 0.9945, 2012-1.0618) is negative: it notably reduced the amount of accrued pension capital for the new pensioners in 2009-2012.

Such evidence-based unfair situation for 80 thousands new pensioners caused protests in society. The Ombudsman has turned to the government and the parliament in spring of 2014. The responsible commission in parliament has discussed this issue in May 2014.¹⁷² The present government committed itself to review the order of the pension capital valorisation.

5. Sustainability

The evolution of the demography, employment rate and expenditure can give us information about the sustainability of the pension system in the future. The indicators used in this section are taken from the 2015 Ageing Report of the European Commission and the Economic Policy Committee¹⁷³.

¹⁷¹ Jana Muižniece (Ministry of Welfare), unpublished presentation

¹⁷² Latvijas Republikas Tiesībsargs, 16.04.201
http://www.tiesibsargs.lv/files/content/Atzinums_Pensiju_kapitala_indekss_atzinuma_kopsavilkums.pdf

¹⁷³ The 2015 Ageing Report. Economic and budgetary projections for the 28 EU Member States (2013-2060), http://ec.europa.eu/economy_finance/publications/european_economy/2015/pdf/ee3_en.pdf

Demography

The old-age dependency ratio (population aged 65 and over as a percentage of the population aged 20-64) in Latvia is projected to increase from 30.5 percent in 2013 (EU-28: 30.3 percent) to 57.7 percent in 2053 (EU-28: 54.9 percent).

Latvia belongs to the group of Member States where the increase in old-age dependency ratio is projected to be above the EU-28 average. Over the period 2013 to 2053, the old-age dependency ratio is projected to increase by 27.2 p.p. (EU-28: 24.6 p.p.).

The share of working-age population (20-64) (61.9 percent of the total population in 2013) is projected to drop by 12.0 p.p. by 2053 (to 49.9 percent of the total population), compared with 9.2 p.p. for the EU as a whole by 2053.

The economic old-age dependency ratio for Latvia is projected to rise by 28.1 p.p. from 40.1 percent in 2013 to 68.3 percent in 2053 and it will be above the EU-28 average (66.2 percent in 2053).

Employment

The labour market participation rate (of people aged 20-64) in Latvia (79.3 percent) was above the EU-28 average in 2013 (76.5 percent) and it is projected to be above the EU-28 average in 2053 (82.2 percent versus 79.9 percent). The participation rate of older workers (aged 55-64) in 2013 was higher (61.5 percent) than the EU-28 average (54.4 percent). Over the period 2013 to 2053, the participation rate of older workers is projected to increase by 6.6 p.p. to 68.1 percent in 2053. This increase is lower than in the EU-28 (15.3 p.p.: from 54.4 percent in 2013 to 69.7 percent in 2053).

According to the 2015 Ageing Report, employment rate (of people aged 20-64) is projected to increase from 69.9 percent in 2013 (EU-28: 68.4 percent) to 76.2 percent in 2053 (EU-28: 74.9 percent). Employment rate of older people (aged 55-64) is projected to change from 55.0 percent in 2013 to 64.1 percent in 2053 (EU-28: from 50.3 percent to 66.6 percent).

The employment rate for older workers (from 55 to 64 years) in Latvia in 2013 was higher than the EU-28 average: 55.0 percent (55.6 percent – men, 54.6 percent – women) versus 50.3 percent at the EU-28 level (57.6 percent – men, 43.3 percent – women).

The effective exit age from the labour force in 2013 was 64.2 (64.6 – for men, 64.0 – for women) and it is slightly above the EU-28 average (63.1 – total, 63.5 – for men, 62.7 – for women).

Main drivers of pension expenditure

According to the 2015 Ageing Report, the gross public pension expenditure will decrease from 7.7 percent of GDP in 2013 to 4.6 percent of GDP in 2060.

In accordance with the 2015 Ageing Report, the demographic factor has the strongest upward effect (+3.8 p.p. of GDP) on gross public pension expenditure over 2013-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate and benefit ratio). Latvia projects a strong downward pressure on expenditure primarily due to the lowering effect of the benefit ratio (-4.5 p.p.), as well as the coverage ratio (-1.4 p.p.) and employment rate (-0.6 p.p.).

6. Main opportunities for addressing pensions-related challenges

The NDC pension system practically lacks any redistribution mechanism and therefore pure NDC systems are not adequate for countries with relatively large gap between the rich and the poor. Introduction of basic or social pension is very acute. Latvian authorities have recently recognized the need for NDC pension system improvement and elaboration of basic pension concept in Latvia should start in 2015. Consequently old age pension should consist from two parts: basic or social pension – funded from state budget and social insurance part according payments done by person.

In the existing Latvian pension scheme all the risks of the contemporary globalized economy have been maximally transferred onto the taxpayers, minimizing the responsibilities of the state and pension fund managers. The review of the accrued notional capital annual valorisation system is necessary in order to reduce inequity when calculating the pensions. It is possible to adapt the experience of other countries with NDC pension scheme where capital index cannot be under one (1) or look for another appropriate solution.

Existence of the social payment ceiling contributed to the increase of inequality and losses of social budget. It would be reasonable to return to practice of austerity period and abolish ceiling of social payment. In order to avoid extremely high level of social benefit it would be reasonable to introduce some ceiling for unemployment, childcare and sickness benefits.

It is necessary to return to the declared principle of social contribution payment that was in force until 2011. It should be duty and responsibility of state institutions to force employer to pay social payment and to collect them. Present situation when employee by himself/herself should force legal employer to pay social contribution does not comply with the rule of law.

Development of the local capital market should be among the priorities, as it could ensure that the resources allocated in the state funded pension scheme would be used to facilitate development of the local economy. Currently the capital which is invested in the local financial instruments is with low interest rates and does not directly contribute to the overall growth of the economy. Pension funds in Latvia currently have significant amount of resources to invest in the local economy.

7. Background statistics – Latvia

1. Relative incomes of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.77	0.84	0.73	0.24	0.24	0.22
Income quintile share ratio (S80/S20), 65+	3.9	3.9	3.9	-1.7	-1.4	-1.7

2. Poverty and material deprivation

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+	36.1	28.3	39.8	-22.7	-23.8	-22.3
At-risk-of-poverty rate (AROP), 65+	17.6	10.4	21.0	-34.4	-34.9	-34.2
Severe material deprivation (SMD), 65+	26.6	21.8	29.0	-2.1	-1.5	-2.2
At-risk-of-poverty or social exclusion (AROPE), 75+	35.4	23.9	39.7	-32.1	-41.7	-28.4
At-risk-of-poverty rate (AROP), 75+	17.4	7.8	20.9	-42.8	-51.5	-39.6
Severe material deprivation (SMD), 75+	26.0	17.8	29.0	-5.5	-9.5	-4.0
Relative poverty gap, 65+	11.9	13.7	11.3	-14.4	-5.7	-17.8
At-risk-of-poverty rate (AROP), 65+: 40 % threshold	2.8	1.9	3.2	-15.2	-7.6	-18.9
At-risk-of-poverty rate (AROP), 65+: 50 % threshold	6.5	4.6	7.4	-30.7	-22.8	-34.5
At-risk-of-poverty rate (AROP), 65+: 70 % threshold	35.0	22.5	41.0	-23.6	-29.6	-20.8

3. Housing situation of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Housing cost overburden rate, 65+	11.9	6.8	14.2	-2.0	-0.1	-3.1
Tenure status among people 65+: share of owners	87.3	89.1	86.4	-0.2	0.2	-0.4
Severe housing deprivation rate, 65+	8.8	6.8	9.8	-6.5	-6.4	-6.5

4. Income replacement by pension systems

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Aggregate Replacement Ratio (ARR)	0.47	0.46	0.51	0.17	0.21	0.17
Benefit Ratio (BR) (Public pensions)	27.7					
Gross Aggregate Replacement Rate (Public pensions)	33.4					
Gender Gap in Pension Income, % (65-79)	15.7*			0.8*		
Gender Gap in non-coverage rate (W-M in p.p.) (65-79)	-0.6*			0.8*		

5. Sustainability and context indicators

Indicator	2013			Projections for 2053		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65+, years	16.3	13.8	18.4	21.5	19.5	23.4
Old-age dependency ratio (20-64)	30.5	20.6	39.8	57.7	44.9	70.9
Economic old-age dependency ratio (15-64)	40.1	25.2	54.9	68.3	50.7	87.6
Employment rate, age group 55-64	54.8	55.2	54.6	64.1	65.1	63.1
Pension expenditure as % of GDP (ESSPROS)	8.2*			Projections for 2060		
Gross public pensions as % of GDP (AWG projections)	7.7			4.6		

Data source: Eurostat. Sustainability indicators and projections (EPC AWG) – Commission Services (DG ECFIN), based on The 2015 Ageing Report. Data on gender gaps – ENEGE. Notes: * - 2012 data; - : - not available.

6. Theoretical Replacement Rates (TRRs)

TRR case	Net				Gross				
	2013		2053		2013		2053		
	Men	Women	Men	Women	Men	Women	Men	Women	
Average Earnings	Base case I: 40 years up to age 65	71.9		51.2		52.9		43.9	
	Base case II: 40 years up to the SPA	65.0		51.2		46.6		43.9	
	Increased SPA: from age 25 to SPA	61.1		51.2		43.0		43.9	
	AWG career length case *	73.8	70.9	55.7	53.5	54.6	52.0	47.9	45.9
	Longer career I: from age 25 to 67			57.4				49.3	
	Shorter career I: from age 25 to 63			48.5				41.5	
	Longer career I: from age 25 to SPA+2			57.4				49.3	
	Shorter career I: from age 25 to SPA-2			48.5				41.5	
	Career break – unemployment: 1 year			50.6				43.4	
	Career break – unemployment: 2 years			50.0				42.8	
	Career break – unemployment: 3 years			49.4				42.3	
	Career break due to child care: 0 year							51.2	
	Career break due to child care: 1 year							49.2	
	Career break due to child care: 2 years							48.2	
	Career break due to child care: 3 years							47.0	
	Short career (30 year career)			38.9				32.9	
	Early retirement due to unemployment			44.8				39.0	
	Early retirement due to disability			46.3				40.3	
	Indexation: 10 years after retirement			45.3				39.4	
	Low Earnings (66%)	Base case I: 40 years up to age 65	95.0		51.7		69.2		43.9
Base case II: 40 years up to the SPA		85.9		51.7		61.0		43.9	
Increased SPA: from age 25 to SPA		78.2		51.7		55.5		43.9	
AWG career length case *		98.3	94.0	56.2	53.9	72.3	68.3	47.9	45.9
Longer career I: from age 25 to 67				57.8				49.3	
Shorter career I: from age 25 to 63				49.0				41.5	
Longer career I: from age 25 to SPA+2				57.8				49.3	
Shorter career I: from age 25 to SPA-2				49.0				41.5	
Career break – unemployment: 1 year				51.1				43.4	
Career break – unemployment: 2 years				50.5				42.8	
Career break – unemployment: 3 years				49.8				42.3	
Career break due to child care: 0 year								51.7	
Career break due to child care: 1 year								50.5	
Career break due to child care: 2 years								48.8	
Career break due to child care: 3 years								47.8	
Short career (30 year career)		66.4		39.4		47.1		32.9	
Early retirement due to unemployment				45.3				39.0	
Early retirement due to disability				47.8				41.2	
Pension rights of surviving spouses								51.7	
High		Base case I: 40 years up to age 65	57.2		38.2		44.8		32.8
	Base case II: 40 years up to the SPA	51.2		38.2		39.5		32.8	

Data source: TRRs for 2013 - Member State; TRRs for 2053 – OECD

Lithuania (LT)

1. General description of the 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: Social insurance pensions, Social pensions and State pensions.

The social insurance pension 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 PAYG basis. It is designed to replace part of the work income when an insured person retires (or becomes disabled or dies). Working pensioners combine social insurance pension with income from work without any restrictions. There are no exceptions in pension benefits formula or in contribution periods for those workers who were involved into arduous works. Early retirement social insurance pension is paid to persons who have completed the full number of years to receive a pension (30 years) and are within 5 years of retirement age. The rate of payment is the old age pension, minus 0.4 percent for each month prior to pension age in which they receive this early old age pension. The reduced pension amount is paid for full period of retirement.

State pensions are public unfunded supplementary to social insurance pension scheme. They are granted mainly to two rather large groups of population. The first group includes post-war anti-Soviet resistance fighters and people who have suffered from the former Soviet regime. The second group is military and police officers, judges, scientists, artists, and some 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 insufficient contribution record. Social assistance pensions are not means-tested.

There are two types of privately funded Defined-contribution (DC) pension schemes in Lithuania. The Second pillar pension scheme is a fully funded and defined-contribution scheme.¹⁷⁴ It is administered by private fund managers and is financed in two modes depending on the choice of participants: first, only by parts of the obligatory pension insurance contributions; second, by these contributions and extra voluntary contributions of the participant and state budget subsidy. As the scheme will mature only in three-four decades, it does not play any role in income protection of old-age population yet.

The Third-pillar pension scheme is a fully funded defined-contributions scheme. It is financed by individual voluntary contributions, which are tax-deductible. It is the smallest component in the overall pension package.

There are no *occupational pensions* in Lithuania despite the fact that the Law on Occupational Pensions was adopted in 2006 (No. X-745) in order to implement the Directive 2003/41/EC on the activities and supervision of institutions for occupational retirement provision.

¹⁷⁴ In Lithuania the notion "second pillar" pension scheme means 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).

2. Reform trends

Since 2007, the social insurance pension reforms have covered mainly three issues: raising the statutory retirement age, extending coverage to some self-employed groups and modifying the pension amount calculation formula.

First, 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.

Second, since 2009, the following groups are included in the social insurance pension system: farmers with medium and big-sized farms as well as their partners, persons receiving royalties under the copyrights agreements and persons receiving income from art performance or sports activities.

The third area of social insurance pension reform involves modification of pension amount calculation formula. The “main” part of the pension is a flat-rate component that depends on the number of years of insurance was increased by 10 percent in 2008 . The “supplement for lengthy insurance record” of pension amount was introduced into the formula in 2007. The aim was to raise the weight of working years on the pension amount. It was decided to pay 3 percent of the basic pension for every year of insurance above 30 years. The earnings-related component was modified at the end of 2012. The simplified rule of the earnings-linked component amount calculation was introduced in order to avoid the difficulties related to the collection of personal wage data in the years 1984-1993 (Social Insurance Agency’s database only dates back to 1994). As a general rule, earnings-linked component of pension is now calculated using data of the monthly average wage only from 1 January 1994 and data of all working years, including pre-1994 periods. But still, under a person’s request, the earning-related component may be calculated in a previous way, i.e. taking into account personal wage data of the years 1984-1993.¹⁷⁵

Because of heavy financial burden on the social insurance pension system during crisis, the contribution rate to be transferred from pay-as-you-go into the *Second pillar* funded system was reduced several times from 5.5 percent in 2009 to 1.5 percent in 2012. Since 2014, it was decided to finance the second pillar from three sources: part of a person's obligatory social insurance contributions, personal contribution and state subsidy. During transition period (in 2013) there were four options for participation.

First, person has a right to rely only on social insurance (no part of his/her contributions is directed to the personal second pillar account and no personal contribution is required, and no state subsidy granted).

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 until 30th November 2013, they continue participating in the second pillar with no additional personal contribution and without state subsidy.

Fourth, second pillar participants were allowed to pay extra contributions from their own pocket and to receive subsidy from the state budget as percentage of the average wage in the country.

¹⁷⁵ For details see: ASISP country document 2013. Lithuania. Pensions, health and long-term care. Lithuania. Authors: Teodoras Medaiskis (pensions) and Danguolė Jankauskienė (health and long-term care) p. 7-8. http://socialprotection.eu/files_db/1334/LT_asisp_CD13.pdf

409 thousands of persons (36.7 percent of all participants of the scheme) have chosen to transfer the additional contributions, 684 thousands (61.2 percent of all participants of the scheme) have chosen to accumulate only part of their social insurance contributions and 24 thousands (2.1 percent of all participants of the scheme) have chosen to terminate pension accumulation in the private pension funds (data of December 2013).

Those who decide to join the system after January 1st 2013, have the only option: participation with own contribution and the subsidy from the state budget. People may not conclude contract with the pension fund and remain in the state social insurance system as well.

3. Impact of the crisis on current pension system and present pensioners

The Social Insurance Fund (SIF) during the period of 2008-2012 crisis was indebted by 110 percent of the yearly pension expenditures or about 70 percent of the total SIF expenditures. In 2015, SIF is still in a deficit and accumulated debt is by the amount of yearly expenditures. The deficit of the social insurance system arose mainly due to the economic crisis and the generous increase of pensions and especially maternity benefits before the crisis. It was rather strange development as indebtedness of SIF is against the law. There is a provision in the Law on State Social Insurance that has to protect financial balance of SIF: deficit of the Social Insurance Fund must be covered by the State. However the money for pensions and other social insurance benefit payments were borrowed by the State and the Government insists that the debt should be paid back in the future years by future social insurance contributions or at expense of social insurance benefits including pensions.

Actions aimed to reduce pensions' expenditures were implemented as consequences of economic crisis. One of the most important measures was the temporary reduction of pensions for a period of two years (2010-2011). The temporary Law on Social Benefits Recalculation and Payment was adopted at the end of 2009. According to the Law, the social insurance pensions above EUR 188¹⁷⁶ were reduced by 4.5 percent on average from 1 January 2010. It was decided slightly to increase the flat rate component (from 110 percent to 120 percent of basic pension) and proportionally to decrease the earnings-related component. Thus, all pensions were flattened, and progressive reduction was achieved in order to protect people getting lower pensions. State pensions were also progressively reduced from 5 percent to 20 percent. The social insurance pensions of working pensioners were reduced by 13 percent for minimal wage earners, 40-45 percent for average wage earners, and up to 70 percent for well-paid working pensioners.

In the beginning of 2012 the Constitutional Court decided that in an extremely difficult economic situation it is reasonable and it is not against the Constitution temporary to reduce pension amounts. At the same time the Court declared that pensions should be reduced proportionally, so higher scale of reduction for working pensioners was illegal. In the opinion of the Court a higher reduction of pensions for working persons violates the Constitution saying that "each person is free to choose work and business". The Court also reminded that reduction should be only temporary in the sense that non-paid amounts of reduced pensions should be reimbursed later.

So, the Constitutional Court required to restore the previous amount of pensions and to pay back full debt to pensioners during a "reasonable time". In order to fulfil this requirement the government decided to restore the amounts of pensions since beginning of 2012. The difference between the full and the reduced pensions of 2010 and 2011 should be repaid to pensioners in several years. Total amount is around EUR 289 million or about 12 percent of the annual expenditures on social insurance pensions.

¹⁷⁶ LTL 650

By the ruling of the Constitutional Court the Government is obliged to repay gradually this debt to pensioners so the balance between repayment of the debt and increase of current pensions must be found. Repayments were started at the end of 2014 and will be continued several next years. Because of obligation to pay back debt, there are no resources for pension's adjustment in line with growth of wages and prices in post crises period. Therefore, the absence of obligatory rules on pension's indexation will raise the gap between living standard of working and retired generations in post crisis period.

Financial crises and huge financial deficit of social insurance scheme was a strong factor to increase retirement age. The decision to increase statutory retirement age was taken on 9 June 2011. Before 2012 the retirement age was 62.5 years for men and 60 years for women. From January 2012 it has been increasing by 2 month per year for men and by 4 months per year for women aiming to be 65 years for both sexes by 2026. The decision to increase retirement age was softened by loosening the rules on early retirement by abolishing requirement to be registered as an unemployed in a labour exchange at least for one year. Still, despite of this loosening the number of early retirees remain almost the same: the average number of early retirement pensions recipients in 2011 was 11,3 thousand persons; in 2012 – 12,5 thousand persons; in 2013 – 11,6 thousand persons; in 2014 - 10,5 thousand persons. In order to improve financial viability of the social insurance pension system the contribution rate was transferred from pay-as-you-go into the private funded pension scheme by reducing it from 5.5 to 2 percent in 2009 and to 1.5 percent in 2012. The Government argued that in times of recession the priority was to protect the income of the current pensioners, and not the future pension fund accumulation. Association of members of the private pensions funds have appealed to the Constitutional Court. They argue that pension contributions are their private property, and the Government violates property rights. However, the Constitutional Court decided that deep economic crisis is sufficient reason for contributions reduction and it was not against the Constitution.

So, the economic crisis slowed down development of the second pillar pension scheme. It has started in 2004 with low contribution rates, which subsequently were even more reduced. Rate of contributions to private pension scheme was increased to 2.5 percent only in 2013. Besides this, the economic crisis provoked new reform of contributions to private pension funds since beginning of 2014. It is intended to reduce the contributions taken away from the current social insurance pension scheme on the one hand, but on the other hand it is intended to ask participants of fully funded pension scheme to make contributions from their own pocket if they want to receive subsidy to the individual pension accounts from the state budget.

Strained social insurance funding because of crises had the intention for reviewing the private pension's funds administration fees. Some amendments concerning the fees allowing to be charged by pension funds were also adopted. The contribution fee was decreased from 10 percent (allowed by law; average contribution fee applied by the pension funds – about 3 percent) to 2 percent and a further decrease by 0.5 percent for each year in the following years is legislated.

Retiring participants of funded system as a rule receive a lump sum instead of annuity as accumulated funds are not sufficient yet.

To sum up, during the economic crisis, pensions were reduced but not so much in comparison with the income drop of the rest of population. Due to this, the situation of retirees in relative terms even improved. Unfortunately, social insurance pensions system fell into a huge amount of debt and there are no resources for increase of pensions even during post crisis period. Furthermore, increase in retirement age started in years of crises. Financing of second pillar private pensions scheme was slightly moved from Social insurance fund to private contribution of participants and State budget.

4. Assessment of adequacy

Current adequacy

At-risk-of-poverty-and social exclusion (65+) was 31.7 percent in 2013 and was extremely high for older (75+) women (41.0 percent). Income poverty of elderly people (65+) in Lithuania is very close to the national average according to at-risk-of-poverty rate (19.4 percent and 20.6 percent, respectively).¹⁷⁷ However, the poverty rate of older people is closely linked to at risk of poverty threshold that is applied for poverty rate assessment. Application of upper or lower at risk of poverty threshold results in differentiation of poverty rate by several times. That is because many pensioners receive pension amounts that are very close to at risk of poverty threshold, equal to 60 percent of the median household equalized income. In 2013, at risk of poverty threshold for a single person was EUR 235 and the average old age social insurance pension was EUR 246. At risk of poverty has decreased after the crisis, however, not due to an increase of pensions, but rather a decrease of at risk of poverty threshold (it was at its highest in 2009 and has not recovered yet in 2013; EUR 240.7 and EUR 234.9, respectively).

The at-risk-of-poverty rate of older pensioners (75+) is higher than that of all the pensioners (65+) and the situation differs for men and women. Older retired men and younger retired women are less exposed to poverty. Hopefully that tendency reflects changes in the labour market. The transitional period after 1990 was more painful for men because of the collapse of industry, where men were better paid. The new generation of pensioners has longer period unemployment and low paid employment periods in their professional history.

Although at risk of poverty rate of elderly has decreased in 2008-2013 by 6.4 p.p., the material deprivation rate of people aged 65+ increased by around two p.p. This took place despite of relatively low inflation rates, because in 2010-2011 pensions were reduced and later on – frozen. In this respect, the situation is similar for older (75+) and younger pensioners.

Median relative income in households of elderly people on average is lower by a fifth compared to the income of households of population in active age. However, the Lithuanian pension system redistributes income, and income inequality of 65+ people is far below income inequality of 0-65 people (S80/S20 is 3.9 and 6.6, respectively¹⁷⁸).

Lithuania was the only country in the EU that reduced pensions because of fiscal consolidation in 2010-2011. In 2012, the Government restored the amounts of pensions to the pre-crisis level and did not change them in 2013-2014. As average wages increased, the net average pension to net average wage decreased from 51 percent in 2009 to 48 percent in 2013. Because of inflation, the purchasing power of an average pension has dropped by 8 percent at the end of 2013, compared to the end of 2008. The aggregate replacement ratio (as median individual pensions of 65-74 year-olds relative to median individual earnings of 50-59 year-olds) was 48 percent. It fluctuated during 2008-2013 because of a drop in wages and a lesser reduction of pensions. However, in 2013, it was the same as in pre-crisis years.

Gender pension gap

Looking from the EU average perspective, the gender gap in pensions in Lithuania is not big: in 2010, it was 15 percent in Lithuania and 39 across the EU for pensioners aged over

¹⁷⁷ At risk of poverty rate is defined as the percentage of population with income after social transfers below the at-risk-of-poverty threshold (60 percent of the median household equalised income).

¹⁷⁸ EUROSTAT. S80/S20 income quintile share ratio by sex and selected age group (source: SILC).

65 years.¹⁷⁹ The gender gap in pensions in Lithuania was 12 percent in 2012 being more than three times lower compared to the EU average. The gender gap in pensions in Lithuania declined from 17 percent in 2009 to 11 percent in 2011 and remained at almost the same level in 2012 (12 percent). The overall gender gap in pensions (for persons aged 65+), displays the same tendency over time as the central gender gap. Gender gaps in coverage rate are negligible in Lithuania.

According to Theoretical replacement rate calculations in the variant (increase in SPA), when an employee retires at standard pension age starting career at 25 with constant average earnings, net replacement rate (NRR) is 49.9 percent for men and 47.3 percent for women in 2013. This difference is because of women's lower pension age. The relative median income ratio of 65+ year old women is only 77 percent, e.g. 10 points below that of men's. It is not surprising why at risk of poverty rate and material deprivation of elderly women is much higher than of men. 27.5 percent of women aged 75+ are at risk of poverty while only 6 percent of men of this age are poor. Until 1995, the retirement age gender gap was 5 years in Lithuania. An increase in the retirement age has not had an impact on pensions' amount for 75+ women pensioners. Women aged 75+ have retired mainly having only 55 years and only 20-25 years of work career. That is a major cause of low pension amount and widespread poverty among older women.

Inadequacy of pension income in Lithuania is clearly seen when using the indicator of Mean Annual Pension Income as percent of per capita GDP. A gap between Lithuanian and EU average indicator is not high for women. However, it is huge for men. The mean annual pension income for men is only 46 percent in Lithuania, while the EU average indicator is 74 percent. Such substantial difference in replacement ratio is not observed. This can be explained by very low average wages and small share of employees' compensation as percent of GDP.

Gender gaps in employment and pay. The gender pension gap indicator presents a snapshot of developments in the employment and pension system factors, which determine the size of the gap. Since it is calculated for the entire population of 65-79 year olds there is a certain inertia in its development. To get a sense of whether it is likely to reduce or increase one can look at trends in the various gender gaps in employment and at how the pension system is changing.

The gender gap¹⁸⁰ in the *employment rate of older workers* (age 55-64) has decreased by 12.9 p.p. over the period of 2004-2014 (EU-28: -5 p.p.) and amounted to 4.5 p.p. in 2014 (EU-28: 13.7 p.p.). The gender gap in the *duration of working life*, which in 2013 came to -0.1 years (it was lower for men than for women) (EU-28: 5.2 years), has decreased by 1.2 years since 2004 (EU-28: -1.2 years). The gender gap¹⁸¹ in *part-time employment* (for people aged 20-64), which reached 4.2 p.p. in 2014 (EU-28: 23.5 p.p.), has, however, increased by 0.6 p.p. since 2004. The gender *pay gap*¹⁸², which in 2013 at 13.3 percent was lower than the EU-28 average (16.4 percent), has decreased by 9.3 p.p. since 2007 (EU-28: increase by 0.3 p.p. over the period of 2010-2013). This implies a trend towards a reduction of the gap as far as the employment factors are concerned.

¹⁷⁹ The Gender Gap in Pensions in the EU (by Francesca Bettio, Platon Tinios and Gianni Betti): p. 34. http://ec.europa.eu/justice/gender-equality/files/documents/130530_pensions_en.pdf

¹⁸⁰ Difference between values for men and women.

¹⁸¹ Difference between values for women and men (for part-time employment).

¹⁸² The unadjusted Gender Pay Gap (GPG) represents the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. Industry, construction and services (except public administration, defense, compulsory social security). Data source: Eurostat [earn_gr_gpgr2]

Future adequacy

In Lithuania, the statutory retirement age is legislated to increase from below 62 years and 10 months for male and 60 years 8 months for female in 2013 to the age of 65 for inhabitants of both sexes in 2053. This determinates equal TRRs in 2053 for three ‘core’ cases (base case variants I and II, the ‘increase in SPA’ case and the AWG case) for which both current and prospective TRRs have been calculated. For all three cases prospective TRRs will reach 71.3 percent in 2053 in Lithuania. As Lithuania has enacted gender-neutral pension legislation for the future, the same career will result equal pension outcomes for men and women in 2053. TRRs for different cases (see "7. *Background statistics*") in 2053 will increase by 10-20 p.p.

Higher by 15 p.p. net TRRs when compared to gross prospective TRRs in Lithuania indicates much more favourable tax-benefit system for pension recipients as compared to wage earners. This difference might occur, when pension benefits are exempted from income taxes.

Low wage earners will enjoy rather high prospective TRRs due to highly redistributive pension formula. For three cases (base case variants I and II, the ‘increase in SPA’ case and the AWG case) they will reach 86.4 percent in 2053 and 89.7(82.1) percent for AWG career length case.

The projected composition of gross TRRs is expected to change crucially in Lithuania. The share of funded defined-contribution scheme will increase from almost 2 to 19.6 percent in gross TRRs for average earning profiles. This will be caused by 2012 private pension accumulation reform and a higher degree of maturity of the 2nd pillar provision in 2053 (as compared to 2013).

Lithuanian pension scheme contains painful penalties for early retirement. Early retirement due to unemployment five years prior to national standard pensionable age reduces TRRs (calculated at national standard pensionable age) for average income earners by around 11 p.p. and for low income earners by 16 p.p.

Lithuania has the accrual of pension rights in non-contributory periods for those with career breaks due unemployment, long-term illness and maternity. Thanks to this legal provision a drop in the net TRRs is no more than three p.p. for low and average earnings employees groups.

Challenges for pension adequacy

A crucial challenge for pension adequacy in Lithuania is insufficient financing of the scheme. Lithuania allocates one-third less resources to social security pensions than EU average (accordingly 7.2 and 11.3 percent of GDP in 2013). That is the main reason why mean annual pension income as percent of GDP per capita is very low. The indicators of pension replacement rate do not reflect modesty of pensions because wages are also very low in the country.

The second challenge for the pension scheme is the absence of indexation rules. The development of wages, prices and pension amounts fluctuate in different ways. In 2008, 2009 and 2012 increase in pension benefits exceeded increase of wages and prices. In 2011, 2013 on contrary, wages and prices grew up more rapidly.¹⁸³ Inflation decreases real pension amounts, the rise of wages relatively impoverish pensioners. The Government usually raises pension amounts on an ad-hoc basis. The relative wellbeing of the 75+ age group compared to that of the 65+ population deteriorates in periods between occasional increases of the pension amount.

¹⁸³EUROSTAT

These two challenges – insufficient financing and lack of indexation – are long-term challenges. If not solved, they could have a negative impact on pension adequacy.

Because of the still different retirement ages and absence of pension amount indexation, female and older pensioners are vulnerable in Lithuania's social insurance pension scheme. Older women are in double risk. At-risk-of-poverty rate of 75+ aged women is higher than average, their pension benefits are much lower. Increasing the retirement age up to 65 years for both men and women will at least partly solve this problem in the future. However, a new challenge is on its way. The age cohort of the economic transitional period is coming to retirement age. Those who lost formal employment because of massive shutdowns of the inherited Soviet-time factories in 1990-1995 may have low social insurance records and their pension benefits could be inadequate.

The issue of financing of the second pillar has long-term consequences for adequacy of public pay-as-you-go pensions, because the public pension scheme is under pressure of double burden (current pension benefits and accumulation of assets for future pension benefits).

5. Sustainability

The evolution of the demography, employment rate and expenditure can give us information about the sustainability of the pension system in the future.

Demography

The total number of population and the age structure will change dramatically due to the dynamics in fertility, life expectancy and emigration in the coming decades. In Lithuania, it is expected the sharpest decline in total population among EU countries. According to Eurostat, 2013 demographic projections total population is expected to shrink by 38 percent over the entire forecasting period. The fertility rate is projected to increase from 1.61 to 1.79 to the period of 2060. However, it is expected to remain below the natural replacement rate of 2.1. Lithuania belongs to the group of EU countries with lowest life expectancies for men (in 2013).

Because of all these changes, the demographic old-age dependency ratio (population aged 65 and over as a percentage of the population aged 50-64) is projected to increase in Lithuania from 30.1 percent to 55.1 percent over the projection period from 2013 up to 2053. The increase is higher for women than for men. This implies having almost only two working-age people for every person aged over 65 years. In the EU-28, the projected increase of the demographic old-age dependency ratio is from 30.3 (2013) to 54.9(2053).

Lithuania will be one of the fastest ageing countries in the EU. The working – age population is projected to decline substantially in the coming decades, as large cohorts of people retire and are replaced by smaller ones of younger employees. The emigration from Lithuania is one of the highest in the EU and there is a negative net migration flow projection for Lithuania until 2035. The share of working-age population (20-64) (60.7 percent) is projected to drop by 10.9 p.p. by 2053 (to 49.9 percent of the total population), compared with 9.2 p.p. for the EU as a whole by 2053.

The economic old age dependency ratio¹⁸⁴ for Lithuania is projected to rise significantly by 30.6 p.p. from 40.9 percent in 2013 to 71.6 percent in 2053 and it will be above the EU-28 average (66.2 percent in 2053).

¹⁸⁴ The economic old age dependency ratio is calculated as the ratio between the inactive elderly (65+) and total employment (20-64). This indicator assesses the impact of ageing on pensions' expenditure.

Employment

The labour market participation rate (20-64) in Lithuania was 79.3 percent and above the EU-28 average in 2013 (76.5 percent). It is projected to remain stable (79.7 percent) in 2053 and equal the EU-28 (79.9 percent) participation rate. Over the period 2013-2053, the participation rate of older workers (55-64) is projected to increase (especially of older women) in total by 5.1 p.p. (from 60.2 percentage in 2013 to 65.3 percentage in 2053) but will remain lower than in the EU-28 (69.7 percent). The latter increase reflects the ageing of the population and already scheduled increase in retirement age which has a stronger impact on women than on men, largely due to their still relatively lower average exit ages from the labour force.

The employment rate (people aged 20-64) is projected to increase from 69.8 percent in 2013 (EU-28: 64.10 percent) to 73.8 percent in 2053 (EU-28: 74.9 percent).

The employment rate for older workers (55-64) in Lithuania in 2013 was above the EU-28 average: 53.4 percent (56.2 percent for men and 51.2 percent for women) versus 50.3 percent in the EU-28 (57.6 percent for men and 43.3 percent for women). It is projected to increase by 7.7 p.p., i.e. from 53.4 percent in 2013 to 61.1 percent in 2053 (EU-28: from 50.3 percent to 66.6 percent).

The effective exit age from the labour force in 2013 was 62.3 (62.8 for men and 61.9 for women) and was slightly below the EU-28 average (63.1 – total, 63.5 – for men, 62.7 – for women). It is projected to increase by 1.7 p.p. to 64 percent in 2053.

Main drivers of pension expenditure

According to the 2015 Ageing Report, the gross public pension expenditure will increase from 7.2 percent of GDP in 2013 to 7.5 percent of GDP in 2060.

In accordance with the 2015 Ageing Report, the demographic factor has the strongest upward effect (+4.3 p.p. of GDP) on gross public pension expenditure over 2013-2060. The share of older persons in the total population (65 and over) will increase. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate and benefit ratio). The coverage ratio has a lowering effect on public pension expenditure (-2.2 p.p.). Lithuania projects downward pressure on expenditure due to an increasing benefit ratio effect (-0.9 p.p.). There is a lowering effect of employment rate (-0.6 p.p.) on the public pension expenditure.

Notably, pension formula of public scheme does not contain any longevity or dependency ratio adjustment factor, therefore the level of benefits in DB system does not react to longer periods spent in retirement. Projections on pension benefits expenditures are hardly predictable because of absent of clear benefits indexation rules, but in the projection indexation to nominal wage growth was applied.

6. Main opportunities for addressing pensions-related challenges

Two factors, a relatively high rate of women employment and increasing retirement age, are solving the gender gap problem for new cohorts participating in the public pension scheme. However, the problem of older age (75+) pensioners pension amount inadequacy and their poverty needs urgent intervention. Because of high gender life expectancy gap at 65+ (4.9 years in 2013), most of older women are single. Therefore, the solution could be widow's pension gradual transformation into pension supplement to single pensioner. Currently widow's pension is too low and conditional to marital status of beneficiary. Because of that, they are not available for unmarried or divorced individuals.

Pension amount valorisation and indexation rules are needed for protection of elderly wellbeing against inflation and for sharing of fruits of economic growth across generations. The rules of valorisation and indexation also would make the pension scheme more transparent and more attractive for active-age population participation.

Lithuania needs to find urgently a long-term solution to the second pillar pension scheme financing and removed this burden from the public pay-as-you-go pension scheme. It would release financial resources needed for public pension benefit increase and indexation.

To achieve pension adequacy, Lithuania has to expand the base for pension financing. The social insurance contribution rate is rather high (around 20 percent of payroll only for retirement pension). However, because payroll makes a small share of the national income, the revenue of the pension scheme is insufficient for adequate pension amount financing. The basic (not earning-related) part of the pension could be financed from the general revenue. It has a wider tax base than payroll. Therefore, a structural reform of the pension scheme would be a solution of inadequacy of social insurance pension benefit.

7. Background statistics – Lithuania

1. Relative incomes of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.81	0.87	0.77	0.10	0.07	0.09
Income quintile share ratio (S80/S20), 65+	3.9	3.8	3.8	-0.2	-0.3	-0.2

2. Poverty and material deprivation

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+	31.7	22.9	36.3	-6.4	-2.9	-8.1
At-risk-of-poverty rate (AROP), 65+	19.4	10.9	23.9	-10.1	-5.9	-12.0
Severe material deprivation (SMD), 65+	18.4	14.4	20.5	1.9	2.2	1.8
At-risk-of-poverty or social exclusion (AROPE), 75+	34.4	18.0	41.0	-8.3	-12.9	-6.9
At-risk-of-poverty rate (AROP), 75+	21.4	6.2	27.5	-12.3	-14.0	-12.1
Severe material deprivation (SMD), 75+	20.1	12.9	22.9	2.0	-1.5	3.2
Relative poverty gap, 65+	13.6	17.6	13.3	-3.2	5.4	-4.4
At-risk-of-poverty rate (AROP), 65+: 40 % threshold	2.7	2.6	2.8	-0.6	0.6	-1.2
At-risk-of-poverty rate (AROP), 65+: 50 % threshold	8.4	5.7	9.8	-6.8	-0.9	-9.8
At-risk-of-poverty rate (AROP), 65+: 70 % threshold	31.3	19.8	37.2	-11.4	-10.5	-11.9

3. Housing situation of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Housing cost overburden rate, 65+	9.7	5.2	12.0	5.8	3.7	6.8
Tenure status among people 65+: share of owners	97.4	97.4	97.3	0.1	-0.5	0.3
Severe housing deprivation rate, 65+	4.4	4.2	4.5	-6.6	-5.9	-7.0

4. Income replacement by pension systems

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Aggregate Replacement Ratio (ARR)	0.48	0.48	0.51	0.04	0.03	0.05
Benefit Ratio (BR) (Public pensions)	35.1					
Gross Aggregate Replacement Rate (Public pensions)	:					
Gender Gap in Pension Income, % (65-79)	12.1*			-4.1*		
Gender Gap in non-coverage rate (W-M in p.p.) (65-79)	-1.4*			-1.5*		

5. Sustainability and context indicators

Indicator	2013			Projections for 2053		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65+, years	16.9	14.3	19.2	22.0	19.9	23.8
Old-age dependency ratio (20-64)	30.1	21.1	38.5	55.1	40.5	70.1
Economic old-age dependency ratio (15-64)	40.9	27.3	54.1	71.6	50.7	94.1
Employment rate, age group 55-64	53.4	56.1	51.2	61.1	61.2	61.1
Pension expenditure as % of GDP (ESSPROS)	7.7*			Projections for 2060		
Gross public pensions as % of GDP (AWG projections)	7.2			7.5		

Data source: Eurostat. Sustainability indicators and projections (EPC AWG) – Commission Services (DG ECFIN), based on The 2015 Ageing Report. Data on gender gaps – ENEGE. Notes: * - 2012 data; : - not available.

6. Theoretical Replacement Rates (TRRs)

TRR case	Net				Gross				
	2013		2053		2013		2053		
	Men	Women	Men	Women	Men	Women	Men	Women	
Average Earnings	Base case I: 40 years up to age 65	61.6	70.0	71.3		47.6	54.2	53.9	
	Base case II: 40 years up to the SPA	52.6	52.4	71.3		40.7	40.6	53.9	
	Increased SPA: from age 25 to SPA	49.9	47.3	71.3		38.6	36.6	53.9	
	AWG career length case	53.3	54.7	74.3	67.8	41.2	42.4	56.0	51.2
	Longer career I: from age 25 to 67			84.9				64.1	
	Shorter career I: from age 25 to 63			62.1				46.9	
	Longer career I: from age 25 to SPA+2			84.9				64.1	
	Shorter career I: from age 25 to SPA-2			62.1				46.9	
	Career break – unemployment: 1 year			70.7				53.4	
	Career break – unemployment: 2 years			69.1				52.2	
	Career break – unemployment: 3 years			68.5				51.7	
	Career break due to child care: 0 year				71.3				53.9
	Career break due to child care: 1 year				70.9				53.6
	Career break due to child care: 2 years				70.5				53.3
	Career break due to child care: 3 years				70.0				52.9
	Short career (30 year career)			54.2				41.0	
	Early retirement due to unemployment			59.6				45.0	
	Early retirement due to disability			73.4				55.5	
Indexation: 10 years after retirement			65.7				50.9		
Low Earnings (66%)	Base case I: 40 years up to age 65	77.5	88.3	86.4		61.8	70.3	67.7	
	Base case II: 40 years up to the SPA	76.2	76.0	86.4		60.8	60.7	67.7	
	Increased SPA: from age 25 to SPA	62.8	59.6	86.4		50.1	47.5	67.7	
	AWG career length case	67.0	68.9	89.7	82.1	53.4	55.0	70.3	64.3
	Longer career I: from age 25 to 67			103.1				80.7	
	Shorter career I: from age 25 to 63			75.3				59.0	
	Longer career I: from age 25 to SPA+2			103.1				80.7	
	Shorter career I: from age 25 to SPA-2			75.3				59.0	
	Career break – unemployment: 1 year			85.8				67.2	
	Career break – unemployment: 2 years			83.8				65.7	
	Career break – unemployment: 3 years			83.2				65.2	
	Career break due to child care: 0 year				86.4				67.7
	Career break due to child care: 1 year				86.1				67.4
	Career break due to child care: 2 years				85.7				67.1
	Career break due to child care: 3 years				85.2				66.7
	Short career (30 year career)	51.6		66.0		41.1		51.7	
	Early retirement due to unemployment			70.4				55.1	
	Early retirement due to disability			90.7				71.0	
Pension rights of surviving spouses				87.3				68.4	
High	Base case I: 40 years up to age 65	39.6	44.9	47.2		30.0	34.1	34.9	
	Base case II: 40 years up to the SPA	33.9	33.7	47.2		25.7	25.6	34.9	

Data source: TRRs for 2013 and 2053 – Member State

Luxembourg (LU)

1. General description of the pension system

In Luxembourg the public pension system is divided into two different schemes: (1) a general scheme for the employees and the self-employed in the private sector, (2) a special scheme for civil servants and other public sector employees. Both systems are organised as mandatory pay-as-you-go (PAYG) systems 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 which is kept fixed for a period of ten 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 8 percent by employers, employees and the state.

The law foresees a minimum reserve of 1.5 times the yearly pension expenditure. As of end of 2013 the accumulated reserve amounts to 4.0 times¹⁸⁵ the yearly pension expenditure, which is equal to 30.2 percent of GDP.

The old-age pension consists of two parts: a lump sum depending on the length of career, and an income-related component. The lump sum for people with full contributory period (40 years) is determined as a percentage (value for 2015: 23.8 percent) of reference amount which more or less equals the national minimum income (thus in 2015 the lump sum amounts to EUR 455.27). For pensioners with shorter careers, the lump sum is reduced by 1/40 for each missing year. This lump-sum is topped up with a *pro rata* end-of-year allowance equal to 2.5 percent of the reference amount per month.

The second part is an earnings related pension, calculated at an accrual rate of 1.832 percent of contributable lifetime earnings (value for 2015, to be gradually reduced to reach 1.6 percent in 2052). Depending on career length and retirement age, the accrual rate can be increased up to a total maximum of 2.05 percent. For people whose sum of pension age and career years exceeds a specific threshold (93 in 2015), it will increase by 0.011 p.p. for each additional year.

These pension benefits evolve with two indices: a consumer-price index (CPI) and a wage index. On the one hand, pensions are indexed to price evolution in a non-periodic way each time CPI increases by more than 2.5 percent. On the other hand the general wage indexation is done every two years by a specific law. This application takes into account the average annual wage development in relation to its base year 1984. For the calculation of the pension at the year of pension entitlement, the wage development factor ('revalorisation factor') from four years ago will be applied. Annual adjustments afterwards ('adjustment factor') follow the annual rate of change of the revalorisation factor between the penultimate and ultimate year. The adjustment factor is applied conditional on the overall sustainability of the pension system and can be abolished in adverse situations.

The pension system guarantees a minimum pension of 90 percent of the reference amount if 40 eligible pension years or equivalent have been completed. As of January 2015 this minimum pension amounted to EUR 1,726. For people with a career of less than 40 but more than 20 years, the minimum pension is reduced by 1/40 for each missing year below 40. In 2014, the average gross old age pension¹⁸⁶ for men amounted to EUR 2,208 per month and

¹⁸⁵ IGSS Rapport general 2014, 202.

¹⁸⁶ including early old age

EUR 1,490 for women. These figures are somewhat misleading given the fact that almost 50 percent represent partial pensions that are subject to international transfers according to European social security coordination (Regulation 883/2004/EC). In comparison, the average gross old age pension of a male resident was equal to EUR 3,403 per month in 2014. For a pension at the legal retirement age of 65, a minimum of 10 contribution years has to be fulfilled. Early retirement is possible at the age of 60 at the condition of 40 years of pension (or equivalent) years and a minimum of 10 mandatory years. When 40 mandatory insurance years are fulfilled an early retirement at the age of 57 is already possible.

In periods of unemployment, which are included in qualifying periods, the benefits are subjected to pension contributions, 1/3 by the beneficiary and 2/3 by the state. Child raising years ('baby years') are also included in qualifying years for one of the parents, or shared between both parents, where one child gives entitlement for two years, increased to four years when there are at least two additional children. These later benefits are based on contributions paid before the child raising years. By insufficient contribution years, a special amount of 87 EUR per child is granted after the age 65.

The reserves or pension fund of the public pension scheme is based on continuous economic growth and relative young population (particularly driven by the large influx of cross-border workers). The second (company-based pension plan) and third pillar (private pension plan) play a growing but marginal role in the pension system and represented in 2012 respectively 6.75 percent and 1.54 percent of all pension payments. In 2011 the assets in occupational pension funds represented some 1.9 percent of GDP.

2. Reform trends

The pension reform introduced as of January 2013 by 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 changes affected the two main components of pension formula: lump-sum and accrual rate of lifetime earnings.

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. On the other hand, the end-of-year allowance is made conditional upon a contribution rate of maximum 24 percent, installing some relation between the benefit and the contributions.

The accrual rate (earnings related pension) will gradually decrease from 1.85 percent (before 2013) to 1.6 percent (after 2052). This reduction will substantially reduce the earnings related pension, but it will be compensated by an increase of the incremental rate for those who work longer. The supplementary increase of the accrual rate will evolve from 0.01 percent (before 2013) to 0.0225 percent (after 2052) per additional year, while the eligibility threshold moves from 93 to 100.

Furthermore, there is also a possibility to buy missing insurance periods due to career breaks for child-raising phases (beyond legal parental leave), periods spent caring for elderly relatives and other reasons. During a maximum period of five years this minimum contribution base of (usually) the national minimum income can be lowered to 1/3 of this amount. The acquisition of these additional pensions periods are now more easy by a monthly voluntary contribution of approximately EUR 100 per month (after pension reform), which is much lower than the previous EUR 300 per month (before pension reform). This reform, that in particular targets women (given the fact that women are mostly urged to take care of children and elderly relatives) whose pension is on average half the level of a man's pension, tries to decrease the pension gap between women and men. It is not so much the small amount

of contribution that increases women's pensions, but more the fact that this period of maximum five years will be qualified as a pension contribution period.

The reform also increased the contribution determining period from 7 years (before 2013) to 10 years now. This requires however an intermediate actuarial analysis every five years. If this analysis concludes that the financial equilibrium of the model is insecure for the upcoming five years, an immediate adjustment of the contribution rate will be adopted for another 10 years.

As already mentioned above, the private savings of the second and third pillar still play a marginal role in Luxembourg, namely less than 10 percent of the annual pension spending. The government agreement (2013-2018) aims to enlarge the second pillar (company based pension plan) to self-employed and allows personal contribution from employees not yet benefiting from company based pension plan. It also aims to align the tax incentives of second and third pillar programmes (tax deduction for company based programmes: EUR 1,200; tax deduction for private programmes: between EUR 1,500 and EUR 3,200). To comply with the upcoming 'portability directive' (art. 4 stipulated that a maximum of combined periods of vesting and/or waiting periods may not exceed three years for outgoing works), the Luxembourg Law of 8 June 1999 (art. 9 stipulated a minimum of 10 years) needs to be adapted. In addition, 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 (threshold: 60 percent of average disposable income). In 2013 the at risk of poverty rate was more than two times higher for the 65+ years old citizens in a rented house (representing some 20 percent of the 65+ population) than for house owners in own property (some 80 percent of the 65+ population): 11.6 percent against 5.4 percent.¹⁸⁷ Luxembourg has one of the highest levels of home ownership, sheltering the population from the risk of poverty at old age.¹⁸⁸

Certainly, the reform has introduced a number of compensating mechanisms in difficult financial situations. Firstly, there is a refinement and delimitation of the wage index: the readjustment factor will be made subject to the overall situation of the pension system. Secondly as discussed above, there is more weight given to the lump-sum element of the pension formula, which is the most beneficial for low-income population categories. These parametric measures are introduced to lower the replacement rate by almost 8 percent in 2052. Even though a transition period of 40 years may appear slightly long, it is perhaps not an uncommon period for a pension reform. In the USA for instance, the rise of the legal pension age to 67 around 2027 was decided in 1984 and gradually introduced over the period since then.

Below the age of 65 it is possible to combine early retirement and (non)salaried activity, provided that this happens within the specific threshold values (e.g., average of the 5 career-highest annual salaries). Beyond 65 there is no upper level threshold anymore. This measure has its strength given the fact that it stops penalizing working in old age.

3. Impact of the crisis on current pension systems and present pensioners

Explicit trade-offs between adequacy and sustainability have been introduced. The adaptation of pensions to wage evolution could have been negative in 2011-2012 and 2012-2013 since there was a decline in wages. Government excluded the pensions from this regression of

¹⁸⁷ Eurostat database – extracted on 5-12-2014.

¹⁸⁸ STATEC (2014). *Rapport travail et cohésion sociale*. Cahier Economique, nr. 117. Luxembourg: STATEC, p. 171.

benefits by setting the adaptation to zero, safeguarding the pension benefits from marginal or even negative changes.

The 2012 pension reform put the end-of-year allowance under the conditionality that the pensioners will only be entitled to it up until the implicit contribution rate (share of all expenditure to all wages) is below the legal contribution rate of 24 percent (3 times of 8 percent). The same conditions hold for the adaptation of current pensions to the level of wages. If the implicit contribution rate is above the legal contribution rate, then adaptation to the wage evolution will be at least halved. The pension reserve that needs to be above 1.5 time the total pension benefits has reached again a level of 4 times (in 2013), not at least also because of a restauration of the return of the invested funds.

In the meantime, poverty among elderly people (65+) remains relatively low in Luxembourg. The total at risk of poverty or social exclusion rate fluctuated somewhat over the last five years, but overall it increased from 15.5 percent in 2008 to 19.0 percent in 2013. The at risk of poverty rate increased from 13.4 percent to 15.9 percent over the same period, while the material deprivation indicator remained very low, but moved somewhat upwards from 0.7 percent to 1.8 percent; the number of persons living in very low work intensity households increased from 4.7 percent to 6.6 percent. Among the elderly (+65), the at-risk-of-poverty rate increased from 5.4 percent in 2008 to 6.2 percent in 2013.¹⁸⁹ This is an increase of 0.8 p.p., while the overall at-risk-of-poverty rate increased by 2.5 p.p. The generous pension system does protect elderly people relatively better against poverty risks than younger population categories. Despite the relative high level of social protection of the pensioners, and the low level of risk of poverty, this has been deteriorated in the last years.

According the latest pension adequacy calculations, the at-risk-of-poverty-or-social-exclusion (ARPE) rate for both 65+ and 75+ is increasing with respectively 1.6 p.p. and 2.3 p.p. between 2008-2013, to reach respectively 7.0 percent and 8.8 percent. This needs to be confronted with the relative substantial reduction of the income per capita in the Luxembourg economy in the last decade¹⁹⁰ and the maintenance or even slightly growth of the poverty threshold.¹⁹¹

Pensions in Luxembourg are more robust against the crisis and seem to relatively well overcome the crisis. It is remarkable however that the theoretical replacement rates (TRRs) as calculated in the PAR 2012 for 2010 are increasing in 2013 (PAR 2015), and this for all earnings categories. These TRRs are relatively declining in the future, but the new scenario's estimate shows nevertheless a higher percentage than in the PAR 2012. This could indicate a relative improvement of the pensions, as can be expected from a pension reform that gives incentives to work longer and to go for a longer career.

4. Assessment of adequacy

Current adequacy

The 2012 pension reform maintained the generous minimum pension provision of 90 percent of the reference amount for a full pension career, granting a minimum pension of EUR 1,723 on 1 January 2015. The same generosity applies for everyone who has completed or exceeded a minimum of 20 pensionable years (reduced by 1/40 for each year below 40).

¹⁸⁹ Eurostat database (ilc_pnp1) – extracted on 04-02-2015.

¹⁹⁰ Despite a substantial growth of GDP, the GDP per capita has been declining since the 2008 financial crisis up until now. See for instance Economic Forecasts European Commission

¹⁹¹ Also between 2008-2013, see :http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=ilc_li01&lang=en).

The solidarity is further improved by a new measure in favour of vulnerable pensioners whose career is interrupted for certain reasons (e.g. childcare and care of elderly relatives) and this for a period of maximum five years. A voluntary pension contribution of around EUR 100 per month, 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 for getting a minimum pension or early pension.

The Luxembourg pensioners are in very favourable situation given the low at risk of poverty rate. In 2013, the at-risk-of-poverty rate for the population aged 65+ was at 6.2 percent which was much lower than the EU-28 average of 13.8 percent.¹⁹² This good performance is the result of a guaranteed minimum income of EUR 1,348 for a single person and EUR 2022 for a couple (as of January 2014),¹⁹³ a yearly tax credit of EUR 300 when not enough pension rights are acquired and the compulsory membership of the social security system which avoids penalising economically vulnerable people.

The gross average replacement rate, calculated (in percent) as the median individual gross pension of those aged 65 to 74 relative to median gross income (without other social benefits) of those aged 50 to 59, was in 2010 78.3 percent for public pensions in general and 87 percent for an average retired-earner after 40 years of contribution period, places them at the top of all EU-countries. The OECD indicator ‘Gross pension wealth by earnings’, calculated as the amount of pensions received over the pension period to the gross average annual income over the career period, yield as of 2013 a total pension income of 14.3 (male) or 16.5 (female) times the average gross annual salary which is higher than the EU 27 average (male: 9.6 times, female: 11.2 times). The gender difference could be explained by a difference in longevity since the gender gap in pension income points in the opposite direction. With 45 percent it is higher than the EU average and it has been even at a higher level of some 49 percent in the period 2009-2011, but there is on the contrary a relatively low non-coverage rate. Despite the fact that the gender gap is lower than the EU-28 average, and also much lower than the pension gap, the employment gap remains however problematic. Between 2009 and 2011 the average age of retirement is rising with some 0.7 year for men and 0.6 for women, reaching 58.0 and 58.6 respectively.

These challenges are gently addressed by the 2012 pension reform in the form of a gradual reduction of the accrual rate to 1.6 percent which can be increased by postponing the retirement age.

The huge gap between the effective retirement age (57.6 years for men in 2013) and the official retirement age of 65 years places Luxembourg at the bottom end of OECD countries. In addition, almost 90 percent of the pensioners are early retirees. Moreover, in 2013, the employment rate of workers aged 55-64 years was with only 40.5 percent at the bottom end of the EU.¹⁹⁴ In this specific case, the pension reforms in 2002 (beneficiaries of early retirement pension can participate in (non) salaried activity as long as the sum of the pension and additional earned income is below the average contributable income of the five most favourable years, whereas 150 percent of the minimum income is the lowest threshold), had not a significant positive impact. This problem led to the pension reform of 2012 which grants additional pro-rata points (current 0.011 to 0.025 p.p. in 2052) of the accrual rate for every additional year working beyond the old age. It is debatable whether this new measure provides sufficient economic incentives to work longer. In 2009 only 10 percent of the pensioners below 65 received such an extra income from an additional job.

¹⁹² Eurostat database – extracted on 5-12-2014.

¹⁹³ See: www.mss.public.lu/publications/parametres_sociaux

¹⁹⁴ Eurostat database – extracted on 5-12-2014.

Gender pension gap

The gender gap in pensions in Luxembourg exceeds 45 percent in 2012; being 5pp higher compared to the EU-27 average. Due to the institutional arrangements and past patterns of female labour participation the gender gap in Luxembourg is consistently higher compared to the EU average, albeit it decreased from 49 percent in 2011 to 45 percent in 2012. The overall gender gap in pensions (for persons aged 65+), appears at the same level to the central gender gap; displaying also a decline since 2011. Gender gap in coverage rate is around 4pp over the period 2008-2012 being 3p.p. lower compared to the EU average. Gender Gap in annual earnings 11 percent in 2010, being lower compared to the corresponding EU average; and also lower compared to the gender gap in pensions in Luxembourg. The Luxembourg pension system seems to be particularly performant in enhancing income for the surviving spouse compared to a lower income person. This could have an influence on female labour market participation and the length of the female working career that seems to be one of the lowest in the EU: a median working career of 16 years for women, compared to 40 for men.¹⁹⁵

The reduction of the minimal monthly voluntary contribution from EUR 300 to EUR 100 will contribute according to the parliamentary debate (2012) to an improved legal coverage among others for those with interrupted careers or with a lower income. It should be a step to further improving the individualisation of pension rights.¹⁹⁶ The design of the recognised ‘baby years’, to be taken by either one of the parents or shared between them, is also gender-neutral.

Gender gaps in employment and pay. The gender gap in pensions is determined by several factors what means that its future values can be inferred from present and past developments in the employment and pension system. Since it is calculated for the entire population of 65-79 year olds, there is certain inertia in its development.

The gender gap¹⁹⁷ in the *employment rate of older workers* (aged 55 to 64) decreased by 1.3 p.p. between 2004 and 2014 (compared to 5 p.p. decrease in EU-28) and amounted to 14.8 p.p. in 2014 (EU-28: 13.7 p.p.).

The gender gap in the *duration of working life*, which in 2004 amounted to 8.2 years decreased by 2013 by 1.7 years and amounted to 6.5 years (EU-28: 5.2 years, down from 6.4 years in 2004).

The gender gap¹⁹⁸ in *part-time employment* (for people aged 20-64), which reached 30.9 p.p. in 2014 (EU-28: 23.5 p.p.), has decreased slightly by 3.3 p.p. since 2004.

The gender *pay gap*¹⁹⁹, which in 2013 at 8.6 percent was substantially lower than the EU-28 average (16.4 percent), has decreased by 1.6 p.p. since 2007 (EU-28: increase by 0.3 p.p. over the period of 2010-2013). This implies a trend towards a reduction of the gap as far as the employment factors are concerned.

Together these trends in employment and in the pension system are likely to reduce the gender pension gap in the Luxembourg pension system.

¹⁹⁵ Bettio, Betti & Tinios, 2015, Data on the pension gender gap for the 2015 SPC Pension Adequacy report

¹⁹⁶ R. Plasman, ENEGE Report 2014 p. 106

¹⁹⁷ Difference between values for men and women.

¹⁹⁸ Difference between values for women and men (for part-time employment).

¹⁹⁹ The unadjusted Gender Pay Gap (GPG) represents the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. Industry, construction and services (except public administration, defense, compulsory social security). Data source: Eurostat [earn_gr_gpgr2]

Future adequacy

As can be expected from the design of recent reforms, the changes especially hit the higher earners, for whom the theoretical replacement rate declines from 75.7 now to 72.4 in 2053. The low and average earnings groups are confronted with much lesser declines in the TRR. The AWG projection on 2013 data refers to an increase of the gross public pensions expenditures to 13.4 percent of GDP by 2060.

Challenges for pension adequacy

The recent pension reform was introduced as of January 2013 by the law of 21 December 2012 and represents a significant paradigm shift compared to the former legislation. For the first time, the pension levels tend to decline but can also be kept at the same level if the individual postpones retirement age. Due to the gradual implementation of the reform over an extremely long transition period short term effects are hardly measurable as a pensioner can compensate its financial losses by a voluntary extension of his working life.

In a context of very high comparative pension levels in Luxembourg, the minor gradual reduction will only show minor financial consequences, at least for the better-off. By consequence, this reform does not give an answer to the recommendations of the Council of the European Union (2013) given the minimal impact at short and medium term.

The programme of the newly installed government (October 2013) foresees a number of initiatives to increase the participation rate of older workers and to limit the possibilities for early retirement. They try to achieve the first goal by stimulating the combination of part-time pension and part-time work and the second goal by abolishing the so-called 'pre-retirement based on solidarity'. The latter is one particular form of pre-retirement that makes it possible for employees to leave the labour market three years prior to meeting the eligible criteria for an early retirement. For this particular form the employee needs to fulfil two conditions: the employee needs to be at least 57 years old, and the employer needs to proof that he replaced the person in case as compensation in order to receive a reimbursement of 70 percent of all costs related to the pre-retirement arrangement.

In addition the impact of work incapacity on the pension system is high. Under current legislation, an employee who is unable to participate in the labour market, is considered as 'disabled unemployed' during the first year. After that year the majority of this disabled employees is entitled to receive a 'waiting allowance' at the level of an invalidity pension which later on will be replaced by an old-age pension. The new government (October 2013) replaced in a reform bill this 'waiting allowance' with a 'professional allowance' (as a prolonged unemployment allowance). This reform stimulates also a greater involvement of the occupational health service in identifying the work incapacity of the employee and accelerates the administrative procedure. Due to this reform the sustainability of the pension system is further improved given the more restrictive and activating conditions. This could lead to a decrease in work incapacity of the active population aged 50+.

The 2012 pension reform has introduced valuable measures which make it possible to achieve the intended effects of the reforms in a shorter period. To achieve the recommendations of the Council of the European Union, an initiation of subsequent reforms is required. In this respect the government established a 'Pension Policy Group' to evaluate the impact of the current reform on the sustainability and adequacy of the pension system. If needed, further measures will be taken whereby the first principles already are laid down in the government programme of 2013: (1) provide incentives to postpone the retirement age, (2) enable a more gradual transition to retirement, (3) recognize the individualisation of pension rights (in case of divorce).

5. Sustainability

The evolution of the demography, employment rate and expenditure can give us information about the sustainability of the pension system in the future.

Demography

The old-age dependency ratio (population aged 65 and over as a percentage of the population aged 20-64) in Luxembourg is projected to increase from 22.3 percent in 2013 (EU-28: 30.3 percent) to 36.0 percent in 2053 (EU-28: 54.9 percent).

Luxembourg belongs to the group of Member States where the increase in old-age dependency ratio is projected to be below the EU-28 average. Over the period 2013 to 2053, the old-age dependency ratio is projected to increase by 13.7 p.p. (EU-28: 24.6 p.p.).

The share of working-age population (20-64) (63.1 percent of the total population in 2013) is projected to drop by 6.4 p.p. by 2053 (to 56.7 percent of the total population), compared with 9.2 p.p. for the EU as a whole by 2053.

The economic old-age dependency ratio for Luxembourg is projected to rise by 17.1 p.p. from 30.3 percent in 2013 to 47.4 percent in 2053 and it will be below the EU-28 average (66.2 percent in 2053).

The long term sustainability of the public pension system is far from being secured and the pension system will be in a precarious situation because of structural and demographic changes. The effects of labour immigration and cross-border workers will attain a high level of maturity. Consequently the growing number of cross border pensioners will induce growing amounts of exports of pension rights. The financial balance of revenues and expenses is projected to turn negative as of 2029. The accumulated pension reserve should be sufficient to face such deficit until 2040 before it will fall below the legislated minimum of 1.5 times annual benefits.

Employment

The labour market participation rate (of people aged 20-64) in Luxembourg (74.9 percent) was below the EU-28 average in 2013 (76.5 percent) and it is projected to be below the EU-28 average in 2053 (76.5 percent versus 79.9 percent). The participation rate of older workers (aged 55-64) in 2013 was lower (42.2 percent) than the EU-28 average (54.4 percent). Over the period 2013 to 2053, the participation rate of older workers is projected to increase by 5.6 p.p. to 47.8 percent in 2053. This increase is lower than in the EU-28 (15.3 p.p.: from 54.4 percent in 2013 to 69.7 percent in 2053).

According to the 2015 Ageing Report, employment rate (of people aged 20-64) is projected to increase from 70.7 percent in 2013 (EU-28: 68.4 percent) to 73.4 percent in 2053 (EU-28: 74.9 percent). Employment rate of older people (aged 55-64) is projected to change from 40.2 percent in 2013 to 46.2 percent in 2053 (EU-28: from 50.3 percent to 66.6 percent).

The employment rate for older workers (from 55 to 64 years) in Luxembourg in 2013 was lower than the EU-28 average: 40.2 percent (48.3 percent – men, 31.9 percent – women) versus 50.3 percent at the EU-28 level (57.6 percent – men, 43.3 percent – women).

The effective exit age from the labour force in 2013 was 60.5 (60.2 – for men, 60.9 – for women) and it is below the EU-28 average (63.1 – total, 63.5 – for men, 62.7 – for women).

Main drivers of pension expenditure

According to the 2015 Ageing Report, the gross public pension expenditure will increase from 9.4 percent of GDP in 2013 to 13.4 percent of GDP in 2060.

In accordance with the 2015 Ageing Report the demographic factor has the strongest upward effect (+6.8 p.p. of GDP) on gross public pension expenditure over 2013-2060. The labour intensity and benefit ratio contribution have an increasing effect of +0.1 p.p. of GDP. The negative budgetary effects are partially offset by other main influencing factors: coverage ratio (-2.4 p.p.) and employment rate (-3.0).

It should be noted, however, that the above analysis does not account for cross-border effects which are particularly strong in the case of Luxembourg.

6. Main opportunities for addressing pensions-related challenges

The European Commission recommends that Luxembourg advances pension reform by increasing the effective retirement age, limits early retirement and links statutory retirement age to life expectancy. In addition, Luxembourg is advised to reinforce efforts to increase the labour market participation rate of older workers ('Council recommendation on Luxembourg's 2014 national reform programme and delivering a Council opinion on Luxembourg's 2014 stability programme', p. 7).

Luxembourg recognises that due to the ageing of society, the effective retirement age (currently about 59 years) needs to move closer to the statutory retirement age of 65. The policy measures include:

1. The 2012 pension reform linked the pension benefit to life expectancy by aligning the pension scheme replacement rate over a 40 year period to an increase of life expectancy of 3 years (for the same temporal horizon), thus encouraging the insured to expand their working careers.
2. The "Pensions Committee" will start in 2016, following the best practice established by other Member States. The Committee, initiated a year earlier than foreseen, will analyse the coherence of the provisions underlying the pension reform with the evolution of longevity. An actuarial report by the General Inspectorate for Social Security will serve as the departing point for analysis and the Committee may propose adaptations.
3. In 2013 a draft bill on the professional redeployment has been presented to the Parliament. It contains measures aimed to smooth the transition between the labour market and retirement. Partial social security benefits combined with income from part-time work would be an active labour market solution aiming to maintain the workers experiencing partial work incapacities in their last working place, whereas presently these people most often quit the professional activity and enter the disability pension scheme at an early age (on average 52 years in 2012).

More generally, Luxembourg fully endorses the Social Protection Committee (SPC) horizontal assessment of the implementation of all 2014 CSR and the country-specific challenges outlined in the newly released 2015 Commission Country Reports in the areas of social protection and social inclusion: *"Aligning the pensionable age with changes in life expectancy is the subject of a number of CSRs in this area. While the Committee [SPC] recognizes this as a valid horizontal orientation for reforms, it would also like to emphasize that besides the statutory pension age, and given the competence of Member States in the area of social security in general and pensions in particular, many other tools (such as restricting access to early retirement, extending contributory periods, including a life expectancy factor in the benefit calculation formula, and/or stepping up efforts in workplaces and labour markets to enable women and men to work more and longer, etc.) are also available as policy options for increasing the effective retirement age and for adapting pension systems to changing demographic and economic conditions. Therefore, the most appropriate mix of policy options in the area of pensions depends on the specificities of national pension systems,*

the sustainability challenge and the current and projected adequacy of future pensions, which should be reflected in whether and how CSRs in this area are formulated.”

7. Background statistics – Luxembourg

1. Relative incomes of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	1.13	1.14	1.11	0.16	0.18	0.14
Income quintile share ratio (S80/S20), 65+	4.1	4.5	3.7	1.1	1.4	0.9

2. Poverty and material deprivation

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+	7.0	6.3	7.5	1.6	1.7	1.5
At-risk-of-poverty rate (AROP), 65+	6.2	5.6	6.7	0.8	1.0	0.7
Severe material deprivation (SMD), 65+	0.9	0.7	1.0	0.9	0.7	1.0
At-risk-of-poverty or social exclusion (AROPE), 75+	8.8	7.3	10.0	2.3	3.2	1.7
At-risk-of-poverty rate (AROP), 75+	7.3	5.7	8.7	0.8	1.6	0.4
Severe material deprivation (SMD), 75+	1.8	1.6	1.8	1.8	1.6	1.8
Relative poverty gap, 65+	14.7	14.7	11.5	-0.7	-0.7	-3.9
At-risk-of-poverty rate (AROP), 65+: 40 % threshold	1.7	1.3	2.1	0.8	1.1	0.7
At-risk-of-poverty rate (AROP), 65+: 50 % threshold	2.8	2.6	2.9	0.6	0.9	0.2
At-risk-of-poverty rate (AROP), 65+: 70 % threshold	12.0	11.3	12.6	-1.1	-1.6	-0.7

3. Housing situation of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Housing cost overburden rate, 65+	1.7	0.6	2.5	0.4	0.3	0.4
Tenure status among people 65+: share of owners	90.3	91.2	89.5	2.8	-0.1	5.1
Severe housing deprivation rate, 65+	0.7	0.8	0.7	-0.4	-1.4	0.5

4. Income replacement by pension systems

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Aggregate Replacement Ratio (ARR)	0.78	0.76	0.91	0.20	0.22	0.32
Benefit Ratio (BR) (Public pensions)	51.3					
Gross Aggregate Replacement Rate (Public pensions)	:					
Gender Gap in Pension Income, % (65-79)	45.5*			-0.3*		
Gender Gap in non-coverage rate (W-M in p.p.) (65-79)	3.6*			0.3*		

5. Sustainability and context indicators

Indicator	2013			Projections for 2053		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65+, years	20.3	18.6	22.0	23.9	22.3	25.5
Old-age dependency ratio (20-64)	22.3	19.1	25.6	36.0	32.9	39.2
Economic old-age dependency ratio (15-64)	30.3	23.2	39.4	47.4	41.0	54.7
Employment rate, age group 55-64	40.5	48.3	32.4	46.2	45.4	47.0
Pension expenditure as % of GDP (ESSPROS)	9.8*			Projections for 2060		
Gross public pensions as % of GDP (AWG projections)	9.4			13.4		

Data source: Eurostat. Sustainability indicators and projections (EPC AWG) – Commission Services (DG ECFIN), based on The 2015 Ageing Report. Data on gender gaps – ENEGE. Notes: * - 2012 data; : - not available.

6. Theoretical Replacement Rates (TRRs)

TRR case	Net				Gross				
	2013		2053		2013		2053		
	Men	Women	Men	Women	Men	Women	Men	Women	
Average Earnings	Base case I: 40 years up to age 65	105.4		95.3		92.4		83.6	
	Base case II: 40 years up to the SPA	102.5		91.1		88.8		78.6	
	Increased SPA: from age 25 to SPA	93.5		83.7		78.5		70.3	
	AWG career length case	99.3	97.3	88.7	87.9	85.0	82.8	75.8	74.9
	Longer career I: from age 25 to 67			95.3				83.6	
	Shorter career I: from age 25 to 63			91.2				78.7	
	Longer career I: from age 25 to SPA+2			88.7				75.9	
	Shorter career I: from age 25 to SPA-2			n.a.				n.a.	
	Career break – unemployment: 1 year			83.4				70.0	
	Career break – unemployment: 2 years			83.1				69.7	
	Career break – unemployment: 3 years			81.6				68.0	
	Career break due to child care: 0 year				83.7			70.3	
	Career break due to child care: 1 year				83.7			70.3	
	Career break due to child care: 2 years				83.7			70.3	
	Career break due to child care: 3 years				83.7			70.3	
	Short career (30 year career)			74.2				60.4	
	Early retirement due to unemployment			78.3				64.6	
	Early retirement due to disability			74.1				60.3	
Indexation: 10 years after retirement			77.7				65.3		
Low Earnings (66%)	Base case I: 40 years up to age 65	109.3		101.3		98.7		90.9	
	Base case II: 40 years up to the SPA	106.0		96.7		95.1		85.8	
	Increased SPA: from age 25 to SPA	96.4		88.0		84.8		76.6	
	AWG career length case	102.6	100.4	93.7	92.7	91.3	89.0	82.7	81.6
	Longer career I: from age 25 to 67			101.3				90.9	
	Shorter career I: from age 25 to 63			96.4				85.6	
	Longer career I: from age 25 to SPA+2			93.6				82.6	
	Shorter career I: from age 25 to SPA-2			n.a.				n.a.	
	Career break – unemployment: 1 year			87.6				76.3	
	Career break – unemployment: 2 years			87.3				76.0	
	Career break – unemployment: 3 years			85.8				74.3	
	Career break due to child care: 0 year				88.0			76.6	
	Career break due to child care: 1 year				88.0			76.6	
	Career break due to child care: 2 years				88.0			76.6	
	Career break due to child care: 3 years				88.0			76.6	
	Short career (30 year career)	78.9		77.4		69.5		65.8	
	Early retirement due to unemployment			82.5				70.9	
	Early retirement due to disability			77.1				65.6	
Pension rights of surviving spouses				149.1				136.6	
High	Base case I: 40 years up to age 65	75.7		72.4		65.2		59.2	
	Base case II: 40 years up to the SPA	73.3		69.0		62.6		55.4	

Data source: TRRs for 2013 - Member State; TRRs for 2053 - OECD

Hungary (HU)

1. General description of the pension system

Hungary has a universal single pillar mandatory pay-as-you-go system complemented by supplementary voluntary funded scheme. Until 2010, the Hungarian mandatory pension system consisted of two pillars: the social security pension and the private pension. But, since October 2010 only the social security pillar has been receiving mandatory contributions.

In June 2014 the pay-as-you-go pillar financed 2.0 million old-age pensions. One third of the recipients of this benefit, 658 thousand people, received a supplementary payment, most often survivors' benefit. An additional 179 thousand people is paid a survivors' benefit as his/her main or exclusive allotment.

In the Hungarian pension system, the expenditure is covered from two main sources. The employees pay pension contribution (*nyugdíjjárulék*), currently at 10 percent of their wages. Since 2012, the employers have been paying social contribution tax (*szociális hozzájárulási adó*) instead of the former employers' contribution, at 27 percent of wages. The annual budget law determines the level that the Pension Insurance Fund receives from it. This rate changes year by year and for 2015 its value was set at 23.07 p.p. Hence, currently a total of 33.07 (10+23.07) percent of wages cover pension expenditures. Altogether this makes up to 26.04 percent of the total wage cost, which includes further taxes and contributions both on the employer and the employee side.

The minimal service period necessary to receive an old-age pension is 15 years. At least 20 years of service are necessary to receive minimum pension. Benefits are established by a formula based on length of service and the average earnings since 1988. The rate at which first pension replaces the calculated net monthly life-time wage is depends on the accepted years of service. This scale is non-linear and favours people with short and medium careers. Service years include non-contributory periods (university studies before 1998, mandatory military service) and other partly-contributory and contributory periods when the government paid contributions on behalf of the insured person or the insured paid contributions (maternity leave, years in lower vocational school etc.). Pensions are tax exempt since they are calculated from net wages (although what constitutes net wage was redefined in 2008).

The standard retirement age is being gradually increased (by half a year for every age cohort) to reach 65 years in 2022 for those born in 1957 and after. In the first half of 2015 the retirement age, applicable for people born in 1952, is 62.5 years.

Pensions in payment are indexed by prices in a forward looking manner. In January pensions are raised by the estimated 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. The 2013 budget set an inflation target of 5.2 percent. In the end, the actual consumer price index (CPI) in the reference pensioner basket was just 1.5 percent, leading to a 3.65 percent increase in real terms. The same overshooting took place in 2014: the inflation target of the budget was 2.4 percent, while the cumulative pensioner CPI resulted to be a mere -0.6 percent.

Early exit routes were narrowed in 2012. According to the new rules, the benefits for persons receiving disability pension below retirement age have been transformed into health insurance – disability or rehabilitation – benefits which are financed from the Health Insurance Fund (HIF); and the benefits for persons receiving disability pensions above retirement age have been transformed into old-age pension. Depending on the motion for rehabilitation determined in the course of complex assessment by the National Rehabilitation and Social Authority (hereinafter referred to as 'NRSZH'), "persons with changed working capacity"

(*megváltozott munkaképességű személyek*) can claim: a) rehabilitation benefit (*rehabilitációs ellátás*), or b) disability benefit (*rokkantsági ellátás*). The new benefits are also paid from the Health Insurance Fund.

Other former early retirement pensions cannot be awarded from 2012; and former early retirement pensions below retirement age have been transformed into benefits prior to retirement age which are financed from the National Fund for Family and Social Policy (Nemzeti Család és Szociálpolitikai Alap) thus no longer will be pensions as a benefit for old-age income substitution. An important early exit route based on a combined eligibility rule of age and contributory period was closed altogether. The only notable exception is the special early retirement programme for women having collected 40 years of eligibility (informally called the women-40 programme, *nők 40 év jogosultsági idővel*), which remained the responsibility of the Pension Insurance Fund (PIF). The number of its recipients (116 thousand in June 2014) is included in the above figure of old-age pensions.

Workers employed in dangerous and hazardous jobs could gain entitlement to early retirement due to hazardous working conditions (*korkedvezményes ellátás*) until 31 December 2014. There is a general consent that the list of occupations concerned, specified by law, is outdated and reflects technologies of the 1960s-1970s. A full revision was in the focus of debates several times in the past. Instead, the government made employers pay for the preferential treatment. Since 2007, employers have paid additional contributions (*korkedvezménybiztosítási járulék*), by now 13 percent of gross wage, if their employees were allowed to participate in this special early retirement scheme. Workers, who collected eligibilities for this type of early retirement will still be allowed to this special benefit below retirement age but the option for collecting new eligibilities is not available from 1 January 2015, thus the contribution payment for these benefits are also ceased from the same date of effect.

According to the transition rules, some people from other groups could claim other retirement benefits prior retirement age, but this option generally has been phased out by now.

Retired workers must defer their benefits if working in the public sector. In the private sector, however, continuing work after retirement is allowed. This option is unconstrained if the pensioner reached the retirement age but it is subject to an earnings limit equivalent of 18 months of minimal wage if the beneficiary receives one of the provisional early retirement benefits (see the section below on Working longer) or participates in the women-40 programme.

2. Reform trends

Working longer. In 2011, nearly 30 percent of beneficiaries, younger than the official retirement age took up 25 percent of benefits. Since the pension reform of 1997, retiring early was very widespread – up to 90 percent of the affected cohorts. The routes to leave the labour market were various. New regulations that came to effect on January 1, 2012 locked many of these ways and narrowed those that remained open, making retirement below the standard retirement age more difficult. Since most recipients whose benefits have been in payment kept their eligibility the effects will be felt gradually.

The new benefit system for the people with reduced capacity to work focuses to a greater extent than previously on the process of *rehabilitation*. This consists of a complex system of medical, social, training, employment and other activities, the aim of which is to reintegrate persons with changed working capacity to the labour market, to prepare them for employment in a suitable work place and to ensure their employments in the suitable work place concerning their working capacity. The applicant may be obliged to personal attendance at the NRSZH assessment. Provided that the applicant fails to fulfil this obligation voluntarily, the procedure shall be terminated.

Another important element of the comprehensive tightening of retirement options was the limitation of the possibility to retire early due to having worked in specific jobs. For example, early retirement for members of the armed forces or holders of dangerous and hazardous jobs (*szolgálati nyugdíj* and *korkedvezményes nyugdíj*) born in 1955 or after will result with a benefit cut of 16 percent. Alternatively, reactivation in government jobs will be offered.

The raising of pensionable age and the limitation of early retirement undoubtedly beneficially influenced the evolution of employment rates. The employment rate of older workers (aged 55-64) increased by about 10 p.p. between 2008 and 2014.

Mandatory private pensions. Between 1998 and 2011 Hungary experimented with complementing her pay-as-you-go pillar with a privately managed, mandatory, pre-funded scheme. At its peak in 2010 this sector managed the funds of 3.1 million members, about three-quarters of the labour force. Contributions paid by or on behalf of fund members were split between the two pillars. According to the transition rules, fund members had given up about one quarter of their eligibilities in the first pillar, which was by and large in proportion with the share of contributions averted to the private funds. The value of assets reached about HUF 3,300 billion or EUR 11.9 billion, about 12.5 percent of GDP by 2011.

The build-up of the second pillar was to create a limited double-burden problem: while pensions in payment had to be financed all along, a part of contributions was saved in order to pre-fund future pensions. The resulting deficit of PIF had to be financed by the government either from reduced spending or higher taxes or debt. The balance of the transition period is not unambiguous. No special pensions-related flows were earmarked, so the exact extent of debt-financing cannot be determined. According to an OECD report on the halting or reversal of prefunding in Central and Eastern Europe, the Hungarian transition was not based on current but future revenues.²⁰⁰ Reduced eligibilities in the first pillar significantly diminished the implicit debt of the pension system but at the cost of increasing explicit debt.

In 2011 almost the entire second pillar was renationalized and defunded (by the end of September 2014 only 4 funds with 61.5 thousand members remained with some assets worth 205.4 billion HUF (ca. EUR 741 million). Since 2010 the second pillar was transformed into supplementary scheme, and does not receive new mandatory contributions any longer.

3. Impact of the crisis on current pension systems and present pensioners

Already before the financial and subsequent real economy crises shook the world, public expenses in Hungary became unsustainable and required correction. Long overdue austerity measures were introduced in 2006-2007 and resulted in stagnation through most of 2007. However, financial institutions neglected warnings and passively assisted local authorities and households building up debts denominated in foreign currencies. This combination left the economy particularly vulnerable to the 2008-2009 downturn and severely limited the space of manoeuvring once it hit. The government could not escape from the crisis by devaluing the forint nor could it give demand stimuli. To the contrary, it had to cut back expenses, in particular on social protection.

In the pension system this translated into a series of parametric adjustments. Two of them affected new retirees:

- *Benefit formula.* Starting from 2008 the authorities redefined net wages in benefit calculation. Thus far, net wages were reduced from gross wages only with personal income tax. Under the new rule, the gross wage has to be netted also by the employee

²⁰⁰ See the OECD report by Égert, B. (2012). The impact of changes in second pension pillars on public finances in Central and Eastern Europe, OECD Economics Department Working Papers, 942, Paris, OECD.

share of social insurance contributions. This severe cut was partly compensated by changing the valorisation rules of past earnings. Previously, wages of the last three years were not valorised but were taken as nominal values in the formula, and the previous years were valorised to the level of the second year before retirement, not the level of the last year. In the new version, only the last year is not indexed. These corrections returned some of the losses; the exact magnitude depends on the inflation rate in the last years of the labour market career. The overall effect was about 7 percent cut in entry pensions.

- *Retirement age.* The crisis sped up decision to further increase the retirement age. For decades, the retirement age was 60 for men and 55 for women. After many attempts, it was eventually raised to 62 for both genders in 1997. The transitory period ended in 2001 for men and in 2009 for women. In May 2009 as part of a new austerity package further increase of the retirement age was enacted: a new transitional period was announced starting in 2014 and ending in 2022 with a gradual increase of the retirement age to 65 years for both genders. The first affected are those born in 1952 and the first retiring at the age of 65 are members of the 1957 birth-cohort.

Two other measures, restrictions on early retirement and disability pensions as well as the reversal of the prefunding experiment, will have major effect on future beneficiaries. They were described in detail above.

Adjustments affecting current and future beneficiaries:

- *Benefits.* On top of the regular benefit the so-called 13th month pension, an extra month of bonus was phased in gradually: one week in 2003, two weeks in 2004 and so on until by 2006 a full extra monthly benefit was paid out to each recipient. In 2009 the 13th month pension was firstly reduced and then they were totally cancelled since July of this year.
- *Indexation.* In 2009 the so called Swiss-index, a half-wage-half-price index in effect since 1998, was conditioned on economic growth (the indexation was replaced by a new combination of the price index and the wage index depending on GDP growth.) Lower growth rates resulted in a lower index. Due to the macroeconomic environment it functioned as a pure price index for two years, when it finally got replaced with the unconditional price index as of January 1 2012. This ended a two-decade struggle of consecutive governments to reduce the full wage index to a price-index.

4. Assessment of adequacy

Current adequacy

In terms of absolute poverty Hungarian elderly are poor in European comparison. Men rank 7th, and women 5th in the 65+ age group and, respectively, 10th and 6th in the 75+ age group as regards the frequency of facing severe material deprivation among the 28 nations of the EU. These frequencies are lower than the average for the 12 new Member States but higher than the overall average of the EU-28. In terms of purchasing power standard (at-risk-of-poverty thresholds in thousands of EUR) Hungary is among the last 7-8 Member States.

However, in relative terms older people are doing quite well. The relative income position of Hungarian elderly is among the most favourable in the European Union. Old people are less likely to be poor than other groups of the population. The at-risk-of-poverty measure (AROP in the table) is the lowest both in the 65+ and the 75+ female populations and among men above the age of 75 years; and it is the 2nd lowest in the 65+ group among men.

The relative median income ratio (RMIR, persons aged 65 years and older compared to persons aged less than 65 years) is also high in European comparison (2nd for men, 3rd for

women). Its value is above one for both genders meaning that the elderly in fact have a higher median income than those younger than 65 years. This applies even in single households, which in general are more exposed to poverty, among men. Among women living in single households the RMIR is slightly below 1.

The risk of relative poverty increases and the relative income decreases if we move from the total age group to the corresponding subpopulation of single households. In both cases the change is more explicit among men than among women. The consistently less favourable poverty measures among women including the selected group of those living in single households make it clear that the gender gap is only partially due to gender differences in household structure. In part it is a consequence of gender differences in the length of service years and a flatter age-earnings profile.

Gender pension gap

Hungarian figures reveal comparatively modest gender gap in relative poverty but a wider difference in material deprivation. The gap between the average pensions of men and women (the Gender Pension Gap, GPG) ranged between 14-15 percent in the 65+ age group over the period of 2008-2012. This is one of the narrowest among member states and about 25 p.p. lower than the EU-27 average.

This 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 pay gap is negligible in coverage and it is relatively low (18 percent in 2012) in annual earnings. The gap being higher in earnings than in pensions is contrary to the European tendency where gender differences in pensions are more explicit than in wages.

Old-age pensions established in 2013 for men were on average 4.9 percent higher than those for women (Ft 100,848, ca. EUR 340 per month compared to Ft 96,115, ca. EUR 324).²⁰¹ Since a beneficiary can be eligible for supplementary allowances (widow's pension) and women receive such supplements more frequently, the full amounts of benefits for new old-age pensioners were slightly higher (equivalents of EUR 345 and EUR 333, respectively) and the difference of benefits between men and women is just 3.4 percent. These are minor differences, smaller than the gap in earnings. However, this might grow over time. In the case of price-indexation pensions in payment diverge from entry pensions as years pass by. Due to mortality differences between genders this affects women more than men. Combined with the option of early retirement for women, which enlarges the gender gap in contributory years, this can increase the gender pension gap in the long run.

Gender gaps in employment and pay. The gender gap in pensions is determined by several factors what means that its future values can be inferred from present and past developments in the employment and pension system. Since it is calculated for the entire population of 65-79 year olds, there is certain inertia in its development.

The gender gap²⁰² in the *employment rate of older workers* (age 55-64) has increased by 1.1 p.p. over the period of 2004-2014 (EU-28: -5 p.p.) and amounted to 14.4 p.p. in 2014 (EU-28: 13.7 p.p.).

²⁰¹ Figures are collected from the statistics of the Central Administration of the National Pension Insurance (http://www.onyf.hu/m/pdf/Statiztika/Nyugdijiban_ellaataasban_jaaradeekban_ees_egveeb_jaarandoosaagban_reeszueseloek_aallomaanystatiztikai_adatai_2014_januaar_emelees_utaan.pdf). The amounts include the 2.4 percent indexation of January 2014.

²⁰² Difference between values for men and women.

The gender gap in the *duration of working life*, which in 2013 came to 4.6 years (EU-28: 5.2 years), had decreased by 0.3 years since 2004 (EU-28: -1.2 years).

The gender gap in *part-time employment*²⁰³ of workers aged 20-64 reached 4.2 p.p. in 2014 (EU-28: 23.5 p.p.), having increased by 1.2 p.p. since 2004.

The gender *pay gap*²⁰⁴, which in 2013 at 18.4 percent was higher than the EU-28 average (16.4 percent) had increased by 2.1 p.p. since 2007 (EU-28: increase by 0.3 p.p. over the period of 2010-2013). This implies a trend towards an increase of the Hungarian gender gap as far as the employment factors are concerned.

Future adequacy

Calculations of current and projected Theoretical Replacement Rates (TRRs) show that first pensions in Hungary are relatively high compared to last wages. A hypothetical worker earning the average wage over an uninterrupted career of 40 years and retiring at the standard pensionable age (62 years for both genders in 2013) receives more than 85 percent of his or her last wage. This reflects a minor drop especially if the costs of having a paid job and the increase in the value of household labour after retirement are taken into account. Adding the utility of leisure to this, such high replacement rates imply a strong retirement motive.

Hungarian TRRs are significantly, 20-25 p.p., higher than the corresponding figures of the most countries of 11 NMSs and 8-14 p.p. higher than the EU average. The country-specific assumptions of the Ageing Working Group result in even higher simulation results: TRRs at 91 percent and 86 percent for, respectively, men and women.

Prospective TRRs are still high, although the AWG projection predicts a 3.3 and 5.1 p.p. drop, respectively for men and women. These are slightly more than their NMS11 equivalents but the difference between Hungary and the rest of the region is still likely to remain significant. Western European member states are expected to absorb even sharper decreases of TRRs over the next 40 years.

The projection exercise also reveals that the Hungarian benefit formula is insensitive to child-related career breaks. Carers, mostly women, can expect the same TRR in 2053, 81.9 percent, irrespective of their spending 1, 2 or 3 years or no time at all at home with small children. In contrast, career breaks due to unemployment will have a negative impact. They will cut TRRs by, respectively, 1.5, 3.0 or 4.6 p.p. An extension of the working career by 2 years is rewarded by a 14.4 p.p. higher TRR.

In addition to first-year pensions, the projections also examine the TRR of benefits 10 years after their establishment. The latter is not compared to previous pensions of the same hypothetical individual but the first-year benefit of an individual following the same career but being born and retiring 10 years later. The 13.6 p.p. erosion is the second highest in the EU. As mentioned above, this will affect women more than men due to gender-differences in mortality.

Challenges for pension adequacy

As forecasted by the 2015 Ageing Report, the pension budget expressed as share of GDP will remain stable in the long-term perspective (11.5 percent in 2013 compared to 11.0 percent in 2055 and 11.4 percent in 2060). This is in a sharp contrast with previous predictions

²⁰³ Difference between values for women and men (for part-time employment).

²⁰⁴ The unadjusted Gender Pay Gap (GPG) represents the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. Industry, construction and services (except public administration, defense, compulsory social security). Data source: Eurostat [earn_gr_gpgr2]

according to which the Hungarian pension expenditure in 2060 would amount to 14.7 percent of GDP. The improvement in projected sustainability has been achieved at the cost of generosity of future pensions and can thus have a negative impact on their adequacy. For reference, it should be noted that the demographic push projected in 2012 Ageing Report would by itself nearly double the share of pension expenditure in GDP. Among the sources of cost reduction the changing indexation rule should be mentioned, detaching pensions from wages in long careers. Older women living alone are most at risk in this respect. The list of other concern-raising factors includes:

- Impact of changed socio-economic context. The current adequacy level reflects mostly the former economic regime, which until 1990s included full coverage of population, generally long insurance periods and more generous pension eligibility. Since the period of economic transition, massive unemployment, high inactivity rates, dropping insurance coverage, fragmented professional trajectories etc. have emerged;
- Contribution evasion in the last two decades due to the extensive grey economy and the high tax wedge;
- Low saving propensity and predominant cultural norms not fostering self-reliance.

As a result of intertwining of these factors, more and more people are likely to be not able to accumulate adequate pension entitlements and more individuals are expected to get more modest benefit in comparison with former cohorts. A deterioration of pension adequacy cannot be thus excluded.

5. Sustainability

The evolution of the demography, employment rate and expenditure can give us information about the sustainability of the pension system in the future.

Demography

The old-age dependency ratio (population aged 65 and over as a percentage of the population aged 20-64) in Hungary is projected to increase from 27.7 percent in 2013 (EU-28: 30.3 percent) to 53.3 percent in 2053 (EU-28: 54.9 percent).

Hungary belongs to the group of Member States where the increase in old-age dependency ratio is projected to be above the EU-28 average. Over the period 2013 to 2053, the old-age dependency ratio is projected to increase by 25.6 p.p. (EU-28: 24.6 p.p.).

The share of working-age population (20-64) (62.7 percent of the total population in 2013) is projected to drop by 9.9 p.p. by 2053 (to 52.7 percent of the total population), compared with 9.2 p.p. for the EU as a whole by 2053.

The economic old-age dependency ratio for Hungary is projected to rise by 25.7 p.p. from 43.0 percent in 2013 to 68.7 percent in 2053 and it will be above the EU-28 average (66.2 percent in 2053).

Employment

The labour market participation rate (of people aged 20-64) in Hungary (70.1 percent) was below the EU-28 average in 2013 (76.5 percent) and it is projected to almost equal the EU-28 average in 2053 (79.6 percent versus 79.9 percent). The participation rate of older workers (aged 55-64) in 2013 was lower (41.8 percent) than the EU-28 average (54.4 percent). Over the period 2013 to 2053, the participation rate of older workers is projected to increase by 35.7 p.p. to 77.5 percent in 2053. It is higher than in the EU-28 (15.3 p.p.: from 54.4 percent in 2013 to 69.7 percent in 2053).

According to the 2015 Ageing Report, employment rate (of people aged 20-64) is projected to increase from 63.0 percent in 2013 (EU-28: 68.4 percent) to 73.8 percent in 2053 (EU-28: 74.9 percent). Employment rate of older people (aged 55-64) is projected to change from 38.6 percent in 2013 to 73.6 percent in 2053 (EU-28: from 50.3 percent to 66.6 percent).

The employment rate for older workers (from 55 to 64 years) in Hungary in 2013 was lower than the EU-28 average: 38.6 percent (46.1 percent – men, 32.3 percent – women) versus 50.3 percent at the EU-28 level (57.6 percent – men, 43.3 percent – women).

The effective exit age from the labour force in 2013 was 63.0 (63.0 – for men, 63.0 – for women) and it is below the EU-28 average (63.1 – total, 63.5 – for men, 62.7 – for women).

Main drivers of pension expenditure

According to the 2015 Ageing Report, the gross public pension expenditure will decrease from 11.5 percent of GDP in 2013 to 11.4 percent of GDP in 2060.

In accordance with the 2015 Ageing Report, the demographic factor has the strongest upward effect (+7.8 p.p. of GDP) on gross public pension expenditure over 2013-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and career shift). The lowering effect of coverage ratio (-3.5 p.p.) and benefit ratio (-1.9 p.p.) on the public pension expenditure are more pronounced than the employment rate effect (-1.7 p.p.).

6. Main opportunities for addressing pensions-related challenges

Accumulation of reserves. Demographic pressure on the Hungarian pension system is about to increase in the second half of the 2010s when the baby-boomers of the mid-1950s will retire, and 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 since the beginning of century mostly by offering worse conditions: significantly higher retirement age, lower entry pensions and a less favourable indexation of pensions in payment. This wave was easier to deal also thanks to the presence of the echo-baby-boomers who formed a human capital fund for the retirement of their parents. However, echo-baby-boomers generation is about to finish its fertile period of the lifecycle with a low fertility rate. This implies that the future labour force might be too small to safely provide for their old-age income. In order to be better prepared, today's 30- and 40-years olds need to accumulate reserves: physical capital and invest in the human capital (education, training and health) of their children as well as their own. This would expand their labour market career (by making them healthier and better trained), increase their pay-as-you-go pensions (through higher contributions paid by their fewer children), and complete their benefits (by dissaving their accumulated assets). This process can be supported by promoting various forms of active aging.

Ensuring information about acquisition of rights. Ensuring the appropriate knowledge can be the most effective tool for acquisition of the pension rights. It can be ensured with various methods. The insured persons should receive detailed and regular information about the rules of pension accumulation as well as about their personal pension rights. This information is meant to help the individuals to take responsible decisions about their retirement planning.

In the last years, the responsible Hungarian authorities place great emphasis on ensuring the relevant information for the insured persons. The main tools are the informing active insured persons about their collected pension rights and the continuous information about the base of contribution.

Ensuring predictability and transparency of the system

The Hungarian pension system is – not exceptionally – exposed to political short-termism. Some electoral promises related to it can seriously affect the voting behavior. Such interventions often result with sharp corrections and intergenerational unfairness.

The excessive spending on pensions between 2002 and 2006 led to cuts in other chapters of public expenses, rise of contributions and cuts in entry pensions. Another consequence was the rapidly deteriorating long-term sustainability of the system. Whereas the comprehensive reform in 1997 eliminated most of the implicit debt of the system, in the years after 2001 much of this implicit debt was re-accumulated and by 2004 it reached pre-reform levels in comparative prices. The 2008 financial crisis made the system unsustainable even in the short run, which led to the series of corrections in 2009-2011.

It would be desirable to avoid hectic and abrupt interventions in the future and further prudential considerations are needed to maintain the predictability of the system and to smoothen adjustments. Some former and the latest measures applied in the pension design of the Hungarian system fit well with the ‘living longer, working longer and paying longer’ concept. In particular, the radical withdrawal of the early retirement possibility in 2012 should be highlighted. Promotion of supplementary retirement savings is nevertheless necessary. This includes fostering pension awareness, self-reliance and saving propensity.

7. Background statistics – Hungary

1. Relative incomes of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	1.05	1.12	1.01	0.05	0.05	0.03
Income quintile share ratio (S80/S20), 65+	2.8	2.9	2.7	0.2	0.2	0.2

2. Poverty and material deprivation

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+	19.0	13.5	22.2	1.5	-0.3	2.7
At-risk-of-poverty rate (AROP), 65+	4.4	2.8	5.3	0.1	0.1	0.1
Severe material deprivation (SMD), 65+	16.7	11.7	19.7	2.3	-0.1	3.8
At-risk-of-poverty or social exclusion (AROPE), 75+	16.8	10.1	20.1	-1.1	-2.8	-0.1
At-risk-of-poverty rate (AROP), 75+	3.4	1.8	4.1	-0.5	0.2	-0.9
Severe material deprivation (SMD), 75+	14.7	8.3	17.9	0.1	-3.2	1.9
Relative poverty gap, 65+	10.9	9.7	11.5	0.7	-0.5	1.3
At-risk-of-poverty rate (AROP), 65+: 40 % threshold	0.4	0.2	0.5	0.0	-0.1	0.0
At-risk-of-poverty rate (AROP), 65+: 50 % threshold	1.6	1.2	1.9	0.1	0.5	0.0
At-risk-of-poverty rate (AROP), 65+: 70 % threshold	9.7	6.2	11.7	-0.8	-1.2	-0.5

3. Housing situation of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Housing cost overburden rate, 65+	8.2	5.1	10.0	-0.9	-0.6	-1.0
Tenure status among people 65+: share of owners	92.8	94.7	91.7	3.1	2.3	3.5
Severe housing deprivation rate, 65+	8.3	5.6	9.8	-2.2	-2.4	-2.2

4. Income replacement by pension systems

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Aggregate Replacement Ratio (ARR)	0.61	0.66	0.58	0.00	0.05	-0.03
Benefit Ratio (BR) (Public pensions)	40.8					
Gross Aggregate Replacement Rate (Public pensions)	33.0					
Gender Gap in Pension Income, % (65-79)	15.3*			1.6*		
Gender Gap in non-coverage rate (W-M in p.p.) (65-79)	0.3*			-0.5*		

5. Sustainability and context indicators

Indicator	2013			Projections for 2053		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65+, years	16.4	14.5	18.1	21.6	19.9	23.3
Old-age dependency ratio (20-64)	27.7	20.9	34.4	53.3	45.9	60.9
Economic old-age dependency ratio (15-64)	43.0	29.0	59.5	68.7	55.2	84.3
Employment rate, age group 55-64	37.9	44.8	32.1	73.6	75.6	71.6
Pension expenditure as % of GDP (ESSPROS)	9.6*			Projections for 2060		
Gross public pensions as % of GDP (AWG projections)	11.5			11.4		

Data source: Eurostat. Sustainability indicators and projections (EPC AWG) – Commission Services (DG ECFIN), based on The 2015 Ageing Report. Data on gender gaps – ENEGE. Notes: * - 2012 data.

6. Theoretical Replacement Rates (TRRs)

TRR case	Net				Gross				
	2013		2053		2013		2053		
	Men	Women	Men	Women	Men	Women	Men	Women	
Average Earnings	Base case I: 40 years up to age 65	100.8		81.9		65.6		53.7	
	Base case II: 40 years up to the SPA	85.4		81.9		55.6		53.7	
	Increased SPA: from age 25 to SPA	80.6		81.9		52.5		53.7	
	AWG career length case	90.6	85.5	87.3	80.4	58.9	55.6	57.2	52.7
	Longer career I: from age 25 to 67			96.3				63.1	
	Shorter career I: from age 25 to 63			n.a.				n.a.	
	Longer career I: from age 25 to SPA+2			96.3				63.1	
	Shorter career I: from age 25 to SPA-2			n.a.				n.a.	
	Career break – unemployment: 1 year			80.4				52.7	
	Career break – unemployment: 2 years			78.9				51.7	
	Career break – unemployment: 3 years			77.3				50.6	
	Career break due to child care: 0 year				81.9			53.7	
	Career break due to child care: 1 year				81.9			53.7	
	Career break due to child care: 2 years				81.9			53.7	
	Career break due to child care: 3 years				81.9			53.7	
	Short career (30 year career)			69.6				45.6	
	Early retirement due to unemployment			81.9				53.7	
	Early retirement due to disability			74.8				49.0	
	Indexation: 10 years after retirement			68.3				44.7	
	Low Earnings (66%)	Base case I: 40 years up to age 65	107.0		81.9		70.1		53.7
Base case II: 40 years up to the SPA		90.7		81.9		59.4		53.7	
Increased SPA: from age 25 to SPA		85.6		81.9		56.1		53.7	
AWG career length case		96.1	90.7	87.3	80.4	63.0	59.4	57.2	52.7
Longer career I: from age 25 to 67				96.3				63.1	
Shorter career I: from age 25 to 63				n.a.				n.a.	
Longer career I: from age 25 to SPA+2				96.3				63.1	
Shorter career I: from age 25 to SPA-2				n.a.				n.a.	
Career break – unemployment: 1 year				80.4				52.7	
Career break – unemployment: 2 years				78.9				51.7	
Career break – unemployment: 3 years				77.3				50.6	
Career break due to child care: 0 year					81.9			53.7	
Career break due to child care: 1 year					81.9			53.7	
Career break due to child care: 2 years					81.9			53.7	
Career break due to child care: 3 years					81.9			53.7	
Short career (30 year career)		77.5		69.6		50.8		45.6	
Early retirement due to unemployment				81.9				53.7	
Early retirement due to disability				74.8				49.0	
Pension rights of surviving spouses					106.5			69.8	
High		Base case I: 40 years up to age 65	80.3		61.4		50.7		40.2
	Base case II: 40 years up to the SPA	68.1		61.4		43.0		40.2	

Data source: Member State. Note: The pensions in Hungary are free from any taxes and contributions. Hence, the net and gross amount of the pensions are the same. N.a. – not applicable

Malta (MT)

1. General description of the pension system

The current pension system in Malta was introduced on 22 January 1979. It is based on a pay-as-you-go (PAYG) public programme, which essentially covers all residents, as follows: those who are in employment pay a weekly social security contribution (with a minimum and maximum rate depending on basic wage/salary), those who are self-employed pay a weekly social security contribution (with a minimum and maximum rate depending on net earnings from their gainful activity), those who are unemployed or on social assistance have contributions paid by government and those who are economically non-active, such as housewives, rely on the contributions paid by their husbands for a widow's pension.²⁰⁵ Over time, contributions have increased both as the result of the rise in wages/salaries as well as to cover the rise in social benefits' expenditure. At present, employees pay 10 percent contribution of their basic wages/salaries to the system which is in turn matched by the other two partners, namely the employer and the government (i.e. if the employee has EUR 10 deducted from his salary, the employer and government pay the same amount of EUR 10 each). There is a ceiling (for 2014 this amounted to EUR 41.21 per week²⁰⁶) for high-waged employees, which effectively also puts a ceiling on the amount of pension at future retirement. For those born before 1962 (which is the cut-off date for those falling under the old conditions and those under the pension reform) the maximum contribution is EUR 34.25 weekly. According to comments in the country profile for the Pension Adequacy Report 2012, in the past two decades, "the ceilings have restrained the living standards of pensioners while not fending off excessive pressures on its costs". This threshold on pension does not apply to members of the judiciary and to members of parliament. Self-employed persons pay contributions according to their net earnings and the contribution in 2014 ranged from EUR 28.38 to EUR 61.82 per week (for those born after 1962) and EUR 51.38 for those born before 1962. Self-employed pay higher rates because the system in their case is based on a bi-partite contributions (the self-employed person and the state). The highest pension payable in 2014 was EUR 228.37 per week. Early retirement is not provided for in the pension scheme and people who retire early are not eligible to receive a state pension, until they reach their statutory retirement age.

Due to the pension reform enacted by virtue of Act XIX of 2006, and the subsequent Legal Notice 336 of 2006, the increase in the highest rate payable, with effect from January 2014, is connected with a guaranteed maximum pensionable income of EUR 21,431 annually for persons born on or after 1 January 1962.

The contributions finance the overall social security system – pensions (old-age, early, disability and survivor's), benefits for occupational risks, health care, sickness benefits, unemployment benefits and family benefits. Age is not the only condition for retirement, but the number of contributions is also taken into consideration. A person must have paid at least 156 weeks of contributions, ensuring at least 20 weeks of paid or credited contributions. Credited contributions are given to persons on certain criteria, such as those on parental leave, the unemployed, and others on any type of unpaid leave, subject to specific conditions.

The three-pillar pension system was reformed in 2006: the first pay-as-you-go providing two-thirds of pensions based on contributions; second pillar private pensions which is not

²⁰⁵ It is to be noted that Malta's social security system covers unemployment benefits, pensions and medical care. There is no separate fund for each of these.

²⁰⁶ There is no annual wage ceiling but a ceiling on the weekly contribution. The focus is on the contribution, being 10 percent of the salary and not higher. Pensions are however pegged to a maximum fixed amount.

mandatory because legislation is not yet in force; and the third is optional, providing for tax incentives to people for investing in pension schemes. The changes to the first pillar included the idea that the pensionable age was to be linked to life expectancy that led to the increase in the retirement age to 65 by the year 2026, and lengthened the contribution period from 30 to 40 years. The legislation has also introduced a guaranteed national minimum pension, for those born after 1 January 1962, which cannot be less than 60 percent of the median income of the country. In 2007, the medical review for invalidity pensions became more rigorous, since in previous years, the number of people who retired on such pensions had increased considerably. Early retirement schemes generally linked to privatization or downsizing of companies also put pressure on benefits, without allowing the persons to continue to contribute to the economy. Since 2008, in order to encourage more people to stay longer in the labour market and in accordance with the active ageing principle, a person can continue to work while receiving her/his full pension, but needs to continue to pay contributions until the age of 65. Those born after 1962 (and therefore falling under the reformed system), even after having paid the 40 years of contributions and thus having earned an old-age pension at the age of 61, cannot work until reaching the statutory retirement age, but may work after that age. If such a person decides not to retire at the age of 61, then the person continues to work and pay contributions until the retirement.

Other types of pensions include the invalidity, survivors and non-contributory old-age pensions. Invalidity pension is provided to persons who are assessed by the medical panel of the Department of Social Security not to be suitable for any type of employment due to a serious physical or mental problem and whose incapacity is of a permanent nature or its duration cannot be established. In the latter case the minimum duration cannot be less than one year. Conditions such as number of contributions (250 weeks, with an annual average contribution of 50 weeks) are in place. If the average contribution period is between 20 and 49 weeks, a lower pension is paid.

The amount of pension is not earnings related and does not depend on the category or the level of invalidity but rather on the social security contributions and the civil status of the person, i.e. whether married or single. A pension is nonetheless paid even if the wife is in employment. However, no extra supplement is paid for children. If, however, the person is also receiving a service pension, then the basic pension might be reduced.

The survivor's pension is provided to the surviving spouse/partner and divorced spouse if the deceased spouse was legally bound to maintain the ex-spouse. The entitlement is due if there have been 156 weeks of contributions paid with an annual average of 50 weeks per year. If contributions are between 20 and 49 weeks, a reduced rate applies. Before 2014, if the survivor was earning an income through employment, this could not exceed the minimum wage, unless the survivor was under the age of 60 and had children still in full-time education. As from 2015, the restriction on the amount of income earned has been removed.

2. Reform trends

The most recent reform is the enactment of legislation introducing the third pillar pension. A bill to amend the Social Security Act, thus setting up the system, was unanimously approved in Parliament on 14 October 2014. This system will operate on a voluntary basis. This means that persons can invest in private retirement schemes and this does not affect the level of pension paid to them by the state system. Discussions are also underway for persons who opt to increase their old-age revenue through such investment to be able to deduct the annual premium paid from their gross income in their tax computation. In fact, the Minister of Finance announced two tax incentive schemes. The first allows each individual to 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. The second scheme, referred to as the ‘individual savings account’, attracts less tax incentives, since only the interest accruing on the capital invested is tax exempt. The same capping of EUR 1000 annually applies also for this scheme. However, this scheme allows full redemption even before retirement age.

There is growing awareness in Malta on wealth differences in old age, between those able to invest in such a scheme and those having to rely on a state pension. On the other hand, it may be argued that such legislation may encourage those who hitherto would not have bothered (as such an investment would have resulted in a reduction in state pension and therefore no additional revenue overall) to actually think more in the long-term and invest in retirement plans, knowing that this will be over-and-above the state pension and not as a replacement to it. There is the added incentive to save, as such premia paid over the working life would not be considered as taxable income.

The launch of second pillar pensions was mooted, but not introduced.

Another reform initiative in this area has been to simplify administrative procedures relating to state pensions. On 19 May 2014, a new simplified procedure was introduced, whereby an application is automatically submitted to the Department of Social Security once the person reaches retirement age. The person would still need to provide certain details but without having to apply for the pension. This simplified procedure will be extended to other benefits such as disability and survivors’ pensions.

On 17 November 2014, the 2015 Budget was presented and the following main measures were announced:

- a) 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 pay back a maximum of five years contributions to qualify for a minimum pension when they retire.
- b) Employees at the Civil Protection Department will now also be able to benefit from a pension after 25 years of service.
- c) Persons born between 1941 and 1953 and who have paid between 1 to 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.
- d) Certain anomalies existing in the re-assessment of pensions for pensioners whose last employer prior to retirement has now been privatised or closed down and those receiving a service²⁰⁷ pension will be eliminated.

The retirement age varies according to the date of birth, as per changes and reforms introduced with the 2006 legislation, when retirement ages were 60 for females and 61 for males. These have now been phased out, so that those born on or after 1 January 1962 will retire at the age of 65 (for both men and women) whilst those born on or after 1 January 1952 will retire at age 62. Other ages between 62 and 64 apply for those born between 1952 and 1962. However, the reform also allows persons to retire at 61, provided they have paid 2080 contributions (40 years) if born on or after 1 January 1962, or 1820 contributions (35 years) if born between 1952 and end 1961. Whilst the law allows retired persons to claim a pension and simultaneously remain in employment, this can only be done after the statutory retirement

²⁰⁷ The reference here is to persons who used to be employed with the Military Services when British services were still operating from Malta and also to ex-Government employees

age. People who take early retirement cannot work until they reach their statutory retirement age.

The Maltese Government is committed to find alternative ways to make pensions more sustainable in the long-term without having to resort to increasing retirement age. The third pillar legislation based on fiscal incentives is the first of such considerations. Other methods may refer to retraining possibilities, activities related with active ageing policies, and lifelong learning.

3. Impact of the crisis on current pension systems and present pensioners

There have been no benefit cuts or changes to indexation and taxation rules that affected pensions in Malta. As such, this specific issue has never been debated in public.

Malta's deficit has been hovering over the three percent level for a number of years. However, the country was able to reduce it to 2.1 percent during 2014 and is expected to retain it below the 3 percent level in 2015. Austerity measures have not affected the social security system. Instead, the government is trying to increase the revenue side by making better use of the country's resources. During 2015, efforts will be consolidated to ensure that social benefits are availed of by those who really need them. People are also being encouraged to work and earn with income tax rates being slowly reduced. Pensions in Malta may not be excessively high and a single person earning the highest rate of pension has an income of EUR 11,875.24 annually. S/he has to pay income tax of EUR 506, provided s/he is not in receipt of any other income. This means that the annual rate of taxation is effectively 4.26 percent of the annual income.

It does not appear that upward adjustments of the pensionable age and/or restrictions in the access to early retirement benefits have affected labour market exit patterns and social conditions. Over the last few years, early retirement schemes in the private sector did exist as part of restructuring exercises in these individual business concerns, but there is no evidence that these were related to or affected pensions.

4. Assessment of adequacy

Current adequacy

During 2013, those over 65 years of age who were at-risk-of-poverty amounted to 14.9 percent, with the figure increasing to 20.8 percent when including social exclusion. The data show that during 2013 the number of 65+ persons decreased from 17.35 percent to 14.9 percent of the age-group population from a year earlier. For men the figure decreased from 19 percent to 15.8 percent while for females this decreased from 15.9 percent to 14.2 percent. However, when the social exclusion rate for 2013 is taken, the figures increase to 20.5 percent and 21.0 percent respectively, nonetheless lower than the previous year. The pension covers basic needs, there are no co-payments for health care and long-term care is heavily subsidised by Government although elderly persons contribute 60 percent or 80 percent of their incomes.

Gender pension gap

The number of older women in employment is relatively low and has been so for past decades. In fact, the employment rate of women 55+ in March 2014 amounted to only 18.4 percent compared to 54.6 percent for men. Traditionally few married women continued to be engaged in the labour market, especially after forming a family. Consequently, women are more likely to be eligible to receive non-contributory old-age pension or the survivors' pension. Many women over 65 years of age are at risk of poverty due to the fact that they are

more likely to live longer and their rates of pension are generally not as high as that of men because of prolonged inactivity. This situation is gradually changing as more women are continuing to work even after having children.

The gender pension gap (for persons aged 65-79) in Malta at 18.5 is much lower when compared to the EU average of 40.2. However, when one considers the gender gap in non-coverage rate, the difference is significantly higher at 36.5 compared to a much lower one of 6.8 for the EU average. The pension scheme allows women to benefit from contribution credits for up to two years per child when taking career breaks in favour of family-caring responsibilities.

Gender gaps in employment and pay. The gender pension gap indicator presents a snapshot of developments in the employment and pension system factors, which determine the size of the gap. Since it is calculated for the entire population of 65-79 year olds there is a certain inertia in its development. To get a sense of whether it is likely to reduce or increase one can look at trends in the various gender gaps in employment and at how the pension system is changing.

The gender gap²⁰⁸ in the *employment rate of older workers* (age 55-64) has decreased by 6.2 p.p. over the period of 2004-2014 (EU-28: -5 p.p.) and amounted to 35.9 p.p. in 2014 (EU-28: 13.7 p.p.). The gender gap in the *duration of working life*, which in 2013 came to 14.5 years (EU-28: 5.2 years), has decreased by 6.9 years since 2004 (EU-28: -1.2 years). The gender gap²⁰⁹ in *part-time employment* (for people aged 20-64), which reached 21.7 p.p. in 2014 (EU-28: 23.5 p.p.), has increased by 8.2 p.p. since 2004. The gender *pay gap*²¹⁰, which in 2013 at 5.1 percent was substantially lower than the EU-28 average (16.4 percent), has decreased by 2.7 p.p. since 2007 (EU-28: increase by 0.3 p.p. over the period of 2010-2013). This implies a general trend towards a reduction of the gap as far as the employment factors are concerned.

Future adequacy

The analysis of theoretical replacement rates (2nd draft) of the 2015 Pension Adequacy Report indicates that the net theoretical replacement rates (2013) are the same (79) under the three scenarios, with no differences in gender. However, estimates for 2053 indicate a 5.2 p.p. decrease in comparison with 2013, even if the SPA increases from 62 (2013) to 65 (2053). In the AWG case regarding career length, there is a distinctive gender difference at present with the figure standing at 79 (males) and 72.1 (females). However, this is projected to be 69.9 for both males and females by the year 2053.

As legislation stands today, working longer does not bring any additional bonus to prospective retirees and the NRRs are the same as in the base case (i.e. 73.8). However, retiring 2 years early brings about a penalty of 4.8 p.p.

In the TRR scenario based on an unemployment period of 1-3 years the National Insurance (NI) contributions are paid by the state as long as the person remains registering for work. Therefore a career break of up to 3 years does not change the net TRR. For the first two years of child care the NI contributions are also paid by the state as long as the mother returns to work for the same duration. Three years of child care results in a minimal lowering of pension rights, with the net TRR standing at 73.7 p.p. compared to 73.8 in the case of one or two years.

²⁰⁸ Difference between values for men and women.

²⁰⁹ Difference between values for women and men (for part-time employment).

²¹⁰ The unadjusted Gender Pay Gap (GPG) represents the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. Industry, construction and services (except public administration, defense, compulsory social security). Data source: Eurostat [earn_gr_gpgr2]

There is a difference between average, low and high earners, with the NRR being higher for low earners at 82.4 and lower at 38.6 for high earners.

Challenges for pension adequacy

The challenges associated with the adequacy of pensions are those linked with the changing demographic make-up of the country, the labour market, and possible changes in the sustainability of health and long-term care.

Birth rates have stabilised while life expectancy was increasing sharply until 2010. These two aspects have dramatically increased the old-age dependency ratio. It is projected that whilst the figure was 24.1 in 2013, this will increase to 50.7 in 2050 and even more to 60.9 by 2060. This is in a scenario where the retirement age remains at 65 and does not increase, or where the size of the working population does not increase, for example through migration, or where more productivity is possible through improvements in technology or work organization.

With the revised demographic projections produced by Eurostat, EUROPOP2013, total population for Malta is projected to increase to around 476,000 by 2060, compared to the absolute decline to around 387,000 in the previous round of projections. These revisions were in line with similar revisions to the demographic projections of other EU Member States. . Those who in 2013 were of working age (15-64 yrs) amounted to a share of 68.0 percent of total population, which will decrease to 56.1 percent by 2060. The unemployment rate (15-64 years) is assumed to increase marginally from 6.5 percent in 2013 to 6.7 percent in 2060. The female participation rate (15-64 years) is assumed to increase from 50.2 percent in 2013 to 66.9 percent by 2050 and to remain relatively stable at around that level by 2060. The male participation rate (15-64 years) is assumed to increase from 79.7 percent in 2013 to 84.5 percent by 2030 and to decline to 83.4 percent by 2060. Longevity is expected to increase to 89.1 years for women and 85.1 years for men, by 2060, thus impacting the average effective exit age for women from 61.0 to 62.6 years and for men from 62.0 to 64.0 years.²¹¹

The share of the elderly population (aged 65+ years) in total population is projected to increase steeply from 17.5 percent in 2013 to 28.5 percent by 2060.

One option of supplementing income in old age is the introduction of private pensions to complement the state pension. Up to now, private pensions have not featured much in the assessment of Maltese individuals in respect of their retirement period. The introduction of the third pillar is expected to encourage investment by workers in this respect, although as mentioned earlier, this may not be possible for all workers. Second pillar pension possibilities are harder to envisage since the country does not appear to be prepared for additional increases in social security contributions, with possible increased pressure on employers. The labour market situation can also cause problems for pension sustainability. The working-age population is expected to shrink by 11.9 percent while the elderly population is projected to increase by 11 percent. The youth dependency ratio (0-14 year bracket as a percentage of the 15-64 year bracket) is expected to increase from 21.4 percent in 2013 to 25.5 percent in 2030 and to hover around that level until 2050, and increase to 27.5 percent by 2060. The old-age dependency ratio (65+ year bracket as a percentage of the 15-64 year bracket) is projected to increase consistently from 25.8 percent in 2013 to 50.9 percent in 2060, an increase of 25.1 p.p. This will put pressure on those working needed to support the increase in the senior citizens in society. This is within a framework where pension expenditure as a percentage of GDP will increase from 9.6 percent (2013) to 10.3 percent (2060), driven by the ageing process, in reflection of projected demographic developments. At the same time, one notes that the parametric changes introduced in the pension reform also contribute to raise

²¹¹ Source of data for the demographic projections is EUROPOP2013, Eurostat; source of data for the macro-economic assumptions is the Economic Policy Committee, Ageing Working Group.

expenditure. The increase in the pension age, the increase in the contribution period for full pension eligibility and the changes to the benefit formula contribute to lower the projected increase in pension expenditure. However, at the same time the more dynamic indexation of the ceiling on pensionable income, the statutory changes to indexation for old-age pensions and the introduction of the guaranteed national minimum pension for persons retiring from 2027 onwards contribute to increase expenditure pressure.

5. Sustainability

The evolution of the demography, employment rate and expenditure can give us information about the sustainability of the pension system in the future.

Demography

The old-age dependency ratio (population aged 65 and over as a percentage of the population aged 20-64) in Malta is projected to increase from 28.2 percent in 2013 (EU-28: 30.3 percent) to 51.0 percent in 2053 (EU-28: 54.9 percent).

Malta belongs to the group of Member States where the increase in old-age dependency ratio is projected to be below the EU-28 average. Over the period 2013 to 2053, the old-age dependency ratio is projected to increase by 22.7 p.p. (EU-28: 24.6 p.p.).

The share of working-age population (20-64) (62.2 percent of the total population in 2013) is projected to drop by 9.2 p.p. by 2053 (to 53.1 percent of the total population), compared with 9.2 p.p. for the EU as a whole by 2053.

The economic old-age dependency ratio for Malta is projected to rise by 24.1 p.p. from 40.7 percent in 2013 to 64.8 percent in 2053 and it will be below the EU-28 average (66.2 percent in 2053).

Employment

The labour market participation rate (of people aged 20-64) in Malta (69.0 percent) was below the EU-28 average in 2013 (76.5 percent), but it is projected to equal the EU-28 average in 2053 (79.9 percent and 79.9 percent). The participation rate of older workers (aged 55-64) in 2013 was lower (38.7 percent) than the EU-28 average (54.4 percent). Over the period 2013 to 2053, the participation rate of older workers is projected to increase by 26.4 p.p. to 65.0 percent in 2053. The percentage increase is higher than in the EU-28 (15.3 p.p.: from 54.4 percent in 2013 to 69.7 percent in 2053).

According to the 2015 Ageing Report, employment rate (of people aged 20-64) is projected to increase from 65.0 percent in 2013 (EU-28: 68.4 percent) to 75.1 percent in 2053 (EU-28: 74.9 percent). Employment rate of older people (aged 55-64) is projected to change from 36.5 percent in 2013 to 61.0 percent in 2053 (EU-28: from 50.3 percent to 66.6 percent).

The employment rate for older workers (from 55 to 64 years) in Malta in 2013 was lower than the EU-28 average: 36.5 percent (54.6 percent – men, 18.4 percent – women) versus 50.3 percent at the EU-28 level (57.6 percent – men, 43.3 percent – women).

The effective exit age from the labour force in 2013 was 61.5 (62.0 – for men, 61.0 – for women) and it is below the EU-28 average (63.1 – total, 63.5 – for men, 62.7 – for women).

Main drivers of pension expenditure

According to the 2015 Ageing Report, the gross public pension expenditure will increase from 9.6 percent of GDP in 2013 to 12.8 percent of GDP in 2060.

In accordance with the 2015 Ageing Report, the demographic factor has the strongest upward effect (+7.2 p.p. of GDP) on gross public pension expenditure over 2013-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate and benefit ratio). The lowering effect of employment rate (-1.4 p.p.) and benefit ratio (-1.4 p.p.) on the public pension expenditure are more pronounced than the coverage ratio effect (-0.90 p.p.). The labour intensity contribution has an increasing effect of +0.1 p.p. of GDP.

6. Main opportunities for addressing pensions-related challenges

Anomalies exist in the present pension system structure. In some cases, especially for early school leavers being consequently of a lower educational level and persons who start working at an early age, e.g. at sixteen, would have paid 40 years of contributions by the age of 56 but are still obliged to continue to pay contributions until the statutory retirement age of 65, at no extra benefit in the pension level. Those who opt to retire early cannot claim a pension even if payment of 40 years contributions has been made. On the other hand, persons who start working later than 25 because of study or other non-paid activity, will be penalised as they would not have acquired credit for 40 years of work, except in very limited set of circumstances envisaged by current legislation. Changes in policies in this area may thus be required to encourage persons to continue studying to acquire advanced qualifications, others to continue working without impacting on their pension possibilities, while promoting active ageing, retention of experienced workers and increase in personal income. Different tax structures for post-retirement years may encourage worker retention even after the statutory retirement age.

Pension-related challenges are being tackled by the new Pension Strategy Group that already provided recommendations for further reforms to the first pillar but the report is still not in the public domain.

Early retirement schemes which unfortunately were many in recent years due to restructuring, downsizing and privatization, have meant that people with skills but getting too old for new jobs were left without a future to contemplate. In the long-term, there are two policies which can be followed simultaneously: the third pillar pension which may not in itself relieve pressure from the state pensions' bill but will make pensioners less dependent on other forms of state help, such as long-term care. Another policy is to increase the number of people working, and this can be done by 'weaning capable individuals off the social security system' (these words were used by the Chairperson of the Employment and Training Corporation after the announcement of the budget in November 2014) which in essence mirrors the sentiment of the present government. In fact the budget for 2015 aims to tackle this problem in a structured way, focusing on certain age groups (mainly youths so these do not develop a dependency culture). Increasing the number of people working results in more tax revenue, better income for the individuals, and would decrease the amount of benefits devoted to the different schemes available under the current system.

At present, Malta does not have legislation regarding arduous work and this is something else that needs to be considered in the coming years in so far as special provision for the pensions of this category may be required.

7. Background statistics – Malta

1. Relative incomes of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.79	0.81	0.80	0.06	0.08	0.07
Income quintile share ratio (S80/S20), 65+	3.2	3.5	3.1	-0.5	-0.2	-0.5

2. Poverty and material deprivation

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+	20.8	20.5	21.0	-5.2	-5.6	-4.9
At-risk-of-poverty rate (AROP), 65+	14.9	15.8	14.2	-9.4	-9.3	-9.4
Severe material deprivation (SMD), 65+	7.1	5.8	8.2	4.0	3.6	4.4
At-risk-of-poverty or social exclusion (AROPE), 75+	20.7	21.6	20.0	-6.1	-5.6	-6.6
At-risk-of-poverty rate (AROP), 75+	14.4	16.6	12.8	-10.5	-10.2	-10.9
Severe material deprivation (SMD), 75+	6.9	5.3	8.0	3.4	3.8	3.2
Relative poverty gap, 65+	14.6	17.0	13.7	-4.3	-3.0	-2.9
At-risk-of-poverty rate (AROP), 65+: 40 % threshold	2.6	2.8	2.5	-3.9	-3.6	-4.1
At-risk-of-poverty rate (AROP), 65+: 50 % threshold	6.8	7.9	5.9	-5.6	-5.4	-5.8
At-risk-of-poverty rate (AROP), 65+: 70 % threshold	32.0	31.9	32.2	-9.1	-7.6	-10.0

3. Housing situation of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Housing cost overburden rate, 65+	1.7	1.6	1.8	-1.9	-1.3	-2.3
Tenure status among people 65+: share of owners	71.5	72.8	70.5	3.6	0.6	5.9
Severe housing deprivation rate, 65+	0.6	0.9	0.3	-0.1	0.5	-0.7

4. Income replacement by pension systems

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Aggregate Replacement Ratio (ARR)	0.56	0.57	0.45	0.15	0.14	0.06
Benefit Ratio (BR) (Public pensions)	48.3					
Gross Aggregate Replacement Rate (Public pensions)	:					
Gender Gap in Pension Income, % (65-79)	18.5*			-1.1*		
Gender Gap in non-coverage rate (W-M in p.p.) (65-79)	36.5*			0.4*		

5. Sustainability and context indicators

Indicator	2013			Projections for 2053		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65+, years	19.7	18.1	21.3	23.4	21.8	25.1
Old-age dependency ratio (20-64)	28.2	24.4	32.2	51.0	46.2	56.1
Economic old-age dependency ratio (15-64)	40.7	27.8	61.9	64.8	52.2	81.4
Employment rate, age group 55-64	36.3	53.9	18.7	61.0	70.6	51.0
Pension expenditure as % of GDP (ESSPROS)	9.6*			Projections for 2060		
Gross public pensions as % of GDP (AWG projections)	9.6			12.8		

Data source: Eurostat. Sustainability indicators and projections (EPC AWG) – Commission Services (DG ECFIN), based on The 2015 Ageing Report. Data on gender gaps – ENEGE. Notes: * - 2012 data; : - not available.

6. Theoretical Replacement Rates (TRRs)

TRR case		Net				Gross			
		2013		2053		2013		2053	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Base case I: 40 years up to age 65	79.0		73.8		65.8		60.8	
	Base case II: 40 years up to the SPA	79.0		73.8		65.8		60.8	
	Increased SPA: from age 25 to SPA	79.0		73.8		65.8		60.8	
	AWG career length case	79.0	79.2	72.1	69.9	65.8	66.2	59.3	57.2
	Longer career I: from age 25 to 67			73.8				60.8	
	Shorter career I: from age 25 to 63			69.0				57.1	
	Longer career I: from age 25 to SPA+2			73.8				60.8	
	Shorter career I: from age 25 to SPA-2			69.0				57.1	
	Career break – unemployment: 1 year			73.8				60.8	
	Career break – unemployment: 2 years			73.8				60.8	
	Career break – unemployment: 3 years			73.8				60.8	
	Career break due to child care: 0 year							73.8	
	Career break due to child care: 1 year							73.8	
	Career break due to child care: 2 years							73.8	
	Career break due to child care: 3 years							73.7	
	Short career (30 year career)			73.4				60.5	
	Early retirement due to unemployment			76.9				62.3	
	Early retirement due to disability			76.9				62.3	
Indexation: 10 years after retirement			62.0				53.3		
Low Earnings (66%)	Base case I: 40 years up to age 65	78.5		82.4		66.9		70.5	
	Base case II: 40 years up to the SPA	78.5		82.4		66.9		70.5	
	Increased SPA: from age 25 to SPA	78.5		82.4		66.9		70.5	
	AWG career length case	78.5	78.9	80.9	78.0	66.9	67.3	68.7	66.3
	Longer career I: from age 25 to 67			82.4				70.5	
	Shorter career I: from age 25 to 63			78.6				66.8	
	Longer career I: from age 25 to SPA+2			82.4				70.5	
	Shorter career I: from age 25 to SPA-2			78.6				66.8	
	Career break – unemployment: 1 year			73.5				61.4	
	Career break – unemployment: 2 years			73.5				61.4	
	Career break – unemployment: 3 years			73.5				61.4	
	Career break due to child care: 0 year							82.4	
	Career break due to child care: 1 year							82.4	
	Career break due to child care: 2 years							82.4	
	Career break due to child care: 3 years							80.7	
	Short career (30 year career)	78.3		82.0		66.9		70.0	
	Early retirement due to unemployment			90.5				76.2	
	Early retirement due to disability			90.5				76.2	
Pension rights of surviving spouses			88.6				80.4		
High	Base case I: 40 years up to age 65	44.8		38.6		34.1		30.4	
	Base case II: 40 years up to the SPA	44.8		38.6		34.1		30.4	

Data source: TRRs for 2013 and 2053 - Member State

Notes: by definition of pension rights of surviving spouses, in Malta such spouses receive survivor's pension which is equal to 5/6ths of the 2/3rds maximum pensionable income of their spouse. In this case woman was defined as low profile earner, while her husband was defined as full pension, average earner. This explains the low level of TRR based on national definition of survivors' pension rights.

Netherlands (NL)

1. General description of the pension system

The Netherlands is known for its robust multi-pillar pension system. A generous, flat-rate state pension (the AOW, Algemene Ouderdomswet) provides a generous cash benefit to all persons who have reached the statutory retirement age and have lived in the Netherlands for 50 years between the ages of 15 and 65 (details concerning eligibility and benefits are provided below). The level of the state pension is high enough to keep the overwhelming majority of those older than 65 in 2014 with an adequate income.

An extensive system of capital-funded, occupational pensions negotiated within collective agreements covers 91 percent of workers in dependent employment.²¹² Occupational pension schemes typically provide a benefit that, when combined with the state pension (AOW), equals about 70 percent of average wages after 40 years of employment. In 2010, occupational pension income constituted 39 percent of aggregate gross income for the elderly, and the share is projected to increase steadily over the next three decades. The AOW provided 45 percent of the elderly's income in 2010.²¹³

First pillar. The Dutch pension system is a true multi-pillar system in the sense that retirees draw pension benefits from all three pillars, and no single pillar dominates. The first pillar consists of the flat-rate state pension (the AOW, Algemene Ouderdomswet) that provides a generous cash benefit to all persons who have reached the statutory retirement age of 65 and three months and have lived in the Netherlands for 50 years between the ages of 15 and 65 (the pension is reduced by 2 percent for each year of non-residence). In 2013, 81 percent of AOW pensioners received a full pension. Early retirement is not possible. The statutory retirement age will increase gradually to 67 in 2021 (see discussion below).

AOW pensions are PAYGO-financed: the contribution rate has been fixed at 17.9 percent since 1997 (the statutory maximum is 18.25 percent) and is integrated into the first and second bracket of the income tax system (the contribution is paid on taxable income below EUR 33,363). Because the AOW contribution is part of the personal income tax system, employers pay no contributions. In addition, pensioners do not pay AOW contributions. Contributions cover about 80 percent of expenditures; the rest is financed by general revenues. The trend toward increased general revenue financing (or 'fiscalisation') is recent. In 2000, AOW contributions were sufficient to finance all AOW spending.

Single pensioners receive EUR 1,175.82 per month (gross), including the vacation supplement of EUR 70.87, which is 70 percent of the minimum wage for a single person. The gross benefit includes a top-up for older tax-payers (KOB, Koopkrachttegemoeetkomende Oudere Belastingplichtigen); the KOB will, however, be abolished on 1 January 2015 and replaced with a supplement that is linked to the number of an individual's AOW-qualifying years. Married and co-habiting pensioners receive EUR 813.49 each, including the vacation supplement of EUR 25.12, which is 50 percent of the minimum wage. Singles pay a monthly health insurance contribution of EUR 59.66 per month, whereas married/cohabiting pensioners pay EUR 41.19.²¹⁴ Pensioners with a spouse/partner younger than the statutory

²¹² Memorie van toelichting, Tweede Kamer, vergaderjaar 2013-2014, 33 972, nr. 3, p.1.

²¹³ See Arjan Soede (2012) *Tevreden met pensioen. Veranderende inkomens en behoeften bij ouderen*. Den Haag, Sociaal en Cultureel Planbureau. 2012.

²¹⁴ Pensioners who rely solely on the AOW receive a tax credit (*heffingskorting*) that results in a net monthly benefit of EUR 1,116.16, whereas married/cohabiting pensioners receive EUR 772.30 (these amounts are after paying the health insurance contribution). All figures are from www.svb.nl.

retirement age with little or no income or a child younger than 18 also receive supplements.²¹⁵ 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 the AIO supplement (aanvullende inkomensvoorziening ouderen) that brings the monthly net benefit up to the minimum income determined by government, which is slightly below the full AOW level.²¹⁶

Second pillar. The second pillar is comprised of occupational pension schemes (358 in 2013)²¹⁷ that cover 5.5 million current employees and 3.1 million occupational pensioners (2013 figures; www.dnb.nl). Schemes are collectively organized, quasi-mandatory, and based on the principle of solidarity. Pension schemes may be organized at the firm, sectoral, or professional level.²¹⁸ Occupational pension schemes (except for schemes for the free professions) are negotiated and managed by employers and unions as part of collective agreements.²¹⁹ ²²⁰ Legislation on the extension of collective agreements to entire sectors and the wide coverage (90 percent) of such agreements means that most workers participate in an occupational pension scheme. In contrast, the solo self-employed (ZZPers, zelfstandigen zonder personeel) 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 typically pay a defined benefit equal to 70 percent of average wages (including a full AOW) for 40 years of service.²²¹ Employers typically pay 2/3 of the pension contribution, and employees the rest. All participants in the same scheme pay the same contribution rate. Contribution rates usually range from 15 percent to 25 percent of the 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 is often equal to the AOW benefit for a single person.

Occupational pension schemes are fully funded: the regulatory framework (FTK, financiële toetsingkader) requires pension funds to have assets equal to at least 105 percent of liabilities. In 2014, pension scheme assets totalled EUR 984.4 billion, and the average coverage rate was 108.2 percent at the end of October 2014.²²² Occupational pension schemes are nominally defined benefit in that they typically promise a specific nominal benefit to participants. In reality, however, most schemes are hybrid defined benefit 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 coverage level of 105 percent. 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. Today, most occupational pension schemes offer some

²¹⁵ Starting 1 January, 2015, those born after 31 December 1949 are not eligible for the AOW partner supplement.

²¹⁶ The amount varies according to family status: those with a child under 18 receive a higher amount; those who co-habit receive a lower amount.

²¹⁷ The number of pension funds has declined. In 2005, there were 829 pension funds.

²¹⁸ For example, notaries, dentists and other free professions have their own pension schemes.

²¹⁹ Pensioners are represented on the boards that administer occupational pensions.

²²⁰ Additionally, about half a million employees participate in occupational pension schemes which are run by insurance companies with governance structures different from those at pension funds.

²²¹ Another half a million employees participate in quasi mandatory occupational pension schemes which are of a defined contribution nature, and which are also run by insurance companies

²²² Nota naar aanleiding van het verslag bij Wet aanpassing financieel toetsingskader (33 972), p. 11.

form of flexible retirement (often between the ages of 60 and 70) that allows participants to retire before the statutory retirement age with a proportional reduction in benefits.

Third pillar. Because of the size of the first and second pillar, individual pension savings arrangements are not very extensive, except for the self-employed and those wishing to supplement their first and second pillar pension benefits. In the second half of the 2000s, the size of the third pillar was about 5 percent of all pension savings.²²³

2. Reform trends

The AOW pension has been a target of reform for three decades, largely because of rising expenditures. In 2000, AOW expenditure equalled EUR 19.1 billion, and it has risen to just over EUR 34 billion in 2014.²²⁴ The main reform since 2007 is the gradual increase in the retirement age. A 2012 law rises the statutory retirement age from 65 to 67 between 2013 and 2023 and links the retirement age to life expectancy thereafter.²²⁵ The savings per year of increasing the retirement age by one month is EUR 0.2 billion, and the amount will increase over time. A second government proposal, part of the 2012 Coalition Agreement, accelerates this pace so that the retirement age is 67 in 2021, and was turned into law June 2015. Rising statutory pension costs as a result of demographic ageing is the primary motivation for both laws.

Most second pillar pension schemes have phased out early retirement. Tax-favoured early retirement schemes (VUT schemes) were common elements in occupational pension schemes until the 2000s.²²⁶ These were replaced by contractual pre-pension schemes that were fully-funded and significantly less generous than the VUT schemes. 2005 legislation ended tax deductibility for pre-pension schemes and introduced the life course savings schemes (levensloopregeling) which encouraged individuals to save up to 12 percent of annual income (to a maximum of 210 percent of annual income, i.e. 3 years of leave at a 70 percent replacement rate) to be used for care, education, a sabbatical or early retirement.²²⁷ The Life Course Savings scheme was closed on 1 January 2012.

Reform of the occupational pension sector has been a priority for two decades. Most occupational pensions are defined benefit schemes, so they are sensitive to financial market volatility and the level of interest rates. Although most pension funds are now recording healthy investment returns, historically low interest rates and increased longevity have increased the cost of pension obligations. Many pension funds thus remain underfunded according to the national regulatory framework. This has caused many pension funds to increase contributions, not (fully) compensate for inflation, or freeze (or even reduce) benefits, since 2008.

Reductions in pension pay-outs and accumulation, as well as increases in contributions, have sparked a difficult debate about how to reform the regulatory framework for occupational pensions in order to improve financial stability and cut costs. In 2013, the current government gained support for a reduction in the tax-deductibility of occupational pension contributions from a maximum of 2.25 percent in 2013, to 2.15 percent in 2014 and 1.875 percent starting in 2015. The 2015 rules also include a cap on the salary eligible for tax-free pension

²²³ Centraal Bureau voor de Statistiek (2010) *Pensioenaansprakenstatistiek: Geld van nu voor later*. Den Haag.

²²⁴ Figures are from Rijksbegroting 2002 and 2015.

²²⁵ Wet verhoging AOW- en pensioenrichtleeftijd (Wet VAP)

²²⁶ VUT (vervroegde uitkering) schemes, were pay-as-you-go and usually paid a benefit equal to 80 percent of the last wage for workers aged 55 and over who had worked in the sector for at least ten years. Occupational pension accrual also continued during the VUT benefit.

²²⁷ Wet aanpassing fiscale behandeling VUT/prepensioen en introductie levensloopregeling (Wet VPL).

contributions (EUR 100,000). This measure is intended to both reduce state costs (because tax expenditures will decrease), but also to encourage longer working lives.

In 2015, most workers will need 40 years of service to achieve a pension equal to 70 percent of average wages. The measures will result in a decrease of EUR 4.4 billion (11 percent) in the volume of pension contributions in the period 2014-2017.²²⁸ A new regulatory framework (financieel toetsingskader, FTK) took effect in January 2015. The law clarifies the rules concerning pension fund solvency and makes the system better able to absorb shocks (by introducing a new way of calculating the discount rate for liabilities). The proposal also increases the capital requirements for pension funds. The reform of the second pillar is likely to continue in reaction to changes in the demographic and financial environment.²²⁹

3. Impact of the crisis on current pension systems and present pensioners

The crisis that began in 2008 has had very different effects on the first and second pillar. The first pillar has remained stable except for the increase in the statutory pension age (SPA), while most second pillar pension schemes have sustained major loss. The higher SPA has been politically conflictual. The unions, backed by the Socialist Party and Labour Party, argued that the change would disproportionately hurt those with physically demanding jobs (who are unlikely to be able to work until age 67). These protests led to the inclusion of a special provision for those under age 65 with 40 years of service in a physically demanding occupation, allowing them to draw a transitional benefit until they reach the SPA.

The 2008 crisis has had far-reaching effects on the second pillar, largely because of the unintended consequences of their defined benefit (DB) design and fairly strict rules concerning minimum funding. This means that second pillar pension funds have been hit from two directions during the crisis: first, low interest rates and growing longevity increased the cost of pension liabilities, and second, investment losses on financial markets reduced the level of assets on hand to finance liabilities. The regulatory framework in place until 2015 required pension funds to have assets equal to 105 percent of liabilities; if a pension fund fell below this funding ratio, it was required to implement a recovery plan to restore full funding.

These very strict rules have led the administrative boards of many pension funds to introduce a mix of measures, including contribution increases, suspension of indexation, and nominal benefit cuts in order to maintain legally required funding ratios. Employers and unions negotiated a new “Pension Agreement” in June 2010 that would preserve the collective, mandatory and solidarity features of the second pillar. The core of the deal was an increase in the first and second pillar pension age and a reform of second pillar pensions so that individuals would bear more of the risk associated with life expectancy and investment. The deal fell apart in 2011 because of conflict among unions, opposition from elderly organizations, and several political parties. The cabinet responded with its own legislation raising the retirement age, which the parliament approved 2011. In late 2014, the parliament adopted the cabinet’s proposals on a new regulatory framework for second pillar pensions that allows more flexibility in terms of the interest rate calculation used to estimate the value of pension liabilities. Despite the introduction of revamped rules for estimating pension liabilities, however, pension funds continue to suffer from the low interest rate environment.

²²⁸ Memorie van toelichting, Tweede Kamer, vergaderjaar 2013-2014, 33 972, nr. 3, p. 32.

²²⁹ The second largest pension fund, PFZW (for care workers) recently came out in favour of defined contribution (DC) pensions with collective risk-sharing. The Socio-Economic Council (SER), the Pensions Federation (peak organization of pension funds) and the Insurance Federation (Verbond van Verzekeraars) have also made recent recommendations along these lines.

At the end of January 2015, the average funding ratio was 103-104 percent,²³⁰ with few pension funds having weathered the crisis unscathed.

The increase in unemployment since 2009 has not had much impact on the take-up of pensions. First, it is not possible to retire before the SPA in the first pillar. Second, early exit routes in the second pillar have largely been closed because of a series of reforms starting in the 2000s. There is little evidence that EU CSRs influenced reforms of the first and second pillar decisively. The EMU budget constraint remains important in national budget politics, but reform drivers are largely domestic.

4. Assessment of adequacy

Current adequacy

The Netherlands has a very strong record concerning pension adequacy because of the relative generosity of the AOW pension and the wide coverage of second pillar pensions. Only about 4 percent of those aged 65 and over were materially deprived in 2013. This trend has been fairly stable since 2006 and is substantially lower than the rates for the EU-15 and EU-27. The Netherlands also has one of the lowest at-risk-of-poverty (AROP) rates in the EU (only Hungary has a lower rate) for the elderly population. 5.2 percent of those 65 and older are at risk of poverty, compared to 12.6 percent for the EU-28 in 2013. Dutch women are more likely to be at risk of poverty than men, although the difference is not dramatic (men: 4.5 percent; women: 5.8 percent). These low AROP rates are 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.

Pensioners in the Netherlands also fare well in comparison to the rest of the population. The AROP rate for those 65 and older and 75 and older in the period 2005-2013 is noticeably lower (by 4-6 p.p.) than it is for the rest of the population. The only exception to this is the period between 2006 and 2009, when several fiscal measures resulted in lower AOW pensions; during this short period, the AROP for those over 65 was only 1-2 p.p. lower than that for the population younger than 65, while the AROP rate for those 75 and older was largely in line with the AROP for those younger than 65.

The ratio of the median income of elderly people to that of the working-age population confirms the Netherlands' good performance in terms of pension adequacy, mirroring the overall trend in the EU-15 between 2006 and 2013. In 2006, the ratio was about 0.84 in the EU-15 and 0.87 in the Netherlands. After a brief dip in both ratios in 2007, both have increased, reaching 0.93 in the EU-15 and 0.90 in the Netherlands. Thus, Dutch pensioners fare well in terms of very low levels of material deprivation and AROP, and the median income of the elderly remains robust and has even increased relative to the working-age population.

Relative income gains are the result of increases in the level of the AOW since 1990, tax breaks for pensioners, and the increased importance of occupational pensions in the income

²³⁰ The experience of ABP (pension fund for civil servants) the largest Dutch pension fund (EUR 344 billion in assets at the end of 2014), illustrates these developments. ABP saw its funding ratio decrease two p.p., to 101.1 percent, in the fourth quarter of 2014, despite investment returns of 14.5 percent. In the period 2009-2013, ABP also fell below the legally required funding ratio. To restore minimum funding, ABP raised contributions and suspended indexation. Between 2010 and 2013, ABP did not index pension accumulation or pay-outs at all, and it raised total contributions by one p.p. in 2009, 2010, 2011, and 3.5 p.p. in 2013. By the end of 2013, the value of individual pension rights within the ABP scheme had decreased by 9.4 percent as a result of indexation policy. All figures are from ABP Jaarverslag 2014.

packages of the elderly after 1990. Indeed, the share of the elderly receiving an occupational pension has increased from 58 percent in 1990 to 73 percent in 2010.²³¹ Despite the increased share of occupational pensions in pensioners' income packages, occupational benefits have not kept pace with inflation or wage growth since the 1990s.²³² The purchasing power of occupational pensions has barely increased in the period 1990-2010, because of the solvency problems of pension funds. As discussed above, rising longevity and very low interest rates result in higher capital requirements as the cost of future pension benefits increases. In addition, pension funds have experienced two periods of heavy investment losses, first as a result of the dot-com bubble in the early 2000s and second, because of the financial crisis that began in 2008.

Gender pension gap

There is a clear and rising gap between men's and women's (age 65-79) pensions in the Netherlands, reflected also in a small but growing gap between the Dutch gender pension gap and that for the EU-27. The gender gap in pensions in Netherlands exceeds 46 percent in 2012; being significantly higher than for the EU-27 average (at 40.2 percent). The Gender Gap in Pensions in Netherlands thereby increased from 41 percent in 2008 to 46 percent in 2012. In contrast, the gender gap in pension coverage is negligible in Netherlands.

The roots of the gender pension gap are located in women's tendency to have shorter careers, work more often part-time, and on average with lower earnings. As many analysts have shown, the Dutch labour market represents a 'one and one half earner' model,²³³ in which one partner in a household works full-time and the other part-time. The gender gap²³⁴ in *part-time employment* (for people aged 20-64), which reached 52.9 p.p. in 2014 (EU-28: 23.5 p.p.), has decreased slightly by 2.8 p.p. since 2004. The gender *pay gap*²³⁵, which in 2013 at 16.0 percent was lower than the EU-28 average (16.4 percent), has decreased by 3.3 p.p. since 2007 (EU-28: increase by 0.3 p.p. over the period of 2010-2013).

Despite a very high level of labour market participation, Dutch women tend to work few hours. Indeed, the gender gap in the full-time equivalent (FTE) employment rate in the Netherlands is 26.6 percent (2013 figure), compared to 18.3 percent in the EU-27.²³⁶ For many, part-time work is considered the ideal way to combine employment and family responsibilities. Labour market legislation has been adapted to accommodate this trend.²³⁷ Part-time workers have access to earnings-related occupational pensions under the same conditions as full-time workers. However, even if part-time jobs qualify for occupational pension accrual, and female poverty in old age is very low, women's overall pension levels are much lower than men's, because women's earnings as part-time workers are lower than

²³¹ Arjan Soede (2012) *Tevreden met pensioen. Veranderende incomens en behoeften bij ouderen*. Den Haag, Sociaal en Cultureel Planbureau, pp. 56-57.

²³² Arjan Soede (2012) *Tevreden met pensioen. Veranderende incomens en behoeften bij ouderen*. Den Haag, Sociaal en Cultureel Planbureau, p. 76.

²³³ Janneke Plantenga (1996) 'For Women Only? The Rise of Part-time Work in the *Netherlands*,' *Social Politics*, 3 (1): 57-71; Jelle Visser (2002) 'The first part-time economy in the world: a model to be followed?' *Journal of European Social Policy*, 12 (1): 23-42.

²³⁴ Difference between values for women and men (for part-time employment).

²³⁵ The unadjusted Gender Pay Gap (GPG) represents the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. Industry, construction and services (except public administration, defense, compulsory social security). Data source: Eurostat [earn_gr_gpgr2]

²³⁶ Netherlands Country Fiche. Gender Equality Chapter for the 2015 SPC Pension Adequacy Report. November 2014. P. 122.

²³⁷ Wil Portegijs en Saskia Keuzenkamp (eds.) (2008) *Nederland deeltijdland. Vrouwen en deeltijdwerk*. Den Haag: Sociaal Cultureel Planbureau.

men's mainly full-time earnings (the Gender Gap in annual earnings stood at 20 percent in 2010).

Whereas the gender gap created by the state pension is mild because of the universal, flat-rate character of benefits, occupational pensions pay benefits based on previous earnings from employment, and it is here that the gender gap in pensions emerges. The occupational pension continues to display some of the features usually associated with a breadwinner earnings model. Most pension schemes include survivor's pensions, although their value has decreased during the last decade. In addition, many pension schemes allow participants to choose between a survivor's pension and a higher individual pension. 1994 legislation (VWPS Act, Wet Verevening Pensioenrechten bij Scheiding) also requires that when married couples (or registered partners) divorce, they must equally divide the pension rights accrued during the marriage (or partnership). These features of the regulatory environment and occupational pension scheme design ensure that non-working or part-time working partners are entitled to some of the pension income of their (former) partner.

Gender gaps in employment and pay. The gender pension gap indicator presents a snapshot of developments in the employment and pension system factors, which determine the size of the gap. Since it is calculated for the entire population of 65-79 year olds there is certain inertia in its development. To get a sense of whether it is likely to reduce or increase one can look at trends in the various gender gaps in employment and at how the pension system is changing.

The gender gap²³⁸ in the *employment rate of older workers* (age 55-64) has decreased by 4.0 p.p. over the period of 2004-2014 (EU-28: -5 p.p.) and amounted to 19.9 p.p. in 2014 (EU-28: 13.7 p.p.). The gender gap in the *duration of working life*, which in 2013 came to 5.4 years (EU-28: 5.2 years) has decreased by 1.6 years since 2004 (EU-28: -1.2 years). This implies a certain trend towards a reduction of the gap as far as the employment factors are concerned, despite the high share of women working part time.

Future adequacy

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. In 2013, the average net theoretical replacement rate (TRR) for pensioners with 40 years of service retiring at age 65 was 114 percent for both men and women. Because of the increase in the statutory retirement age, the theoretical net replacement rate will decrease to 47.6 percent by 2053 for retirement at age 65. However, men and women who work 40 years until the standard pensionable age will experience only a modest decrease in TRRs, from 114 percent in 2013 to 90.6 percent in 2053. These figures point to a strong performance in terms of both current and future adequacy, as long as workers manage to remain employed until the higher SPA.

The figures for low and high income groups also demonstrate strong performance, even if TRRs decrease somewhat over the next four decades. Low income pensioners with 40 years of service (men and women) until the SPA had an average net theoretical replacement rate of 115 percent in 2013, and this is projected to decrease to 92.2 percent in 2053. High income pensioners with 40 years of service until the SPA had an average net theoretical replacement rate of 82 percent in 2013; this is projected to decrease to 55.1 percent in 2053. The much greater projected drop in replacement rates for high income pensioners compared to low income pensioners reflects the shift from final salary to average salary DB schemes in the early 2000s, the last two decades of occupational pension freezes/cuts, and the projected stagnation of occupational pension accrual for the next decade. The current government's

²³⁸ Difference between values for men and women.

plans to further limit pension accrual and limit favourable tax treatment of occupational pension contributions to incomes below EUR 100,000 will strengthen these trends.

Challenges for pension adequacy

There are three challenges for future pension adequacy:

1. The AOW pension and the tax breaks that subsidize second pillar pensions are costly. As the baby boom generations retire and the ratio of pensioners to workers increases, both first and second pillar pension costs will continue to rise. The old age dependency ratio (ratio of share of the population 65 and older to the share 20-64) is projected to increase from 28 in 2013 to 52.5 in 2060. These trends are slightly below the EU-27 average.²³⁹

Recent Dutch government policy has been to limit the growth of pension spending and to try to increase labour market participation. As discussed above, recent reforms raise the statutory and occupational pension ages, which will go some distance toward slowing the growth in pension-related expenditure. Labour market policy reforms have also sharply increased work incentives.

2. The occupational pension system has lost some credibility because of its vulnerability to financial market fluctuations. As noted above, the share of occupational pension accrual and benefit pay-outs in the income packages of current and future pensioners will continue to grow steadily. Since 2002, however, the growth of occupational pension accrual and benefits have been stagnant because of low interest rates and investment losses. This means that even though pension fund assets total well over 100 percent of GDP, many pension schemes have frozen or cut benefit accrual and payments. The 2015 reform of the regulatory framework is intended to address these challenges.

Another challenge to the occupational pension system is its inadequate coverage of some types of atypical workers, especially the solo self-employed (*Zelfstandigen zonder personeel*, ZZPers). This group includes freelancers in various sectors (like the care sector) and self-employed members of the building trades. Unlike dependent workers, most self-employed are not covered by collective occupational pension schemes. Coverage is expensive, and the self-employed often forego coverage or only buy partial coverage on the private pension insurance market.

The number of self-employed without personnel has increased substantially during the past decade, from 400,000 in 1996 to 956,000 in 2009. During the same period, the number of workers in dependent employment remained stable. Unlike other atypical workers, the majority of ZZPers are men, and two thirds work full-time.²⁴⁰ Not much is known about the social protection of this growing group, so estimates of their pension coverage vary from 20 percent to 50 percent.²⁴¹ Recent reform debates consider the position of ZZPers, but no legislation has been passed.

3. Keeping older workers in employment will require more attention and resources. Given the roll-back of early retirement and the recent increases in retirement age for statutory and occupational pensions, measures designed to promote the employment of older workers will take on added importance. The reform debate concerning the increase in the retirement age considered the problems faced by those in physically demanding jobs, but there have been no attempts to use government policy to address this issue. Instead, government

²³⁹ European Commission (2014) *Adequate social protection for long-term care needs in an ageing society. Report jointly prepared by the Social Protection Committee and the European Commission*. Luxembourg: Publications Office of the European Union, p. 199.

²⁴⁰ SER (2010) *Ontwerpadvies. Positie zelfstandig ondernemers*. Den Haag: SER, p. 18.

²⁴¹ SER (2010) *Ontwerpadvies. Positie zelfstandig ondernemers*. Den Haag: SER, p. 79.

policy continues to focus on promoting the employability of older workers through a range of subsidies and training programmes aimed at both individuals and employers.

5. Sustainability

The evolution of the demography, employment rate and expenditure can give us information about the sustainability of the pension system in the future.

Demography

The old-age dependency ratio (population aged 65 and over as a percentage of the population aged 20-64) in the Netherlands is projected to increase from 28.5 percent in 2013 (EU-28: 30.3 percent) to 51.3 percent in 2053 (EU-28: 54.9 percent).

The Netherlands belongs to the group of Member States where the increase in old-age dependency ratio is projected to be below the EU-28 average. Over the period 2013 to 2053, the old-age dependency ratio is projected to increase by 22.8 p.p. (EU-28: 24.6 p.p.).

The share of working-age population (20-64) (60.1 percent of the total population in 2013) is projected to drop by 7.6 p.p. by 2053 (to 52.5 percent of the total population), compared with 9.2 p.p. for the EU as a whole by 2053.

The economic old-age dependency ratio for the Netherlands is projected to rise by 19.7 p.p. from 32.8 percent in 2013 to 52.5 percent in 2053 but it will be below the EU-28 average (66.2 percent in 2053).

Employment

The labour market participation rate (of people aged 20-64) in the Netherlands (81.5 percent) was above the EU-28 average in 2013 (76.5 percent) and it is projected to be above the EU-28 average in 2053 (84.7 percent versus 79.9 percent). The participation rate of older workers (aged 55-64) in 2013 was higher (64.1 percent) than the EU-28 average (54.4 percent). Over the period 2013 to 2053, the participation rate of older workers is projected to increase by 12.5 p.p. to 76.6 percent in 2053. The percentage increase is lower than in the EU-28 (15.3 p.p.: from 54.4 percent in 2013 to 69.7 percent in 2053).

According to the 2015 Ageing Report, the employment rate (of people aged 20-64) is projected to increase from 76.5 percent in 2013 (EU-28: 68.4 percent) to 81.7 percent in 2053 (EU-28: 74.9 percent). Employment rate of older people (aged 55-64) is projected to change from 60.1 percent in 2013 to 73.8 percent in 2053 (EU-28: from 50.3 percent to 66.6 percent).

The employment rate for older workers (from 55 to 64 years) in the Netherlands in 2013 was higher than the EU-28 average: 60.1 percent (70.2 percent – men, 50.0 percent – women) versus 50.3 percent at the EU-28 level (57.6 percent – men, 43.3 percent – women).

The effective exit age from the labour force in 2013 was 64.6 (65.5 – for men, 63.7 – for women) and it is below the EU-28 average (63.1 – total, 63.5 – for men, 62.7 – for women).

Main drivers of pension expenditure

According to the 2015 Ageing Report, the gross public pension expenditure will increase from 6.9 percent of GDP in 2013 to 7.8 percent of GDP in 2060. In accordance with the 2015 Ageing Report, the demographic factor has the strongest downward effect (+4.8 p.p. of GDP) on gross public pension expenditure over 2013-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and career shift). The lowering effect of coverage ratio (-2.2 p.p.) on the public pension

expenditure is more pronounced than the benefit ratio effect (-0.5 p.p.) and the employment rate effect (-0.5 p.p.).

6. Main opportunities for addressing pensions-related challenges

The Netherlands' approach to maintaining pension adequacy and sustainability has been fairly effective, at least in the short term. The following measures, amongst others, may be considered to ensure the effectiveness of the system also in the long run.

1. Increase the general revenue financing of the AOW. At present, pensioners do not pay AOW contributions, and this unnecessarily limits the future financing of the scheme. Rising pensioner affluence should be sufficient rationale for increasing pensioners' share of AOW financing via general revenues, especially as the old age dependency ratio becomes more unfavourable.
2. Step up efforts to increase the labour market participation of older workers. As the retirement age increases, ensuring that older workers remain employed will be a crucial element of a coherent strategy for dealing with demographic change. Such a policy should explicitly consider workers in physically demanding jobs.
3. Improve measures for promoting higher female labour market participation. This will not only increase women's financial independence during the employment phase of the life course, but it will also help to decrease the gender gap in pensions. Dutch public policy current includes a range of measures that promote female employment; however, recent cuts in subsidies to child care reduce incentives for both partners in a couple to work outside the home.

7. Background statistics – The Netherlands

1. Relative incomes of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.90	0.92	0.89	0.06	0.07	0.05
Income quintile share ratio (S80/S20), 65+	3.2	3.2	3.2	0.0	-0.2	0.1

2. Poverty and material deprivation

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+	6.1	5.5	6.7	-3.6	-4.6	-2.8
At-risk-of-poverty rate (AROP), 65+	5.5	4.8	6.1	-3.9	-4.8	-3.1
Severe material deprivation (SMD), 65+	0.8	1.1	0.6	0.4	0.5	0.3
At-risk-of-poverty or social exclusion (AROPE), 75+	7.9	7.1	8.4	-3.4	-6.2	-1.7
At-risk-of-poverty rate (AROP), 75+	7.2	6.5	7.6	-3.9	-6.4	-2.5
Severe material deprivation (SMD), 75+	0.7	0.6	0.8	0.5	0.1	0.8
Relative poverty gap, 65+	10.0	10.5	9.0	-4.5	-1.0	-8.3
At-risk-of-poverty rate (AROP), 65+: 40 % threshold	1.1	1.2	1.0	-0.3	0.0	-0.6
At-risk-of-poverty rate (AROP), 65+: 50 % threshold	2.2	2.0	2.3	-2.1	-1.9	-2.3
At-risk-of-poverty rate (AROP), 65+: 70 % threshold	16.6	14.5	18.4	-5.0	-5.1	-4.7

3. Housing situation of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Housing cost overburden rate, 65+	11.0	8.0	13.5	-4.5	-2.8	-5.8
Tenure status among people 65+: share of owners	54.9	60.4	50.3	7.9	7.2	8.3
Severe housing deprivation rate, 65+	0.0	0.0	0.0	0.0	0.0	0.0

4. Income replacement by pension systems

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Aggregate Replacement Ratio (ARR)	0.47	0.55	0.45	0.04	0.06	-0.06
Benefit Ratio (BR) (Public pensions)	35.9					
Gross Aggregate Replacement Rate (Public pensions)	29.8					
Gender Gap in Pension Income, % (65-79)	46.0*			4.7*		
Gender Gap in non-coverage rate (W-M in p.p.) (65-79)	-0.2*			0.0*		

5. Sustainability and context indicators

Indicator	2013			Projections for 2053		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65+, years	19.5	18.0	20.9	23.4	21.8	24.9
Old-age dependency ratio (20-64)	28.5	25.5	31.5	51.3	45.8	57.0
Economic old-age dependency ratio (15-64)	32.8	26.5	40.0	52.5	44.3	61.4
Employment rate, age group 55-64	60.1	70.2	50.0	73.8	77.6	70.1
Pension expenditure as % of GDP (ESSPROS)	13.4*			Projections for 2060		
Gross public pensions as % of GDP (AWG projections)	6.9			7.8		

Data source: Eurostat. Sustainability indicators and projections (EPC AWG) – Commission Services (DG ECFIN), based on The 2015 Ageing Report. Data on gender gaps – ENEGE. Notes: * - 2012 data.

6. Theoretical Replacement Rates (TRRs)

TRR case	Net				Gross				
	2013		2053		2013		2053		
	Men	Women	Men	Women	Men	Women	Men	Women	
Average Earnings	Base case I: 40 years up to age 65	114.0		47.6		98.0		42.8	
	Base case II: 40 years up to the SPA	114.0		90.6		98.0		87.9	
	Increased SPA: from age 25 to SPA	114.0		92.5		98.0		90.0	
	AWG career length case	114.0		101.1	51.8	98.0		99.3	47.0
	Longer career I: from age 25 to 67			92.5				90.0	
	Shorter career I: from age 25 to 63			45.4				40.7	
	Longer career I: from age 25 to SPA+2			101.4				99.6	
	Shorter career I: from age 25 to SPA-2			47.6				42.8	
	Career break – unemployment: 1 year			91.5				88.9	
	Career break – unemployment: 2 years			90.5				87.9	
	Career break – unemployment: 3 years			89.6				86.8	
	Career break due to child care: 0 year				92.5				87.8
	Career break due to child care: 1 year				91.5				88.9
	Career break due to child care: 2 years				90.5				87.9
	Career break due to child care: 3 years				89.6				86.8
	Short career (30 year career)			65.0				79.3	
	Early retirement due to unemployment			92.5				90.0	
	Early retirement due to disability			92.5				90.0	
	Indexation: 10 years after retirement			90.5				90.0	
	Low Earnings (66%)	Base case I: 40 years up to age 65	115.0		21.3		105.0		25.7
Base case II: 40 years up to the SPA		115.0		92.2		105.0		94.0	
Increased SPA: from age 25 to SPA		115.0		93.3		105.0		95.3	
AWG career length case		115.0		97.9	24.3	105.0		100.9	28.3
Longer career I: from age 25 to 67				113.2				95.3	
Shorter career I: from age 25 to 63				19.8				24.5	
Longer career I: from age 25 to SPA+2				98.1				101.1	
Shorter career I: from age 25 to SPA-2				21.3				25.7	
Career break – unemployment: 1 year				92.7				94.7	
Career break – unemployment: 2 years				92.2				94.0	
Career break – unemployment: 3 years				91.6				93.4	
Career break due to child care: 0 year					93.3				93.1
Career break due to child care: 1 year					92.7				94.7
Career break due to child care: 2 years					92.2				94.0
Career break due to child care: 3 years					91.6				93.4
Short career (30 year career)		79.6		68.4		67.5		88.8	
Early retirement due to unemployment				93.3				95.3	
Early retirement due to disability				93.3				95.3	
Pension rights of surviving spouses					101.67				122.0
High		Base case I: 40 years up to age 65	82.0		37.2		69.0		40.4
	Base case II: 40 years up to the SPA	82.0		55.1		69.0		62.9	

Data source: TRRs for 2013 – Member State; TRRs for 2053 – OECD

Notes: Base case I, Base case II, case "Increased SPA: from age 25 to SPA" are the same (retiring at 65 and contributing for 40 years in all cases), while Base case II asks for average start and retirement ages, on which no official information is available. The scenario chosen of 40 years of contribution (starting 23 – retiring 63).

Austria (AT)

1. General description of the 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 employment²⁴² (including most categories of self-employed), with the exception of civil servants, who have traditionally been covered by their own systems.²⁴³

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 contributions²⁴⁴, which however only have to be paid for earned income up to a specific ceiling – the so-called “maximum contributions basis” (“*Höchstbeitragsgrundlage*”), currently amounting to a monthly gross earning of EUR 4,530.00.²⁴⁵ Although the statutory pension system is at first instance financed from insurance contributions, tax-financed funds play some role as well. In 2013, the overall share coming from the federal budget amounted to about EUR 8.421 billion, which equals approx. 2.7 percent of GDP or 22.68 percent of overall spending on pensions (i.e. old-age pensions, invalidity pensions and surviving dependants’ pensions).²⁴⁶

The Austrian statutory pension 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 to be taken into account was expanded from the “best” 15 years to lifetime earnings. Apart from that, the accrual rate was reduced from 2 percent to 1.78 percent per year. The Austrian statutory pension system does not provide for an unconditional minimum pension for persons beyond a certain age. 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” in case of financial indigence.

²⁴² Employees with wages below the so-called marginal earnings threshold (currently EUR 395.31 per month gross) may opt into the old-age insurance on a voluntary basis.

²⁴³ 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 (see Fink 2014 for more details).

²⁴⁴ The contribution rate for employees amounts to 22.8 percent. The assessment base are total gross earnings up to the “maximum contributions base”.

²⁴⁵ 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 (2014) amounts to EUR 63,420.00 gross.

²⁴⁶ Source: Hauptverband der Österreichischen Sozialversicherungsträger (2013a, 119) and own calculations.

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.²⁴⁷ Until 2013, the most important one was the “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 got considerably tightened (see below) and the number of benefit recipients is expected to get reduced considerably over the next years.²⁴⁸ Since 2014 the most important early retirement scheme is the so called “corridor-pension” (Korridorpension)²⁴⁹; another form of early retirement is the so-called “heavy labour pension” (*Schwerarbeiterpension*)²⁵⁰ (see Fink 2014 for more details on these schemes). Apart from these options of early retirement in old-age pension, it is worth mentioning that invalidity pensions as well play a major role as an option of early exit from the labour market in Austria (see below and Fink 2014 for more details).²⁵¹

As already mentioned above, the second and third pillar are of rather limited importance in Austria, although coverage and the accumulated funds have increased somewhat in recent years. In the second quarter 2014 ca. 767,000 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 83,500 persons (which equals 5.1 percent of the population aged 65 and above) were already beneficiaries.²⁵² The second pillar was somewhat strengthened by the introduction of the so-called “new severance pay scheme” 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 at the moment. 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,

²⁴⁷ 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. 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; Source: Hauptverband der Österreichischen Sozialversicherungsträger.

²⁴⁸ The number of benefit recipients according to 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; Source: Hauptverband der Österreichischen Sozialversicherungsträger.

²⁴⁹ The number of benefit recipients developed as follows: December 2010: 10,378; December 2011: 12,810; December 2012: 14,180; December 2013: 14,956; Source: Hauptverband der Österreichischen Sozialversicherungsträger.

²⁵⁰ The number of benefit recipients developed as follows: December 2010: 2,395; December 2011: 3,227; December 2012: 3,732; December 2013: 4,482; Source: Hauptverband der Österreichischen Sozialversicherungsträger.

²⁵¹ The number of benefit recipients developed as follows: December 2010: 209,431; December 2011: 211,144; December 2012: 208,339; December 2013: 204,096; Source: Hauptverband der Österreichischen Sozialversicherungsträger.

²⁵² Source: FMA;

http://www.fma.gv.at/typo3conf/ext/dam_download/secure.php?u=0&file=12845&t=1417892260&hash=473f10a7d44297af52f2bad4ff299d6ab

the impact of the “premium-aided pension savings scheme” on the level of future pensions is likely to turn out to be rather limited.²⁵³

2. Reform trends

From a mid-term perspective, the most important reforms on the Austrian pension system took place in 2001-2004 and 2010-2013. These reforms extended the contribution base to lifetime earnings, it reduced the accrual rate from 2 percent to 1.78 percent per year and it followed the aim of a harmonization of pensions of civil servants with the ones of jobholders in the private sector. 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 “Challenges for pension adequacy”).

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 by this to increase actual retirement age). First respective 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 got decided that the minimum retirement age for “early retirement on account of long-term insurance contributions” (“*vorzeitige Alterspension bei langer Versicherungsdauer*”)²⁵⁴ will be increased stepwise until 2017, up to the statutory retirement age.

Early retirement in the form of “pensions subject to very long insurance periods” (so-called “*Langzeitversichertenregelung*” or “*Hacklerregelung*”) (see above) was originally planned to expire in 2010. However, in 2008 this instrument was decided to be prolonged by three years, i.e. until 2013. However, debates on the subject continued and, in October 2010, a new reform of the *Hacklerregelung* was presented, which at the same time prolonged the instrument but as well tightened access. Hereby, the first measure implemented (as from 2011) was that prices for post-purchasing of contributory times (for periods of school and university studies) were raised considerably. The other measures of the respective reform got applicable as from 2014:

a) The entry age got raised by two years as from 2014, i.e. from 60 to 62 for men and from 55 to 57 for women. Furthermore, the entry age for women born after 1 January 1959 gets increased stepwise to 62 years as from 2014 (the entry age of 62 years for women will be in place as from the year of 2027). Furthermore, women born after 1 January 1959 now, same as men even before 2014, have to have an insurance record of at least 540 months of contribution (previously: 480 months of contribution).

b) As from 2014, the number of constellations which may count as “substitutional insurance times” (*Ersatzzeiten*) got substantially reduced. Only times spent within military service and/or alternative service [in lieu of military service] (up to 30 months) and times for raising children (up to five years) are credited as *Ersatzzeiten*.

c) Furthermore, and most importantly, pensions according to the *Hacklerregelung* are subject to yearly deductions of 4.2 percent per year of early retirement since 2014.

²⁵³ About 1,636,000 of such contracts on savings plans existed at the end of 2013, covering only about a quarter of the population at the age below 60. Furthermore, the level of premiums paid to such schemes typically appears to be rather low. In 2013, the average premium amounted to about EUR 614 to 632 per year (depending on the type of provider of the scheme) (see FMA 2014).

²⁵⁴ 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.

However, regarding the first element of the reform, i.e. the increase in the minimum retirement age, an exception got made for women born between 1 July 1955 and 31 December 1964, and for men born between 1 July 1950 and 31 December 1959, in case that they performed arduous work during ten years out of the last 20 years. Under these circumstances the above mentioned increase of the minimum entry age does not apply.

A series of reforms got as well decided on invalidity pensions. A first reform, as well decided in 2010, got implemented as from 2011. The most important measures were the introduction of mandatory rehabilitation measures before granting an invalidity pension, and changes in regulations on so-called “vocational protection” (*Berufsschutz*), whereby access to invalidity pensions was somewhat tightened for white-collar employees and skilled workers. But at the same time access to invalidity pension was somewhat eased for unskilled workers, for whom – when compared to other groups – it has traditionally been much more difficult to gain access to invalidity pension (see Fink 2011 for more details).

In February 2012, as part of a “budget consolidation package”, the government again announced a reform of invalidity pensions, leading to further tightening of access to respective benefits. Some measures decided have been implemented as from January 2013, others as from January 2014 (see Fink 2014 for details). The most important single measure within this reform is the one of 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” (*Rehabilitationsgeld*) 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 age²⁵⁵, and to raise active labour market participation²⁵⁶.

The “budget consolidation package” of February 2012 as well enclosed a number of other punctual measures in the area of old-age pensions, all of them – inter alia – aiming at relative cuts in public spending or an increase of social insurance contributions. These measures enclosed e.g. (see Fink 2014 for more details a complete list of all respective measures decided): Beyond standard indexation of pension benefits in 2013 and 2014; tightening access to early retirement via the so-called corridor-pension; replacing the complicated model of “parallel calculation” of pension benefits according to “old” and “new” law (introduced with the pension reforms of the early 2000s; see Fink 2014) by a so-called “pension account credit” (*Kontogutschrift*)²⁵⁷ according to “new law”; cutting public subsidies within the “premium-aided pension savings scheme” (*Prämienbegünstigte Zukunftsvorsorge*) of the third pillar by 50 percent as from April 2012.²⁵⁸

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 respective instruments. The latter

²⁵⁵ Here, first statistical effects are already visible, as the two new benefits are – different to invalidity pensions – not counted as pension benefits. The total average retirement age (of all direct pensions) was 58.1 years between January and May 2013, this rose to 58.8 years between January and May 2014. The positive effect is, to a large extent, caused by a higher average retirement age in the scheme of invalidity pensions, where the latter increased from 48.9 years to 50.1 years in the case of women and from 52.7 years to 54 years in the case of men.

²⁵⁶ To reach this goal, substantial additional funds were made available for re-training measures and medical rehabilitation.

²⁵⁷ This will only lead to minor changes in benefit levels and rather limited effects on public spending. The measure at first instance followed the aim to increase the transparency of the system. However, the transfer from “parallel accounting” towards the “pension account credit” itself is again a rather complicated and for most people likely to be a rather inscrutable procedure.

²⁵⁸ This measure is of temporary nature, meaning that public subsidies will eventually be increased again after 2016.

especially appeared since the beginning of the financial and economic crisis, with many politicians now being very reluctant to argue in favor of funded schemes.

More recently (in November 2014) some debate (again) started on the question of adding automatic stabilizers to the calculation formula of pensions in Austria. This issue has been popping up now and then in Austria since more than a decade, usually in context of the presentation of new projections on future pension expenditure. Introducing such automatic stabilizers would imply that the Austrian statutory pension scheme would move from a defined-benefits (DB) scheme towards a defined-contributions (DC) scheme. However, the Social Democrats (SPÖ), governing in a coalition government with the Peoples' Party (ÖVP), always rejected such plans and did so as well within the recent debate. A related situation applies regarding repeated discussions about bringing forward the harmonization of pensionable age for men and women (repeatedly rejected by the SPÖ).

3. Impact of the crisis on current pension systems and present pensioners

a) Direct benefit cuts, changes to indexation and taxation rules. In Austria, no explicit cuts on existing pension benefits from the statutory pensions scheme have been decided. However, as already described above (within the chapter “current adequacy”), pensions repeatedly got indexed to a lower degree than foreseen according to the consumer price index. However, this only applied for benefits of a comparatively high level, so that it is fair to say that these steps, aiming at budget consolidation, are not problematic from a social inclusion perspective. Regarding taxation, the income tax reform of 2009 implied some tax relief for people with low income, by increasing the tax exempt amount from EUR 10,000 to EUR 11,000 gross per year and by reducing the minimum tax rate from 38.33 percent to 36.5 percent. The rate of social insurance contributions, which pensioners have to pay for health insurance, was raised from 4.95 percent in 2007 to 5.1 percent in 2008, but no further increases got decided thereafter. So, overall, it appears that the level of existing pension benefits did not get retrenched irrespective of the international financial and economic crisis.

b) The impact of unemployment and impending changes of schemes on the take-up of old age and early retirement pensions. No detailed assessments are available for the case of Austria on *how* unemployment and impending changes in the scheme of old-age pensions affected the take-up of old-age and early retirement pensions. This means that we do not have sound empirical evidence on the question if changes in circumstances regarding these two points have actually increased (perceived) incentives to opt for early retirement instead of remaining active on the labour market and then heading for regular old-age pension. What has been evident even before the financial and economic crisis, is the widespread habit to take the opportunity of early retirement (if one is offered). This does not appear to have changed significantly, but the government took a series of decisions aiming at a progressively tightened access to early retirement (see above chapter “reform trends”).

c) Upward adjustment of pensionable age, restrictions on access to early retirement and effects on labour market exit patterns and social conditions. Pensionable age has not been increased in Austria since the beginning of the financial and economic crisis. However, access to early retirement and as well to invalidity pensions got tightened progressively, however with the most substantial changes coming into force as from the beginning of 2014 only (see above chapter “reform trends”). And until recently, these reforms did not lead to sizeable and clear-cut problematic effects on the overall labour market situation of elderly people. The overall employment rate of persons in the age-group 55-64 increased from 41 percent in 2008 to 43.1 percent in 2012 and then even further in 2013.²⁵⁹ At the same time the unemployment

²⁵⁹ Eurostat (indicator [lfsa_ergan]) indicates an employment rate of 44.9 percent for 2013, but this number is not directly comparable to earlier years due to a break in the series (i.e. a change in the methodology of measuring).

rate (according to survey data and the definition used by Eurostat) for this age-group shows some upward trend, rising from 2.1 percent in 2008 to 3 percent in 2012 and then to 3.5 percent in 2013.²⁶⁰

National data on registry unemployment rates (see Table 1 below) indicate that the possibility of access to early retirement schemes may have had the effect that the increase in the unemployment rate of people in the age-groups 55 to 59 and 60 to 64 remained to be lower until 2012 than it was the case for many other age-groups. Unemployment rates have somewhat risen for people in the age 55+ in recent years. However, from the data at hand it is unclear to what extent this increase is linked to the tightened access to early retirement (as from 2013 and especially 2014). Generally, unemployed older workers should have access to benefits from unemployment insurance in more than 90 percent of the cases.

Table 1: Registry unemployment rates (national calculation methodology) according to age, 2008-2014

Age in years	Unemployment Rate, %							Change 2008-2012, %	Change 2012-2014, %	Change 2008-2014, %
	2008	2009	2010	2011	2012	2013	2014			
up to 19	4.4	5.2	4.9	4.7	4.7	4.9	5.0	6.8	6.4	13.6
20 - 24	7.3	9.7	9.1	8.7	9	9.7	10.4	23.3	15.6	42.5
25 - 29	6.2	7.9	7.5	7.3	7.7	8.3	9	24.2	16.9	45.2
30 - 34	5.8	7.3	7.1	6.9	7.2	7.8	8.5	24.1	18.1	46.6
35 - 39	5.5	6.8	6.6	6.4	6.6	7.2	7.9	20.0	19.7	43.6
40 - 44	5.4	6.6	6.3	6	6.2	6.8	7.4	14.8	19.4	37.0
45 - 49	5.3	6.5	6.2	6	6.1	6.7	7.3	15.1	19.7	37.7
50 - 54	5.8	6.9	6.7	6.5	6.7	7.3	8	15.5	19.4	37.9
55 - 59	7.4	8.3	8.1	7.8	8.1	9.1	10.1	9.5	24.7	36.5
60 - 64	9.4	10	10	10.5	11	11.9	13.1	17.0	19.1	39.4

Source: AMS; BALIWeb: <http://www.dnet.at/bali/User.aspx>

d) Impacts on funded schemes. The first pillar of the Austrian statutory pension system is a PAYG system, which does not entail any funded elements. Additional funded schemes of the second and third pillar are of minor significance in the Austrian case, but – especially during the peak of the financial crisis (2008 and 2009) – showed a rather unfavourable performance. It now appears that political stakeholders are very reluctant to argue in favour of funded schemes. What is as well worth mentioning in this context is that public subsidies within the “premium-aided pension savings scheme” (*Prämienbegünstigte Zukunftsvorsorge*) of the third pillar were cut by 50 percent as from April 2012.²⁶¹ This led to the effect that the growth of the number of related contracts came to an end and that average contributions decreased to some degree.²⁶² No such developments are evident regarding firm-based funded schemes, where the coverage rate continues to increase.²⁶³

²⁶⁰ Source: Eurostat (indicator [lfsa_urgan]); the number for 2013 is not directly comparable to earlier years due to a break in the series (i.e. a change in the methodology of measuring).

²⁶¹ This measure is of temporary nature, meaning that public subsidies will eventually be increased again after 2016.

²⁶² See:

http://www.fma.gv.at/typo3conf/ext/dam_download/secure.php?u=0&file=12730&t=1417892865&hash=d9831015a5b6a1817596c493a23b00ed

²⁶³ See:

http://www.fma.gv.at/typo3conf/ext/dam_download/secure.php?u=0&file=12845&t=1417892260&hash=473f10a7d4297af52f2bad4ff299d6ab

4. Assessment of adequacy

Current adequacy

When compared to EU-27, the Austrian pension system produces comparatively high aggregate replacement ratios and median relative incomes of people aged 65+ (as a ratio of income of people aged 0-64). Still, the at-risk-of poverty rates for elderly people (both for the age groups 65+ and 75+) are higher than at average of EU-27, which indicates a rather high inequality of income of elderly people. When compared to EU-27, the respective outcomes are especially unfavourable for women, but as well for men in the age 75+.

When looking at the development since 2008 (earlier data is not directly comparable due to a break in series in 2008²⁶⁴), numbers indicate a reduction of the share of elderly people being at-risk-of poverty (at-risk-of poverty rate 2008 of people in the age 65+: total: 18.9 percent; men: 14.1 percent; women: 22.4 percent). This reduction of the at-risk-of poverty rate is likely to be caused by above average indexation of minimum pensions and other comparatively low pensions (repeatedly implemented as from 2008), and as well by a cohort with higher pensions now being part of the age-group 65+. However, at the same time an increase in the relative at risk of poverty gap took place since 2008 (for the age-group 65: total: 2009: 17.2 percent, 2013: 20.7 percent; men: 2008: 18.3 percent, 2013: 24.0 percent; women: 2009: 16.8 percent; 2013: 19.8 percent). This indicates that the reduction of the at-risk-of poverty rates of elderly people derives from a development where households which had an income *just* below the at-risk-of poverty threshold subsequently moved above the threshold. As a consequence, the average at-risk-of poverty gap increases for the other households, still having an income below the at-risk-of poverty threshold. Regarding severe material deprivation, the Austrian pension system performs very well from an international comparative point of view (for men and women alike).

Aims for budget consolidation, further amplified by the financial and economic crisis, had some impact on existing pension benefits in Austria, as it was repeatedly decided to valorise (especially higher) pensions below the development of the pensioners' price index (which normally would be the usual reference point). In 2009 and 2010, pensions were valorised according to the pensioners' price index, with additional one-time lump-sum payments for low pensions. In 2011, only pensions up to a level of EUR 2,000 gross per month were valorised according to the pensioners' price index. Indexation decreased according to a linear scale for pensions between EUR 2,000 and EUR 2,310 and pensions above EUR 2,310 were not subject to any indexation in 2011. In 2012, most pensions were valorised according to the pensioners' price index. Only for very high pensions above the level of EUR 3,300 gross per month a reduced indexation applied. In 2013, minimum pensions got indexed according to the pensioners' price index, all other pensions only by 1.8 percent (instead of 2.8 percent). Indexation for 2014 followed a related approach (+2.4 percent for minimum pensions = inflation according to the pensioners' price index; all other pensions: 1.6 percent).

Gender pension gap

In a recent report Bettio et al. (2014) provide – inter alia – data on a so-called “Gender Gap in Pensions” and on the gender-gap of non-coverage rates of pensions.²⁶⁵ The Gender Gap in Pensions compares mean and median pensions of persons in the age 65 and above, who show at least one positive income value of old age benefits (EU-SILC variable PY100G), regular private pensions (EU-SILC variable PY080G) or survivors' benefits (EU-SILC variable

²⁶⁴ Income data in EU-SILC in the case of Austria as from 2008 derives from registry data, whereas before only survey data got used.

²⁶⁵ Based on EU-SILC data.

PY110G) (see Bettio et al. 2013, 27). The coverage gap depicts the extent (in %) to which more women than men do not have access to the pension system (in the sense of having zero pension income as defined in EU-SILC). These data indicate that the Gender Gap in Pensions (age-group 65-79; mean pensions) in Austria with 41.8 percent in 2012 is slightly higher than the EU-27 average (40.2 percent). For Austria, respective numbers show a steadily increasing trend for the Gender Gap in Pensions over time (increase from approx. 35 percent in 2008 to approx. 42 percent in 2012). The coverage gap is very high in Austria from an international comparative point of view, amounting to 12.1 percent in 2012 (EU-27: 6.8 percent) (age-group 65 to 79). However, the coverage gap appears to decrease constantly over time in Austria (in 2008 it amounted to 15.3 percent; EU-27: 6.6 percent).

Overall, these data indicate that the Austrian pension system leads to a significant gender-specific differentiation of individual income from pensions in old-age. This differentiation does not get visible to the same extent in data on at-risk-of poverty rates (see above), as there the income of the total household is the reference point. The large differentiations of income from pensions according to gender are at first instance caused by two elements: a) gender-specific differences in employment participation and earned income from gainful employment during the working career (see below) and b) the system characteristics of the statutory pension scheme. Regarding the latter, the “principle of equivalence”²⁶⁶, which in principle even got strengthened with the reforms of the early 2000s (by expanding the assessment base from the “best” 15 years” to lifetime earnings²⁶⁷), re-produces income inequality within gainful employment within the pension system. The high differentiation between benefit levels of women and men do not only apply for the mean or median levels of pensions already granted²⁶⁸, but as well for pensions newly granted, where one would expect higher equality of benefits due to rising labour market participation of women. According to registry data, direct old-age pensions of women in both cases (i.e. existing and newly granted pensions) only reach a level of about 55 percent to 65 percent of respective benefits of men, depending on whether equalisation supplements are taken into account or not.²⁶⁹

Gender gaps in employment and pay. The gender pension gap indicator presents a snapshot of developments in the employment and pension system factors, which determine the size of the gap. Since it is calculated for the entire population of 65-79 year olds there is certain inertia in its development. To get a sense of whether it is likely to reduce or increase one can look at trends in the various gender gaps in employment and at how the pension system is changing.

The gender gap²⁷⁰ in the *employment rate of older workers* (age 55-64) has increased by 0.1 p.p. over the period of 2004-2014 (EU-28: -5 p.p.) and amounted to 17.9 p.p. in 2014

²⁶⁶ Meaning the notion that the level of benefits should at first instance reflect the level and duration of earlier insurance contributions.

²⁶⁷ 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).

²⁶⁸ See for national registry data on the level of pensions already granted e.g.: [http://www.sozialministerium.at/cms/site2/attachments/3/8/7/CH2325/CMS1383225519683/fact_sheet_20141023_\(3\).pdf](http://www.sozialministerium.at/cms/site2/attachments/3/8/7/CH2325/CMS1383225519683/fact_sheet_20141023_(3).pdf). These data indicate a gap of 38 percent regarding the level of average direct pensions granted to men and women respectively, and a gap of 43 percent concerning the level of median direct pensions of men and women respectively (2013; direct old-age pensions and invalidity pensions; without [means-tested] supplements).

²⁶⁹ For data including equalisation supplements see :
http://www.statistik.at/web_de/static/hoehoe_der_neuzuerkannten_durchschnittspensionen_in_der_gesetzlichen_pensio_041216.xlsx and
http://www.statistik.at/web_de/static/hoehoe_der_durchschnittspensionen_in_der_gesetzlichen_pensionsversicherung_041214.xlsx

²⁷⁰ Difference between values for men and women.

(EU-28: 13.7 p.p.). The gender gap in the *duration of working life*, which in 2013 came to 4.8 years (EU-28: 5.2 years), has decreased by 1.1 years since 2004 (EU-28: -1.2 years). The gender gap²⁷¹ in part-time employment (for people aged 20-64), which reached 37.8 p.p. in 2014 (EU-28: 23.5 p.p.), has thereby increased by 3.9 p.p. since 2004. The gender pay gap²⁷², which in 2013 at 23.0 percent was substantially higher than the EU-28 average (16.4 percent), has decreased by 2.5 p.p. since 2007 (EU-28: increase by 0.3 p.p. over the period of 2010-2013). These developments may overall imply a trend towards a reduction of the gap as far as the employment factors are concerned.

Future adequacy

Regarding future developments, the net theoretical replacement rate (TRR) for a hypothetical male worker with average income from employment retiring at 65 after 40-years career is projected to grow from 85.1 percent in 2013 to 86.1 percent in 2053. The negative effect of 3 years of unemployment will cause 1.7 p.p. smaller TRR with respect to the base case. In 2053, a 3 year childcare break will amount to an increase in the TRR of 1.4. p.p.; the effect of a “short career” (30 year career) on the TRR would cause a loss of 16.2 p.p. in 2053 (with respect to the full career base-case).

Net TRR for high earners would drop from 77.2 percent in 2013 to 67.1 percent in 2053, whereas the TRR for low earners would be slightly increased from 84.6 percent to 85.5 percent. This means that the TRR for a low income worker (85.5 percent in 2013) will remain to be lower than for an average income worker (86.1 percent in 2053), which stands out in international comparative perspective and which is questioning the adequacy of the pension system for that group. These differences are linked to tax effects and are not outputs of the pension system, with the same gross TRR for average and low income earners (71.2 percent), respectively.

Furthermore, negative effects of unemployment and of career breaks will remain to be very substantial in the future (when compared to the full career base-case). Against this background, challenges for pension adequacy will remain to occur especially in cases of a combination of low earned income and interrupted working careers. Both problems tend to affect women to a much larger degree than man, making it unlikely that the gender gap in pensions will narrow considerably in the future (if no major improvements can be achieved regarding gender equality in employment; see below).

Challenges for pension adequacy

Regarding *current challenges of pension adequacy* problems – as already sketched out above – exist regarding coverage (especially in the case of women) and in the context of a high differentiation of benefit levels. The latter implies – irrespective of the from an international comparative point of view very cost-intensive Austrian system of public pensions²⁷³ – comparatively high shares of elderly people being at risk-of-poverty.

The problems of coverage got reduced over time, and are likely to decrease further in future. This – inter alia – derives from the reform of 2001, when the minimum number of contribution years due to gainful work required for an old-age pension got reduced to seven

²⁷¹ Difference between values for women and men (for part-time employment).

²⁷² The unadjusted Gender Pay Gap (GPG) represents the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. Industry, construction and services (except public administration, defense, compulsory social security). Data source: Eurostat [earn_gr_gpr2]

²⁷³ Public spending for pensions (including invalidity pensions and survivor’s pensions) in Austria amounted to 15 percent of GDP in 2012 (EU-27 average: 13.3 percent) (Source: Eurostat database, indicator [spr_exp_pens]).

years (formerly 15 years), and times spent for bringing up children, which are credited as pensionable years, were raised from two years to four years per child. Furthermore, the assessment base for times spent with bringing up children was raised from EUR 650 per month to EUR 1,350 per month (2011: EUR 1,560.98; 2012: EUR 1,570.35; 2013: 1,614.32; 2014: 1,649.84).

Furthermore it was decided to expand the assessment base from the “best” 15 years to lifetime earnings. However, at the same time the valorization was changed from being linked to the consumer price index to a link to wage increase, which levels the differences between men and women and between blue-collar workers and white-collar staff, and is expected to benefit especially people with a flat income history and farmers.

One issue in this context is the distribution of working time and of reproduction work (i.e. care for other family members and friends, different other tasks of housework etc.). In this context it is worth mentioning that Austria shows one of the highest concentrations of part-time work on women auf all EU Member States (coming along with a strong increase in part-time work over the last two decades), and that substantial deficits exist regarding institutional childcare and long-term care. Furthermore, low-wage employment shows a strong concentration on branches dominated by female employment (see e.g. Geisberger 2013).

One other issue which should be closely monitored is the social situation of people who have not reached retirement age, but who face unemployment. This is – evidently – not an issue of the adequacy of pension systems at first instance. But as Austria shows a long history of a rather large-scale use of different schemes of early retirement (to which access got considerably tightened recently) this is still an issue worth mentioning in this context. Recent developments indicate a rather steep increase in the unemployment of people in the age-group 50+, and it is likely that this problem will further accelerate in future (given the stepwise restriction concerning different pathways of early exit from the labour market) (see Table 2).

Table 2: Registry unemployment rates (national calculation methodology) according to age, 2010-2014

Age in years	1st. half year 2010	1st. half year 2011	1st. half year 2012	1st. half year 2013	1st. half year 2014	Change 2011-2014 in %
up to 19	5.10	4.80	4.80	4.90	5.10	6.25
20 - 24	9.70	8.90	9.10	9.70	10.40	16.85
25 - 29	7.90	7.40	7.70	8.40	9.00	21.62
30 - 34	7.50	7.10	7.30	7.80	8.50	19.72
35 - 39	7.00	6.60	6.80	7.30	8.00	21.21
40 - 44	6.70	6.30	6.40	6.90	7.50	19.04
45 - 49	6.70	6.30	6.40	6.80	7.50	19.04
50 - 54	7.20	6.80	7.00	7.30	8.30	22.05
55 - 59	8.80	8.20	8.40	8.90	10.40	26.82
60 - 64	10.60	10.70	11.40	11.80	13.70	28.04

Source: AMS; BALIWeb: <http://www.dnet.at/bali/User.aspx>

5. Sustainability

The evolution of the demography, employment rate and expenditure can give us information about the sustainability of the pension system in the future.

Demography

The old-age dependency ratio (population aged 65 and over as a percentage of the population aged 20-64) in Austria is projected to increase from 29.4 percent in 2013 (EU-28: 30.3 percent) to 52.1 percent in 2053 (EU-28: 54.9 percent).

Austria belongs to the group of Member States where the increase in old-age dependency ratio is projected to be below the EU-28 average. Over the period 2013 to 2053, the old-age dependency ratio is projected to increase by 22.6 p.p. (EU-28: 24.6 p.p.).

The share of working-age population (20-64) (61.8 percent of the total population in 2013) is projected to drop by 8.3 p.p. by 2053 (to 53.5 percent of the total population), compared with 9.2 p.p. for the EU as a whole by 2053.

The economic old-age dependency ratio for Austria is projected to rise by 23.3 p.p. from 35.7 percent in 2013 to 59.1 percent in 2053 but it will be below the EU-28 average (66.2 percent in 2053).

Employment

The labour market participation rate (of people aged 20-64) in Austria (79.2 percent) was above the EU-28 average in 2013 (76.5 percent) and it is projected to be above the EU-28 average in 2053 (81.0 percent versus 79.9 percent). The participation rate of older workers (aged 55-64) in 2013 was lower (46.4 percent) than the EU-28 average (54.4 percent). Over the period 2013 to 2053, the participation rate of older workers is projected to increase by 13.3 p.p. to 59.7 percent in 2053. The percentage increase is lower than in the EU-28 (15.3 p.p.: from 54.4 percent in 2013 to 69.7 percent in 2053).

According to the 2015 Ageing Report, the employment rate (of people aged 20-64) is projected to increase from 75.5 percent in 2013 (EU-28: 68.4 percent) to 78.1 percent in 2053 (EU-28: 74.9 percent). The employment rate of older people (aged 55-64) is projected to change from 44.8 percent (54.4 percent – men, 35.7 percent – women) in 2013 to 58.3 percent in 2053 (EU-28: from 50.3 percent to 66.6 percent).

The effective exit age from the labour force in 2013 was 61.7 (62.5 – for men, 61.0 – for women) and it is below the EU-28 average (63.1 – total, 63.5 – for men, 62.7 – for women).

Main drivers of pension expenditure

According to the 2015 Ageing Report, the gross public pension expenditure will increase from 13.9 percent of GDP in 2013 to 14.4 percent of GDP in 2060. In accordance with the 2015 Ageing Report, the demographic factor has the strongest upward effect (+9.4 p.p. of GDP) on gross public pension expenditure over 2013-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and career shift). The lowering effect of coverage ratio (-3.3 p.p.) and benefit ratio (-4.1 p.p.) on the public pension expenditure are more pronounced than the employment rate effect (-0.5 p.p.) or the career shift effect (-0.5 p.p.).

6. Main opportunities for addressing pensions-related challenges

Given the large differentiation of benefit levels within the statutory pension system, a *detailed* assessment on the current and likely future distributional impact of the statutory pension system should be carried out. Such analyses are largely missing for the case of Austria on the time of writing, but they would be a precondition for future evidence-based policy-making in this area. Results from such research could then interlinked with (to a larger degree already available) research results on the current and likely future financial sustainability of the

pension system, by this allowing for policy recommendations which would both follow social adequacy and financial sustainability.

The pathway of a stepwise closing of early pathways from the labour market should be followed consequently, irrespective of the likely mid-term increase of unemployment rates of people in the age 65+. In doing so, the long-term habit of curtaining old-age unemployment in different schemes of early retirement comes to an end and (hopefully) even more emphasis will then be given to pro-active measures aiming at a further increase of employment rates of elderly people.

7. Background statistics – Austria

1. Relative incomes of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.95	0.98	0.92	0.07	0.02	0.08
Income quintile share ratio (S80/S20), 65+	4.1	4.0	4.0	-0.1	0.0	-0.3

2. Poverty and material deprivation

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+	16.2	13.0	18.6	-5.0	-3.5	-6.0
At-risk-of-poverty rate (AROP), 65+	15.4	12.5	17.6	-3.5	-1.6	-4.8
Severe material deprivation (SMD), 65+	1.8	1.8	1.7	-2.6	-1.6	-3.4
At-risk-of-poverty or social exclusion (AROPE), 75+	17.5	15.9	18.5	-4.5	-0.8	-6.4
At-risk-of-poverty rate (AROP), 75+	16.8	15.4	17.6	-2.9	0.6	-4.9
Severe material deprivation (SMD), 75+	1.4	1.3	1.5	-2.7	-0.7	-3.9
Relative poverty gap, 65+	20.7	24.0	19.8	2.5	2.0	2.7
At-risk-of-poverty rate (AROP), 65+: 40 % threshold	4.7	4.4	5.0	-0.4	0.5	-0.9
At-risk-of-poverty rate (AROP), 65+: 50 % threshold	9.8	8.2	11.1	-0.7	-0.1	-0.9
At-risk-of-poverty rate (AROP), 65+: 70 % threshold	23.7	19.5	26.9	-4.1	-1.7	-5.6

3. Housing situation of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Housing cost overburden rate, 65+	6.7	4.3	8.6	0.9	0.8	1.2
Tenure status among people 65+: share of owners	55.6	58.0	53.8	-4.2	-6.9	-2.3
Severe housing deprivation rate, 65+	1.0	1.5	0.6	-0.1	0.6	-0.6

4. Income replacement by pension systems

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Aggregate Replacement Ratio (ARR)	0.59	0.63	0.57	-0.02	0.02	0.01
Benefit Ratio (BR) (Public pensions)	41.2					
Gross Aggregate Replacement Rate (Public pensions)	51.0					
Gender Gap in Pension Income, % (65-79)	41.8*			6.8*		
Gender Gap in non-coverage rate (W-M in p.p.) (65-79)	12.1*			-3.2*		

5. Sustainability and context indicators

Indicator	2013			Projections for 2053		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65+, years	19.6	17.9	21.2	23.4	21.8	25.0
Old-age dependency ratio (20-64)	29.4	24.9	33.9	52.1	46.3	58.0
Economic old-age dependency ratio (15-64)	35.7	27.8	44.8	59.1	50.2	68.8
Employment rate, age group 55-64	43.8	52.8	35.2	58.3	60.0	56.5
Pension expenditure as % of GDP (ESSPROS)	15.0*			Projections for 2060		
Gross public pensions as % of GDP (AWG projections)	13.9			14.4		

Data source: Eurostat. Sustainability indicators and projections (EPC AWG) – Commission Services (DG ECFIN), based on The 2015 Ageing Report. Data on gender gaps – ENEGE. Notes: * - 2012 data.

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net				Gross			
		2013		2053		2013		2053	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Base case I: 40 years up to age 65	85.1	93.7	86.1		70.2	80.2		71.2
	Base case II: 40 years up to the SPA	85.1		86.1		70.2			71.2
	Increased SPA: from age 25 to SPA	85.1	77.1	86.1		70.2	61.4		71.2
	AWG career length case	82.9	86.7	88.2	81.7	67.7	72.1	73.8	66.4
	Longer career I: from age 25 to 67			94.4				81.0	
	Shorter career I: from age 25 to 63			76.6				60.7	
	Longer career I: from age 25 to SPA+2			94.4				81.0	
	Shorter career I: from age 25 to SPA-2			76.6				60.7	
	Career break – unemployment: 1 year			85.6				70.7	
	Career break – unemployment: 2 years			85.0				70.0	
	Career break – unemployment: 3 years			84.4				69.3	
	Career break due to child care: 0 year				92.0				78.2
	Career break due to child care: 1 year				90.5				76.4
	Career break due to child care: 2 years				89.0				74.6
	Career break due to child care: 3 years				87.5				72.9
	Short career (30 year career)			69.9				53.4	
	Early retirement due to unemployment			83.1				67.9	
	Early retirement due to disability			70.2				53.7	
Indexation: 10 years after retirement			74.1				64.1		
Low Earnings (66%)	Base case I: 40 years up to age 65	84.6	94.0	85.5		70.2	80.3		71.2
	Base case II: 40 years up to the SPA	84.6		85.5		70.2			71.2
	Increased SPA: from age 25 to SPA	84.6	74.0	85.5		70.2	61.4		71.2
	AWG career length case	81.6	86.7	88.4	80.1	67.7	72.0	73.8	66.4
	Longer career I: from age 25 to 67			94.7				81.0	
	Shorter career I: from age 25 to 63			72.9				60.7	
	Longer career I: from age 25 to SPA+2			94.7				81.0	
	Shorter career I: from age 25 to SPA-2			72.9				60.7	
	Career break – unemployment: 1 year			84.8				70.7	
	Career break – unemployment: 2 years			84.0				70.0	
	Career break – unemployment: 3 years			83.2				69.3	
	Career break due to child care: 0 year				95.2				81.7
	Career break due to child care: 1 year				93.8				79.9
	Career break due to child care: 2 years				92.3				78.1
	Career break due to child care: 3 years				90.9				76.4
	Short career (30 year career)	61.2	48.9	64.1		50.8	40.6	53.4	
	Early retirement due to unemployment			81.4				67.9	
	Early retirement due to disability			64.5				53.7	
Pension rights of surviving spouses				129.2				124.6	
High	Base case I: 40 years up to age 65	77.2	84.9	67.1		64.0	72.0	53.4	
	Base case II: 40 years up to the SPA	77.2		67.1		64.0		53.4	

Data source: TRRs for 2013 and 2053 - Member State

Poland (PL)

1. General description of the pension system

There are two major contributory-based pension systems in Poland. Employees and self-employed outside agriculture, are covered by the general obligatory (statutory) pension system. Within the general scheme, there are special rules for miners. In 2013 the scheme covered 15.5 million insured people.

Farmers have a separate Agricultural Social Insurance Fund (KRUS, *Kasa Rolniczego Ubezpieczenia Społecznego*) with 1.5 million of contributors. KRUS is financed mainly from taxes and only in small part from contributions. There are also separate tax-financed schemes for 'uniformed services' such as military, police and prison service, as well as state provision for judges and prosecutors.

After the pension reform implemented in 1999, the general pension system for people born after 1948 has consisted of two pillars. The first pillar is an unfunded NDC scheme, administered by Social Insurance Institution (ZUS, *Zakład Ubezpieczeń Społecznych*). The second pillar is a fully funded scheme of open pension funds (OFE, *otwarte fundusze emerytalne*), managed by private investment companies – general pension societies (PTE, *powszechne towarzystwa emerytalne*). From 2014 the membership in second pillar became voluntary – all members of OFE had a choice whether to pay their contributions partially to the pension fund, or to channel the entire contribution towards the NDC accounts in ZUS. Regardless of the choice made, 10 years before reaching pensionable age by an employee assets accumulated by him/her in second pillar are gradually transferred to the NDC2 account (the so-called slider mechanism), protecting them against financial market risk. Benefits are equal for both genders, notwithstanding differing male and female life expectancy. The new entrants to the labour market can choose whether to become a member of pension fund, but in 2014 only 4 percent of them decided to do so.

Both publicly and privately managed elements of the Polish pension system are thus based on defined contribution principle. People born before 1949 as well as those who accrued full pension rights before 2009 receive pension based on pre-reform principle, which are traditional PAYG DB pensions.

The statutory pension system is financed from contributions (19.52 percent of gross salary) paid in equal shares by an employees and his/her employer. The contribution is collected by ZUS and divided between the following accounts:

- NDC1 account (12.22 percent of gross salary) managed by ZUS, which is indexed 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;
- NDC2 account (7.3 percent of gross salary – or 4.38 percent for those who opted to stay in an OFE) managed by ZUS, indexed in line with average 5-year GDP growth. Value of this account is inherited in the case of premature death of an insured person. The equivalent of value of government bonds that were credited to individual FDC account before February 2014 is also credited to this account;
- FDC account (2.92 percent of gross salary) channelled to OFE and managed by PTE for those employees who declared that they want to have their contribution still split between first and second pillar (decisions were made between April and July 2014).

As slider mechanism is in force, the purchase of government bonds by pension funds is banned and a minimum share of investment in equities at the level of 70 percent of assets of pension funds is set.

The only eligibility condition to receive a pension is age. The statutory pensionable age has been gradually increasing since 2013 starting from the level of 60 years for women and 65 years for men. Every 4 months the age is increased by 1 month to reach the level of 67 years: this will happen in 2020 for men and in 2040 for women.

There is no minimum insurance period to claim a pension, but there is a minimum insurance period requirement in order to be covered by the minimum pension guarantee (25 years for men and 21 years for women, increasing by 1 year every two years to reach 25 years in 2022).

Extensive early retirement possibilities that existed before 2008 were abolished. Since 2009 a scheme of bridging pensions has been in place, allowing for early retirement of workers who before 1999 had worked in special conditions or performed work of special character. Miners can still retire early, based on old DB system rules.

Almost all pensions currently paid come from the old DB system. Thus, the current adequacy of pension benefits does not reflect the potential developments in the future, where pensions will be calculated according to the principles established in 1999.

After reaching the standard pensionable age, old-age pension can be combined with earnings from work without any restrictions. However, if a pensioner is younger than the standard pensionable age, his/her pension is reduced when the earnings are between 70 percent and 130 percent of average wage and completely suspended when earnings are higher than 130 percent of the average.

As pensions are financed from contributions before taxes, old-age pensions are subject to personal income tax.

The KRUS pensions are calculated on the basis of contributory years, with 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.

Pensions in payment are indexed once a year based on, whichever is higher, the general or pensioner households' consumer price index topped up by at least 20 percent of real growth of average earnings in the previous year. In 2015 the increase of individual pension could not be less than a minimum lump-sum (set at 36 zł for 2015). This means that lower benefits are subject to proportionally higher increases.

The 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. For example, less than 4 percent of the employees belong to occupational pension schemes. There were only 816.7 thousand IKE accounts at the in mid-2014, and only 25.5 percent of them received any contribution in 2014.

2. Reform trends

Following the financial crisis of 2008 and worsening situation of public finance, in 2010 the government initiated political debate on reducing the contribution to the funded second pillar what would lower the budget transfers to the pension system and thus help to reduce public debt. Effective on 1 May 2011, contribution rate to the funded pillar was reduced to 2.3 percent instead of 7.3 percent and the contribution rate to the first pillar increased to 17.22 percent from 12.22 percent.

As a compensation for the reduction of the pension systems' funded part, a new form of supplementary voluntary old-age income security – individual pension protection accounts

(IKZE) has been legislated, starting in 2012 (the PTEs were granted the right to offer it as well). For the first time, the contribution payments for the new savings account should be exempt (to a certain level) from income tax. This new instrument did not, however, become popular. By June 2014 only 493.2 thousand IKZE had been opened and only 8.9 percent of them had received any payment.

Despite resistance by trade unions and opposition parties, the act which set up a path for raising and equalisation of retirement age for men and women at 67 years came into force in 2013, with implementation period lasting until 2040.

The retirement age for the uniformed services (soldiers, policemen, etc.) was also raised. Pensions are now available for persons over 55 years of age with at least 25 years of service (in the old system: after 15 years of service, without any age threshold).

In 2013 the part of public pension funds' assets invested generally in government bonds was shifted to the NDC2 account. Contribution rate to the funded tier was thus set at 2.92 percent of gross wage.

In 2014 the membership in second pillar became voluntary – between April and July 2014 all members of OFE had a choice whether to pay their contributions partially to the pension fund, or to channel the entire contribution towards the NDC accounts in ZUS. Only 2.56 million people (ca. 15 percent of the labour force) opted for continuing payments to OFE. The remaining majority retained their membership in pension funds but further contributions have not been transferred to their accounts.

Pension funds were not allowed to conduct any marketing or information campaigns in the period set for decision to stay in OFE or to fully switch to NDC2.

3. Impact of crisis on the current pension system and present pensioners

Poland weathered through the financial and economic crisis relatively well. The GDP continued to grow during the entire period, though its dynamics slowed down significantly. Labour market situation was also relatively stable. Between 2008 and 2013, the employment rate of people aged 20-64 hovered around 65 percent.

The crisis impacted most the fiscal situation: in 2009 and 2010 the level of general government deficit was close to 8 percent of GDP, much above previous levels. In consequence, the level of general debt increased from 44.6 percent to 54.1 percent in 2010 and 56.1 percent in 2013. This had an impact on the pension system because the government sought solutions that would improve its fiscal position.

Impact of budget consolidation on the pension system. The budget consolidation measures related to the pension system that were introduced post-crisis included the reduction of the budget subsidy to the social insurance fund. This was made possible by the change in proportion of old-age contributions transferred to mandatory funded component of the pension system, which led to the reduction of the state budget subsidy covering this part of contribution payment (see below). In addition, in 2010 the government started to use the assets accumulated in the Demographic Reserve Fund. The total level of state budget subsidy of around 4 percent of GDP in years 2008-2010 declined by a fourth to around 3 percent of GDP in 2012-2013. There were no direct post-crisis measures aiming at the reduction of the overall level of expenditure in the pension system. The only change was a nominal (lump sum) indexation of pensions in 2012.

Table 1: State budget and Demographic Reserve Fund transfers to FUS (percent of GDP)

	2007	2008	2009	2010	2011	2012	2013
Total state budget transfer, of which:	3,4	4,2	3,8	4,1	3,6	3,0	2,9
<i>transition costs (FDC contribution)</i>	1,4	1,6	1,5	1,5	1,1	0,5	0,7
<i>government subsidy to FUS</i>	2,0	2,6	2,2	2,6	2,6	2,5	2,3
Transfer from Demographic Reserve Fund	-	-	-	0,5	0,3	0,2	0,2

Source: own calculations based on ZUS data

Impact on funded system. The crisis affected the funded part of the mandatory system in two ways: (i) due to financial market developments, it worsened the performance of open pension funds (OFEs); and (ii) it reduced the size of the funded part of the system, due to changes driven by fiscal adjustment measures.

The surge on financial markets, including the Warsaw Stock Exchange, led to the negative returns on OFEs' investments in 2009 and again in 2011. However, the overall performance of pension funds was relatively good, with average nominal rate of return of 8.69 percent (between 2000 and 2013). The average real rate of return until the end of 2012 was 5.64 percent.

As a result of the downsizing of the funded pillar, the amount of contributions that were transferred to OFEs in years 2011-2014 declined. After opt-out procedure, the monthly flow of contributions (from August 2014) was around a quarter of the previous level. According to the draft financial plan for 2015 the contribution transfer to OFEs is projected at the level of 2,72 billion zł.

Changes implemented in 2014 affected also assets of pension funds. The value of government bonds that were under management of OFEs amounted to 153 billion zł (51.5 percent of assets). On 14 February 2014 money were transferred to social insurance fund and the bonds were redeemed. As a result, the public debt fell by 9 p.p. of GDP. Another transfer of assets between OFEs and the social insurance fund results from the slider mechanism applied to funds of people who will retire within next 10 years. In 2014 the amount transferred from OFEs on the basis of this regulation reached to 3.68 billion zł.

Unemployment, early retirement and take-up of pensions. The labour market situation did not worsen much during the crisis. Stable employment rate is accompanied by relatively mild increase of unemployment rate. The group which experienced higher increase of unemployment were those under 25 years of age. The number of people receiving early retirement transfer declined from 1.5 million in 2008 to less than 700 thousand in 2013. Employment rate of workers 55-64 increased significantly from 31.6 percent in 2008 to 42.5 percent in 2014, despite the economic slowdown.

The inflow to new pensions was higher in Poland between 2007 and 2009. In the case of men this reflects the possibility to retire early thanks to the ruling of the Constitutional Tribunal, in the case of both men and women it was also due to reaction to early retirement cut from 2007 – people decided to claim their retirement rights, as they were afraid to lose them. After 2010, the number of new pensions decreased to around 100 thousand per year. After 2008, average retirement age of women increased to slightly below 60 years. For men, average retirement age between 2009 and 2013 was also below 60. This is a result of 1999 pension reform change – men covered by the old system (born before 1949) can retire at the age of 60, men born after 1948, covered by the new system will retire at the age of 65.5, which means that they reach retirement age in 2014 and later.

Beginning in 2013, the standard pensionable age is being increased by 3 months every year. While this change does not affect the past statistics, it will have an impact on the number of beneficiaries and employment rates of older workers in the future. Based on the experience

from the increase of retirement age due to limitation of early retirement, we can assume that it will further contribute to the rise of employment rate of those in age group 55 and older.

Compatibility of the policy measures with EU-level policy recommendations as expressed in CSRs. CSRs of 2014 underline that labour market participation of older workers in Poland remains low and the CSRs call for further efforts to increase the employability of older workers and the effective duration of working life. The employment rate of people in age group 55-64 increases, which shows that the directions of change follow the CSRs recommendations. CSRs also call for reforming special systems for miners and farmers, which, among others, impede sectorial and territorial mobility. However, no changes to these schemes have been announced.

4. Assessment of adequacy

Current adequacy

Due to the significant change of the pension system, there is a significant difference between the adequacy of current pensions, which were granted according to the old DB system rules and pensions to be paid in the future, which will be fully based on defined contribution principle.

In the case of current adequacy, the risk of poverty or social exclusion (AROPE) in Poland declined for total population between 2008 and 2013, though still remains slightly above the EU average. Similar trend is also observed in the case of population above 65 years of age. In the case of people aged 65-74, AROPE still remains above the EU average, particularly for women. A decline is observed for both sexes, but women are more at risk than men, particularly in the age groups 65-74 and 65+ (the difference is around 5 p.p.).

In the case of monetary poverty, the poverty rate of people aged 0-65 is above the EU average, while in the case of people aged 65+ it is below the EU average. At-risk-of-poverty (AROP) rate for population 65+ is around 6 p.p. below that of the younger generation. Older women are at higher risk of poverty compared to men. That shorter careers or low income have not led to lower pension adequacy can be attributed to the redistributive nature of the old DB system and to the weaker contribution-benefit link. In 2012 and 2013 the poverty among people 65+ declined, which can be partly explained by the lump-sum indexation of lowest pensions in 2012. Lower monetary poverty of men and women aged 75+ can be attributed to two factors. First, after the age of 75 old people in Poland are eligible for additional care allowance. Second, we may expect that those who survive to age of 75 years and more have better health status and also relatively higher pension benefits.

Between 2008 and 2013 the severe material deprivation of people aged 65 and more in Poland declined significantly, which follows the trend observed for the entire population. As a result, by 2013, the level of severe material deprivation of population 65+ decreased to 11.5 percent, which is almost half of the level from 2008. Also in this aspect women are more at risk. The decline in severe material deprivation is related mainly to the improvement of situation in the housing dimension (in particular, households are better equipped in telephones and TV sets). The decline in the material deprivation to a large extent explains the drop in AROPE rate for Poland.

Relative median income of people aged 65+, as well as 75+, having declined in 2009, increased in 2010 and 2013. Median income of older men is higher than for the population aged 0-65, in the case of women it is 10 p.p. below the income of younger population. The relative improvement of the income situation of older people in Poland can be attributed to relatively stable income coming from pension, with guaranteed indexation as well as decreased dynamic of wage growth, compared to the period prior 2008.

The mixed indexation mechanism, applied in 2015, will lead to changes in the distribution of pension levels, as lower pensions will increase faster than the higher ones. This will increase the income redistribution in the pension system. No further changes to minimum income or pension indexation are proposed. It should be noted that the rise of retirement age leads to smaller inflow of new pensioners, which leads to reduction of potential pension expenditure.

Gender pension gap

Currently, the gender pension gap in Poland for current pensioners is below the EU average and in 2012 was 24.3 percent for people aged 65-79 and 24.6 percent for people aged 65+, which is respectively 15.9 p.p. and 19.0 p.p. lower than EU average. This reflects first the relatively equal labour market conditions of men and women before the economic transition, compared to the average EU situation. Between 2008 and 2012 the gender gap in pensions slightly increased, which may reflect the fact that newly retired women receive pensions calculated according to the new system rules. The gender gap in non-coverage rate is also low at around 1 percent, again significantly below EU average. This is to a large extent related to the fact that widows can claim benefits related to their late husbands' pensions. Changes in the labour market conditions after the economic transition can have an impact on the gender pension gap in the future (Chłóń-Domińczak, 2013). Between 2001 and 2011 the intensity of women's employment in age groups 25 and more increased, particularly in the case of those aged 55-64. Gender pay gap remains relatively low. These developments, combined with equalisation of retirement age of men and women will contribute to bridging the gender pension gap in the future.

Gender gaps in employment and pay. The gender gap in pensions is determined by several factors what means that its future values can be inferred from present and past developments in the employment and pension system. Since it is calculated for the entire population of 65-79 year olds, there is certain inertia in its development.

The gender gap²⁷⁴ in the *employment rate of older workers* (age 55-64) amounted to 20.2 p.p. in 2014 (EU-28: 13.7 p.p.), having increased by 5.0 p.p. over the period 2004-2014 (compared to 5 p.p. decrease in EU-28).

The gender gap in the *duration of working life*, which in 2013 came to 5.1 years (EU-28: 5.2 years), had increased by 0.3 years since 2004 (EU-28: decrease of 1.2 years).

The gender gap in *part-time employment*²⁷⁵ (workers aged 20-64) reached 6.0 p.p. in 2014 (EU-28: 23.5 p.p.), up by 0.3 p.p. since 2004.

The gender *pay gap*²⁷⁶, which in 2013 stood at 6.4 percent was substantially lower than the EU-28 average (16.4 percent), having decreased by 8.5 p.p. since 2007 (EU-28: increase by 0.3 p.p. over the period of 2010-2013). This implies a trend towards a reduction of the gap as far as the employment factors are concerned.

Future adequacy

Due to the extensive pension reform of 1999, the current pension level does not reflect the future developments. In the new pension system, the level of benefits will be linked to the lifetime contributions paid, which depend on the intensity of employment and level of wages

²⁷⁴ Difference between values for men and women.

²⁷⁵ Difference between values for women and men (for part-time employment).

²⁷⁶ The unadjusted Gender Pay Gap (GPG) represents the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. Industry, construction and services (except public administration, defense, compulsory social security). Data source: Eurostat [earn_gr_gpgr2]

earned and life expectancy at retirement (calculated jointly for men and women). This means that the pension system is close to actuarial neutrality, but also that the level of pensions expected in the future in relation to earnings will be smaller compared to the pensions in payment now.

Transition from the current to future pension level 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 average wage earner who started career in 2013 at the age of 20 and will be retiring at the standard pensionable age of 67, will be at 47.9 percent. In the case of retirement at age 65 (which is currently not foreseen by the law) (s)he could expect a net replacement rate of 37.7 percent. This is lower than the projections in Pension Adequacy Report from 2012, where under the same conditions the net replacement rate was 43.2 percent. The decline may be attributed to the changes in the pension system, including the split of contributions (assumed return of NDC2 accounts is lower than that of OFE accounts). For a person retiring at the SPA who has 40 years of working career, the replacement rate is estimated at 40.7 percent. This is an increase of 3 p.p. compared to the person with the same working career length retiring at age of 65, which is related to the use of life expectancy factor in pension calculation. The new pension system rewards longer working careers. Postponing of retirement by 2 years, compared to SPA leads to the increase of replacement rate by 4 p.p.

Pension contributions are paid from public funds 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. Workers with 3 years of childcare break could expect a pension of 42.6 percent of earnings. In the case of 3 years of unemployment break the replacement rate is lower – 40.0 percent. Longer detachment from the labour market (10 years) means that the replacement rates drops to 33.9 percent.

Challenges for pension adequacy

Polish pension system is currently in transitory 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. The median income of people in age group 65+ is similar to the income of people aged 64 or less. However, there is a difference between men and women, as men on average have higher pensions than women. This is a result of the differences in their wages and tenure during their employment career in the past. Lower pension income of women may not be adequate, particularly for older women living in single households, in particular widows, who also face higher expenditure pressure related to the housing expenditure. Incomes of pensioners aged 75 and more are improved through additional care allowance granted at age 75, which improves the pension adequacy for this group.

Furthermore, the current approach to changing the level of minimum pension (based on general pension indexation rules) will lead to reduced role of this instrument as a tool of poverty protection in the future (Chłóń-Domińczak and Strzelecki, 2013). While the situation of old-age pensioners remains relatively favourable, it should be also noted that the poverty rate among disability pensioners is much higher and significant share of this group receives benefits close to the minimum level.

As indicated in the statistics of ZUS, the level of pension granted according to the new rules is lower than the one resulting from the old rules. As the system becomes fully implemented, with first cohort of men covered by the new system retiring in 2014, the degree of pension adequacy should be closely monitored.

There are also important considerations regarding the pension adequacy for women. Since women tend to have both shorter working lives and lower wages, their DC-based pensions will be low. The recent changes in the area of family policy include, however, increased contribution payments for old-age pensions for parents taking a break for maternity and childcare periods. This should have a positive impact on the future pensions adequacy.

The legislated increase of the retirement age to 67 will have a positive impact on the pension adequacy, particularly for women. However, the impact of this change depends on the labour market outcome – whether the increase in retirement age is translated into higher labour market participation of older workers. The evidence after the reduction of early retirement possibility after 2008 confirms that changes in retirement age are indeed translated into higher labour market participation of workers aged 50 and over.

Furthermore, the impact of the 2014 changes to the pension system, including the reduction of contribution accumulated in the FDC account should be monitored.

Due to the changes in the account management in the mandatory system, the regular information on the value of pension accounts distributed by ZUS was interrupted. The low level of awareness of the necessity for additional savings may have contributed to the low level of voluntary pension savings. As a result, the additional voluntary individual savings will not contribute to improvement of adequacy and pensioners' income in the future.

5. Sustainability

The evolution of the demography, employment rate and expenditure can give us information about the sustainability of the pension system in the future.

Demography

The old-age dependency ratio (population aged 65 and over as a percentage of the population aged 20-64) in Poland is projected to increase from 22.3 percent in 2013 (EU-28: 30.3 percent) to 61.0 percent in 2053 (EU-28: 54.9 percent).

Poland belongs to the group of Member States where the increase in old-age dependency ratio is projected to be above the EU-28 average. Over the period 2013 to 2053, the old-age dependency ratio is projected to increase by 38.7 p.p. (EU-28: 24.6 p.p.).

The share of working-age population (20-64) (65.0 percent of the total population in 2013) is projected to drop by 13.7 p.p. by 2053 (to 51.3 percent of the total population), compared with 9.2 p.p. for the EU as a whole by 2053.

The economic old-age dependency ratio for Poland is projected to rise by 45.2 p.p. from 32.7 percent in 2013 to 77.9 percent in 2053 and it will be above the EU-28 average (66.2 percent in 2053).

Employment

The labour market participation rate of people aged 20-64 in Poland (72.7 percent) was below the EU-28 average in 2013 (76.5 percent) and it is projected to be below the EU-28 average in 2053 (75.8 percent versus 79.9 percent). The participation rate of older workers (aged 55-64) in 2013 was lower (44.2 percent) than the EU-28 average (54.4 percent). Over the period 2013 to 2053, the participation rate of older workers is projected to increase by 19.7 p.p. to 63.9 percent in 2053. The percentage increase is higher than in the EU-28 (15.3 p.p.: from 54.4 percent in 2013 to 69.7 percent in 2053).

According to the 2015 Ageing Report, the employment rate (of people aged 20-64) is projected to increase from 65.2 percent in 2013 (EU-28: 68.4 percent) to 70.2 percent in 2053

(EU-28: 74.9 percent). Employment rate of older people (aged 55-64) is projected to change from 40.8 percent in 2013 to 60.5 percent in 2053 (EU-28: from 50.3 percent to 66.6 percent).

The employment rate for older workers (from 55 to 64 years) in Poland in 2013 was lower than the EU-28 average: 40.8 percent (51.5 percent – men, 31.1 percent – women) versus 50.3 percent at the EU-28 level (57.6 percent – men, 43.3 percent – women).

The effective exit age from the labour force in 2013 was 62.0 (63.9 – for men, 60.2 – for women) and it is below the EU-28 average (63.1 – total, 63.5 – for men, 62.7 – for women).

Main drivers of pension expenditure

According to the 2015 Ageing Report, the gross public pension expenditure will decrease from 12.8 percent of GDP in 2013 to 10.7 percent of GDP in 2060.

In accordance with the 2015 Ageing Report, the demographic factor has the strongest upward effect (+12.4 p.p. of GDP) on gross public pension expenditure over 2013-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and career shift). Poland projects a strong downward pressure on expenditure due to an increasing benefit ratio effect (-5.2 p.p.). A strong downward effect of the coverage ratio is also projected in Poland (-5.2 p.p.). The employment rate has a lowering effect (-0.8 p.p.) on public pension expenditure.

6. Main opportunities for addressing pensions-related challenges

Changes in the pension system in Poland in recent years, mainly as a reaction to the fiscal situation had multiple consequences for the pension system. Most importantly, the level of trust in the pension system and its institutions has deteriorated in wake of the financial crisis and subsequent reforms (Social Diagnosis, *Diagnoza Społeczna 2013*). Rebuilding trust is thus, one of the most important challenges. This should include re-instating and simplifying the pension account reports, as well as integrating reports for all pension accounts. Currently three accounts have separate reporting frameworks, what does not allow individuals to assess their future pension prospects, reducing the potential incentives for additional voluntary savings.

The level of benefits granted in the new system should be regularly monitored, in particular taking into account the impact of the retirement age changes to the adequacy of pensions. Furthermore, labour market policies should be focused on increasing employment levels, particularly for women as well as reducing the gender wage gap. Given the close link between contributions and benefits labour market outcomes are important for the future level of pensions as well as differences in pension levels for people with different labour market careers.

7. Background statistics – Poland

1. Relative incomes of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.98	1.06	0.93	0.01	0.01	0.01
Income quintile share ratio (S80/S20), 65+	3.4	3.3	3.4	0.0	-0.2	0.1

2. Poverty and material deprivation

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+	19.7	15.2	22.5	-7.2	-6.6	-7.4
At-risk-of-poverty rate (AROP), 65+	12.3	8.5	14.6	0.6	-0.4	1.2
Severe material deprivation (SMD), 65+	11.5	9.2	12.9	-9.3	-8.4	-9.9
At-risk-of-poverty or social exclusion (AROPE), 75+	17.2	11.9	19.9	-9.4	-8.1	-10.0
At-risk-of-poverty rate (AROP), 75+	9.5	5.2	11.7	-0.5	-1.1	-0.1
Severe material deprivation (SMD), 75+	10.2	8.0	11.4	-10.5	-7.8	-11.7
Relative poverty gap, 65+	16.7	16.9	16.5	2.9	4.1	2.7
At-risk-of-poverty rate (AROP), 65+: 40 % threshold	1.7	1.0	2.0	0.2	-0.1	0.2
At-risk-of-poverty rate (AROP), 65+: 50 % threshold	6.2	4.3	7.3	1.0	0.5	1.3
At-risk-of-poverty rate (AROP), 65+: 70 % threshold	20.4	15.2	23.6	-1.2	-1.7	-0.8

3. Housing situation of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Housing cost overburden rate, 65+	10.2	5.5	13.1	-0.7	-1.0	-0.4
Tenure status among people 65+: share of owners	87.1	88.4	86.3	17.8	16.4	18.6
Severe housing deprivation rate, 65+	7.0	5.5	8.0	-6.4	-5.1	-7.1

4. Income replacement by pension systems

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Aggregate Replacement Ratio (ARR)	0.60	0.68	0.60	0.04	0.03	0.07
Benefit Ratio (BR) (Public pensions)	47.9					
Gross Aggregate Replacement Rate (Public pensions)	53.0					
Gender Gap in Pension Income, % (65-79)	24.3*			2.2*		
Gender Gap in non-coverage rate (W-M in p.p.) (65-79)	1.4*			-0.4*		

5. Sustainability and context indicators

Indicator	2013			Projections for 2053		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65+, years	17.6	15.4	19.6	22.4	20.5	24.2
Old-age dependency ratio (20-64)	22.3	17.2	27.4	61.0	52.6	69.6
Economic old-age dependency ratio (15-64)	32.7	22.1	45.9	77.9	60.9	98.6
Employment rate, age group 55-64	40.6	51.3	31.0	60.5	64.7	56.3
Pension expenditure as % of GDP (ESSPROS)	11.1*			Projections for 2060		
Gross public pensions as % of GDP (AWG projections)	11.3			10.7		

Data source: Eurostat. Sustainability indicators and projections (EPC AWG) – Commission Services (DG ECFIN), based on The 2015 Ageing Report. Data on gender gaps – ENEGE. Notes: * - 2012 data.

6. Theoretical Replacement Rates (TRRs)

TRR case	Net				Gross				
	2013		2053		2013		2053		
	Men	Women	Men	Women	Men	Women	Men	Women	
Average Earnings	Base case I: 40 years up to age 65	74.2		37.7		64.1		31.8	
	Base case II: 40 years up to the SPA	74.2	73.1	40.7		64.1	63.1	34.4	
	Increased SPA: from age 25 to SPA	75.5	66.6	43.4		65.2	57.4	36.8	
	AWG career length case	82.3	65.7	47.9	40.8	71.3	56.6	40.9	34.6
	Longer career I: from age 25 to 67			43.4				36.8	
	Shorter career I: from age 25 to 63			35.9				30.2	
	Longer career I: from age 25 to SPA+2			47.4				40.4	
	Shorter career I: from age 25 to SPA-2			39.3				33.2	
	Career break – unemployment: 1 year			42.3				35.9	
	Career break – unemployment: 2 years			41.1				34.9	
	Career break – unemployment: 3 years			40.0				33.9	
	Career break due to child care: 0 year							43.4	36.8
	Career break due to child care: 1 year							43.2	36.7
	Career break due to child care: 2 years							42.8	36.3
	Career break due to child care: 3 years							42.6	36.2
	Short career (30 year career)			33.2				27.8	
	Early retirement due to unemployment			36.2				30.4	
	Early retirement due to disability			36.1				30.3	
Indexation: 10 years after retirement			39.1				33.0		
Low Earnings (66%)	Base case I: 40 years up to age 65	85.8		38.1		74.6		31.8	
	Base case II: 40 years up to the SPA	85.8	83.9	41.1		74.6	72.8	34.4	
	Increased SPA: from age 25 to SPA	87.0	76.7	43.0		75.7	66.4	36.2	
	AWG career length case	93.6	75.7	48.2	41.2	81.5	65.5	40.9	34.6
	Longer career I: from age 25 to 67			43.7				36.8	
	Shorter career I: from age 25 to 63			36.3				30.2	
	Longer career I: from age 25 to SPA+2			47.7				40.4	
	Shorter career I: from age 25 to SPA-2			39.7				33.2	
	Career break – unemployment: 1 year			42.6				35.9	
	Career break – unemployment: 2 years			41.5				34.9	
	Career break – unemployment: 3 years			40.4				33.9	
	Career break due to child care: 0 year							43.7	36.8
	Career break due to child care: 1 year							43.5	36.7
	Career break due to child care: 2 years							43.2	36.3
	Career break due to child care: 3 years							43.0	36.2
	Short career (30 year career)	80.2	70.5	33.7		69.6	61.0	27.8	
	Early retirement due to unemployment			36.7				30.4	
	Early retirement due to disability			36.5				30.3	
Pension rights of surviving spouses							55.5	47.4	
High	Base case I: 40 years up to age 65	59.8		29.0		51.5		24.5	
	Base case II: 40 years up to the SPA	59.8	54.2	32.2		51.5	46.6	27.4	

Data source: TRRs for 2013 and 2053 - Member State.

Portugal (PT)

1. General description of the 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 2006²⁷⁷ and the CGA²⁷⁸ that covers civil servants who had started working in the public sector before 2006) complemented by voluntary occupational pension plans and personal pension saving arrangements.

The first pillar has two branches: the contributory general statutory regime, which is mandatory, and the non-contributory regime, subject to means-testing:

- The contributory regime 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 percent to be paid by the worker and 23.75 percent by the employer), where 26.94 p.p. are earmarked for pensions. As regards the self-employed, the global rate of contribution is 29.5 percent of gross revenue. There is also a "small" contributory voluntary insurance scheme covering some categories, such as volunteers or researchers who pay 23.5 percent or 29.6 percent, respectively. A share of the 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 SS treasury be under stress.
- Non-contributory pension benefits are fully financed by state transfers.

In 2013 there were 3.001 million SS contributory pensions²⁷⁹ and 614 thousand pensioners from the public employees' special unfunded scheme²⁸⁰ (CGA)²⁸¹, adding up to 3,615 million pensioners. In 2013 old-age pensions accounted for 67 percent of the total Social Security pensions and represented 74 percent of the total expenses with pensions from the total SS and CGD schemes.

Entitlement to the Social Security statutory old-age pension requires a qualifying period of 15 years of insurance.

The legal retirement age with full benefits is now 66 years for both men and women. During the Economic and Financial Assistance Programme period and until the end of 2014, the Government suspended early retirement for employed workers covered by the general social security scheme. However during that period there was the special pathway to retirement at the age of 62, without penalties, for long-term unemployed older workers if unemployment occurred after the completion of 57 years.

²⁷⁷ The general regime of social security subsystem

²⁷⁸ CGA (Caixa Geral de Aposentações subsystem) subscribers enrolled since September 1993 are subject to the same rules of those of general regime of social security. The pension scheme of these employees has been in a convergence process towards the general regime of social security since 2005.

²⁷⁹ Data provided by the Institute for Social Security available at <http://www4.seg-social.pt/estatisticas>

²⁸⁰ This special scheme is closed since 2007 and is phasing out.

²⁸¹ Caixa Geral de Aposentações. Data available at <http://www.cga.pt/fs/file/Download/FileShare/www/RelContas/rc2013cga.pdf>

As of 2015, early retirement can be claimed again if the insured person had both a minimum age of 60 and 40 years of contributory career. In those cases a reduction of 0.5 percent is applied for each month of anticipation. However, it is possible to attenuate this penalty.

There are special retirement conditions for people with arduous jobs²⁸². 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.

Old-age pensions may 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 three 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.

Pension benefits are presently calculated combining formulas that apply to separate periods within the working life of beneficiaries.

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.

The non-contributory regime provides means tested benefits – the old-age social pension - for the aged population whose contributory records do not qualify them for receiving the “regular” old-age pension. An additional means-tested non-contributory old age benefit has been implemented since early 2006, to fight poverty amongst the elderly: the Solidarity Supplement for the Elderly²⁸³.

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.

2. Reform trends

In 2007 the Portuguese pension system was significantly reformed following the approval of the new Social Security Framework Law²⁸⁴ and the transposition of the reform measures to the CGA system in the second half of 2007 and early 2008 aiming at ensuring the provision of a unified public social security system. The CGA special scheme for civil servants underwent a convergence process since 2007 with the SS pension's scheme which will last until 2015 once the phasing out is concluded. The mandatory schemes outside the SS statutory regime are now closed (except for the scheme of lawyers and solicitors which remains open) and new entrants will be covered by the SS system alone. The main measures introduced following the reform include: i) the bringing forward of the new pension benefit calculations established in 2002; ii) the incorporation of a sustainability factor in the calculations that links the pension value to the evolution of life expectancy at the age of 65; iii) new indexation rules to moderate periodic adjustments of pensions; iv) the encouragement of delaying retirement by increasing the financial penalty for early retirement and granting bonuses in case of postponing

²⁸² Including air traffic controllers, miners, maritime and fishing professionals, dancers, harbour workers and embroiders from Madeira.

²⁸³ Created by Decree-Law 232/2005 of December 29, available at: <https://dre.pt/application/file/469110>

²⁸⁴ Law No. 4/2007, of 16 January (amended by Law No. 83-A/2013, of 30 December).

retirement; and v) revision of the criteria for means-testing for non-contributory benefits along with a new non-contributory allowance for the elderly (the Solidarity Supplement for the Elderly).

The signature of the bailout assistance agreement in 2011 would bring about important changes to the Portuguese pension system. At the fiscal level the main changes included both permanent measures (e.g. higher withholding tax rates and decrease of specific deductions within the Income Tax applying to income from pensions) and the so-called temporary measures (e.g. the Extraordinary Solidarity Surcharge - CES and the Personal Income Extraordinary Surcharge). Some details are below.

As regards Social Security some permanent changes were also introduced, namely: a) increase in the legal retirement age with full benefits, which in 2014 is 66 years old for both men and women, and from 2016 shall vary according to the evolution of life expectancy at the age at 65; b) redesign of the sustainability factor²⁸⁵ changing the reference year from 2006 to 2000; c). Two major SS related temporary measures have also been introduced during this period: a) suspension of the regime allowing early retirement, with the exception of long-term involuntary unemployment; and b) the freezing of pension benefits, with the exception of the lowest pensions (e.g. rural and social pensions).

Following the end of the bailout assistance period in June 2014, the Government tried to replace some temporary measures by permanent ones but these were overruled by the Constitutional Court. These regarded the replacement of the CES by a permanent Sustainability Contribution on pension aiming at reducing about 2 percent the amount of old-age pensions over EUR 1000 per month.

The on-going discussion on pension reforms is closely linked to the impact of the application of the sustainability factor which entailed a growing cut of the statutory benefit for successive new early retirees and, more recently, the debate around some of the measures included in the 2015 State Budget, namely the continued suspension of the updating rule for pensions (introduced in 2012), the elimination of pension complements for workers in state-owned companies.

Both the Economic and Social Council and major trade union federations have highlighted that these measures will continue to negatively affect the income of pensioners and may endanger the need to balance the necessary sustainability of the pensions' system with the need to keep (and strengthen) achievements attained by the positive evolution of poverty indicators among the elderly. Between 2011 and 2012 (last data available)²⁸⁶ the average annual amount of the old-age pension (all regimes included) decreased from EUR 4,907.30 to EUR 4,748.30. A recent study on the Portuguese public system showed the relationship between the evolution of the average value of the old-age pensions, of the average salaries during the crisis years and of the replacement rate: "Considering that the average monthly value of all the old-age pensions in payment by Social Security under the General Scheme is EUR 473.3 (2008-2012), the ratio between the average value of the total of the old-age pensions of the General Scheme and the average value of declared wages decreased to values around 45.8 percent (2008-2012)" (Coelho, 2013:20).

²⁸⁵ Change introduced by Decree-Law 167-E-2013 of December 31, available at : <https://dre.pt/application/dir/pdf1sdip/2013/12/25303/0036400369.pdf>

²⁸⁶ Data provided by the Institute for Social Security available at <http://www.pordata.pt/Portugal/Pensao+media+anual+da+Seguranca+Social+total++de+sobrevivencia++de+invalidez+e+de+velhice-706>

On September 30, 2014, the total net assets of Portuguese Pension funds²⁸⁷ stood at EUR 15,775.9 million, which represents an increase of 10.5 percent since September 2013. In September 2014 closed Pension funds was the largest category of Portuguese Pension Funds with 14,050.20 million of assets under management (89 percent of the total share of Pension Funds). The second category in the ranking with 1,305.08 million assets is “Other Open Pension Funds”. Retirement Saving Funds (PPR) accounted only for 406.5 million (3 percent of the total share) (APFIPP, 2014).

In spite of the increase registered during the last twelve months the assets managed by pension funds have not yet recovered from the decline suffered since 2011 (in September 2011 the pension funds stood at EUR 17,855 million). As commented by the ASISP independent experts (Mendes: 2014) “On the whole, second and third pillar private pensions lost ground and became less relevant to compensate for the drop of SS replacement rates”. Whether the recovery registered between September 2013 and September 2014 will be a sustainable one is still uncertain.

3. Impact of the crisis on current pension systems and present pensioners

Between 2008 and 2010, a first stage of anti-crisis measures tried to alleviate the effects of the crisis on Portuguese families and to re-launch the economy. From mid-2010 onwards a second stage would follow, almost exclusively guided by the need to reduce the public deficit. During 2011 and subsequent years, several measures directly affecting pensions were introduced, namely:

- The reformed indexation mechanism for pensions was suspended since 2011;
- The holiday and Christmas subsidies of both civil servants and pensioners (whose monthly income was above EUR 1,100) was suspended during 2012; the suspension was rejected by the Constitutional Court in late 2012 although with deferred effects till 2013;
- A new extraordinary solidarity contribution (CES) was introduced in 2011 and its specifications and contribution base have been changed. In its first year, old age pensions exceeding EUR 5000 had cuts of 10 percent. In 2013 it was applied to pensions exceeding EUR 1,350, and included extraordinary cuts ranging from 3.5 percent to 40 percent. In 2012 the early retirement regime was suspended;
- In 2013 the reference amount of the Solidarity Supplement for the Elderly (CSI) was reduced. The CSI had been introduced in 2006 specifically aiming at fighting the high risk of poverty among the elderly;
- In 2013, the sustainability factor was redesigned, changing its reference year from 2006 to 2000, entailing a cut of the statutory benefit growing with each new cohort of retirees who claim early pension;
- Since 2013 the 1st-degree dependency complement was limited to pensions lower than EUR 600;
- In 2014 the legal retirement age with full benefits was raised to 66 years old for both men and women. From 2016 a mechanism will link this to life expectancy at 65.
- The survivors’ pensions benefits were reduced from 2014, introducing a resource condition which only takes into account income from pensions (equal or above EUR

²⁸⁷ These figures only include the funds under the management of APFIPP (the Portuguese Association of Investment Funds, Pensions and Property) members. According to the ISP (the Portuguese Insurance and Pension Funds Supervisor), the Pension Funds managed by these entities represented 97 percent of the total Portuguese Pension Funds’ Market at the end of June 2014.

2,000), thus penalising those widow(er)s (mostly women) whose only source of income is their pension compared to pensioners who may accumulate survivor's pension with other types of income (e.g. income from work), but the measure was rejected by the Constitutional Court in 2014;

- Increase of the Personal Income Tax and convergence of the Personal Income Tax regime between labour and retirement income;
- Decrease of specific deductions within the Income Tax applying to income from pensions;
- Speeding up of the convergence of existing specific insurance schemes (e.g. CGA) into the Social Security regime.

From 2013, the reference amount of the CSI – addressing the most vulnerable elderly – was lowered from EUR 5,022/year to EUR 4,909/year. On the other hand, since 2012 the minimum pensions were increased by about 1 percent per year. The option to uprate the minimum pensions and to lower a means-tested benefit specifically addressing the most vulnerable raised political controversy in recent months regarding the adequacy of such option, which may undermine the effectiveness of the CSI in the fight against poverty. At the same time, the actual extent of the increase of the amount of the minimum pensions (non means-tested) will hardly contribute to lift vulnerable pensioners out of poverty.

As of 2014 the CES continues applying on pensions above EUR 1000 at different rates (between 3.5 percent and 10 percent depending on income) and including rates of 15 percent applied on the pension amount lying between 11 and 17 times the amount of the Social Support Index (IAS)²⁸⁸, and 40 percent applied on pension amount above 17 times the amount of the IAS.

Another recent study on the impacts of austerity on pensions (CES, 2014) shows that even the lowest pensions will not be immune to the impacts which will continue through 2015. According to the study, the gross amount of lower pensions (below EUR 1,000) did not (and will probably not) experience a significant reduction. However, its net value, which has been affected by the changes introduced to the Personal Income Tax (in 2015 a gross pension of EUR 500) will decrease by almost 3 percent compared to 2011. Higher pensions registered higher accumulated losses during the same period, e.g. a gross monthly pension of EUR 1,250 in 2011 will be worth around 8 percent less in net terms in 2015 (CES, 2014).

Although the Economic and Financial Assistance Programme has now come to an end, the State Budget Proposal for 2015 keeps the freezing of pensions (excluding the lowest ones which will be increased by one percent)²⁸⁹.

The Solidarity Contribution on Pensioners (CES), also introduced in 2012, will be kept in 2015, although with reduction rates lower than the ones which have been applied in previous years”.

As regards the foreseen taxation of pensions for 2015, the Economic and Social Council has reacted against the persistence of some measures in 2015, as proposed in the State Budget (CES, 2014b), namely:

- The Personal Income 3.5 percent surcharge – created in 2011– which will continue to reduce the available income from salaries (as the CES will from pensions);

²⁸⁸ The IAS amount for 2015 is 419.22 Euro/month.

²⁸⁹ The one percent increase will represent a monthly increase of EUR 2.59 per month, given the very low levels of income provided by these minimum pension benefits.

- The reduced number of income levels which substantially increased the amount of personal income tax paid by pensioners (and workers).

Overall, the consolidation measures imposed during the Troika period (most of which were presented as temporary measures) have added a further challenge to long-lasting structural challenges regarding pension adequacy: they contributed to important losses in the net income of pensions. This introduced a need to balance the necessary sustainability of the pensions system with the need to keep (and strengthen) achievements attained in the fighting poverty among the elderly in Portugal.

The successive changes occurred in latest years and the controversies raised around them, namely institutional conflicts at the highest level, have strongly contributed towards a generalised climate of public uncertainty and doubt regarding the public pension system itself which may have negative consequences for its future sustainability.

It is important that the overall public debate about the pension system in Portugal is informed by a serious effort in assessing the impacts of the changes (to be) introduced. Moreover, it would be crucial to address the multiple variables involved in any discussion regarding the fiscal sustainability of the system and not merely reducing the discussion around demographic trends. The combined effects of labour market trends, of changes within the pension system (e.g. retirement age, entitlement conditions), of the evolution of macro-economic indicators and the political decisions taken (e.g. financing sources of the system) will certainly need to be taken into consideration.

4. Assessment of adequacy

Current adequacy

In 2013, the risk of poverty or social exclusion (AROPE) for people aged 65+ was 20.3 percent in Portugal (18.3 percent for men and 21.6 percent for women) which represents a decrease of two percent points compared to 2012 figures and the continuity of a declining trend observed since 2010.²⁹⁰ This decrease stands in contrast with the rise of the AROPE for the overall population by 2.1 p.p. (27.4 percent in 2013). The overall decrease in the average income may have contributed to elderly AROPE decline, together with demographic dynamics. For the last available income year (2012), it is possible to observe that the relative weight of retired persons among the poor decreased to less than 15 percent. This reflects the relative poverty increase in other groups, namely the unemployed and other inactive individuals, together with the impact of the Solidarity Supplement for the Elderly (CSI).

While the poverty or social exclusion rate (20.3 percent) and the poverty rate (14.6 percent) for the elderly showed a decrease during the period under analysis, the poverty intensity rate rose from 11.4 percent to 13.4 percent, meaning that for those elderly already experiencing a poverty situation, their available resources became even more insufficient. The impact of the deepening of poverty situations among the elderly may be confirmed by the increase in the levels of severe material deprivation between 2012 and 2013 (from 8.4 percent to 9.0 percent, respectively).²⁹¹

These mixed signs concerning the different indicators should thus be interpreted with caution as regards future prospects for pension adequacy assessments, particularly when at present all the above mentioned vulnerability indicators continue to stand above EU-27 average figures.

²⁹⁰ National Statistics Institute data available at:

http://www.ine.pt/ngt_server/attachfileu.jsp?look_parentBoui=221815773&att_display=n&att_download=y

²⁹¹ National Statistics Institute data available at:

http://www.ine.pt/ngt_server/attachfileu.jsp?look_parentBoui=221815773&att_display=n&att_download=y

As regards the relative median income ratio, there has been an increase from 0.92 to 0.94 between 2012 and 2013²⁹², revealing a convergence between the median equivalised disposable income of persons aged 65 or over and the median equivalised disposable income of persons aged between 0 and 64. This may be explained both by the shrinking of income from wages and salaries as a result of salary stagnation and successive tax increases, but also from a “chronological” effect, since the relative weight of older and lower pensions tends to diminish in relation to the increase of newer pensions, the amount of which tends to be higher. The fact that the lowest pensions (both within the contributory and the non-contributory regime) have not suffered from the cuts imposed by the austerity package measures is also a relevant factor, although the extremely low levels of such benefits²⁹³, continue to be clearly below the poverty threshold.

According to a recent study on the impacts of austerity on pensions (CES, 2014) there have been some significant impacts which will continue through 2015, even among the lowest pensions. According to the study, the gross amount of lower pensions (below EUR 1,000) did not (and will probably not) experience a significant reduction. However, its net value, which has been affected by the changes introduced to the Personal Income Tax (in 2015 a gross pension of EUR 500 will be worth almost less 3 percent in net terms, compared to 2011.

Gender pension gap

In comparison with the EU average, in Portugal in 2012 the gender gap in pensions was 6 p.p. lower, at 34 percent. The central gender gap²⁹⁴ is lower (32 percent), down from 2009 (35 percent). Gender gap in non-coverage rate in Portugal was 4pp lower than to the EU average, but it has been increasing since 2010. The gender gap in annual earnings (18 percent) was lower than the corresponding EU average in 2010; and also than the gender gap in pensions in Portugal.

Recent data on the gender pay gap in the EU shows a small reduction between 2008 and 2013. On the contrary, in Portugal, during the same period, the gender pay gap increased by 3.8 p.p., i.e. from 9.2 percent in 2008 to 13.0 percent in 2013²⁹⁵.

The analysis of pension-adequacy-related indicators by gender express gender differences which may be observed in the table below.

Table 1: Pension Adequacy related indicators for the elderly population, by sex, 2013

	Men	Women	Total
At-risk-of poverty	13.7	15.2	14.6
Poverty intensity	12.0	13.5	13.4
Severe material deprivation	7.3	10.2	9.0
Median relative income ratio	0.98	0.90	0.94

Source: EU-SILC data, 2013

In all the indicators above, women’s position is systematically more unfavourable, than that of elderly men. This situation can be explained by the lower level of income provided by pensions earned by elderly women, namely as regards the overrepresentation of non-contributory pensions (the so-called social pensions) among elderly women in Portugal.

²⁹² SILC data available at http://appsso.eurostat.ec.europa.eu/nui/show.do?wai=true&dataset=ilc_pnp2

²⁹³ In 2014 the monthly amount of the old-age social pension is EUR 199.53, well below the poverty threshold which was EUR 408 in 2002 (latest available income data).

²⁹⁴ The ‘central gender pension gap’ refers to the more homogeneous group of people aged between 65 and 79 years old (Bettio et al, 2015).

²⁹⁵ From Eurostat, code `earn_gr_gpgr2`, includes industry, construction and services.

The gap observed in Table 1 has several sources. Generally speaking, the gender gap in pensions is the result of three labour market trends: women are *less likely to be in employment than men*; they work *fewer hours* and/or years; and they *receive lower wages* on average. These trends may also be observed in Portugal. However, the national context presents relevant specific features which need to be highlighted.

Firstly, in comparison with other Mediterranean countries, Portuguese women have had a long tradition of high employment (mostly full-time job careers), especially in the 25-54 age groups.²⁹⁶ In 2013 the female employment rates in Greece (43.3 percent), Italy (49.9 percent) and Spain (53.8 percent) were well below the 62.3 percent registered in Portugal. In 2013, the employment rate (20-64) for men in Portugal was much lower than the EU-28 average (74.2 percent) while it is almost equivalent for women (62.5 percent). In Portugal, in 2013, the employment rate (20-64) for men (68.7 percent) was 6.4 p.p. higher than the employment rate for women (62.3 percent).

As regards working time, in Portugal, in 2013, 86 percent of women workers participated on a full time basis in the labour market (67.5 percent in the EU-27), compared to 92 percent of male workers (91 percent in the EU-27).²⁹⁷ Women's participation in the labour market in Portugal is also characterised by a relative high number of the median value of working careers compared to other EU countries: in 2012 the median value for Portugal was 45 years (49 for men), which was the highest median value registered among all the 24 EU countries included in the classification (Bettio et al: 2015).

However, Portuguese women still experience labour market segregation (both vertical and horizontal) in spite of the level of female participation in the labour market. The Annual Reports on the progress of equal opportunities between women and men at work, employment and vocational training covering 2010, 2011 2012 and 2013²⁹⁸ demonstrate that, in Portugal, women tend to occupy lower categories and have less access to management positions, despite their high academic background rate. Moreover, there is a strong asymmetry in the sharing of non-paid work between men and women. Although the majority of women work full time, they tend to ensure most of the domestic and family care work. Thus a gender gap persists regarding both wages and earnings and it is wider at the higher levels of qualification. According to the calculation methods used by the Ministry of Economy (CIG, 2014), the wage gap between women and men was, in 2012, 18.5 percent (higher than the 15.7 percent wage gap based on calculations from Eurostat based on the hourly payment referred to by Bettio et al (2014).

The working pattern of female employment and its characteristics have a direct impact on the types and level of social protection in old-age. Table 1 differences are related both to the level of income on which the pension's amount is calculated (i.e. reflecting the gender pay gap) and also to the type of pension (e.g. women are overrepresented among the beneficiaries of the lowest non-contributory pensions)²⁹⁹. Data from a national study (Perista & Perista, 2012) on ageing and gender confirms the lower levels of income provided by pensions among elderly women. According to the study, in 2010, the average amount of the old-age pension (contributory scheme) was almost 70 percent higher for male pensioners than for female pensioners (EUR 7,212.58 for men compared to EUR 4,252.51 for women). In 2012, the

²⁹⁶ See Perista, H. (2002) "Género e Trabalho não pago: os tempos das mulheres e os tempos dos homens", *Análise Social*, 163, pp-447-474 and Bould, S. & Casaca, S. (2011) "Older women workers and the European's Union's Employment Goals: Bringing gender into the debate", *Ex Aequo*, n° 24, pp. 27-42.

²⁹⁷ Eurostat data available at: <http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do>

²⁹⁸ Available at http://www.cite.gov.pt/asstscite/downloads/Relat_iguald_homens_mulheres_12.pdf

²⁹⁹ In 2010 women accounted for 72 percent of the total beneficiaries of the old-age social pension (Perista & Perista, 2012).

mean monthly value of the pension income in Portugal was EUR 595 for women (EU-27 average of EUR 915), and EUR 908 for men (EU-27 average of EUR 1,530) (Bettio et al, 2015).

Gender gaps in employment and pay. The gender pension gap indicator presents a snapshot of developments in the employment and pension system factors, which determine the size of the gap. Since it is calculated for the entire population of 65-79 year olds there is a certain inertia in its development. To get a sense of whether it is likely to reduce or increase one can look at trends in the various gender gaps in employment and at how the pension system is changing.

The gender gap³⁰⁰ in the *employment rate of older workers* (age 55-64) has decreased by 4.4 p.p. over the period of 2004-2014 (EU-28: -5 p.p.) and amounted to 12.2 p.p. in 2014 (EU-28: 13.7 p.p.). The gender gap in the *duration of working life*, which in 2013 came to 3.4 years (EU-28: 5.2 years), has decreased by 2.4 years since 2004 (EU-28: -1.2 years). The gender gap³⁰¹ in *part-time employment* (for people aged 20-64), which reached 4.9 p.p. in 2014 (EU-28: 23.5 p.p.), has decreased by 4.4 p.p. since 2004. The gender *pay gap*³⁰², which in 2013 at 13.0 percent was lower than the EU-28 average (16.4 percent), has, however, increased by 4.5 p.p. since 2007 (EU-28: increase by 0.3 p.p. over the period of 2010-2013).

Thus the gender pension gap will be driven by two divergent factors. On one hand, the expected increase in occupational pensions may increase it; on the other, recent pension reforms and trends in women employment may decrease it. The net impact is likely to be a reduction in the gender pension gap.

Future adequacy

As regards long-term adequacy, the net theoretical replacement rate (NRR) is expected to fall significantly over the long-run due to the sustainability factor. The larger drop of NRR means that the gap between GRR and NRR is decreasing as pension benefits and wages are converging on tax rates.

However, the net theoretical replacement rate in 2013 is 92.3 percent, whereas the gross (GRR) is 74.7 percent.

In 2053 the net replacement rates continue to be higher than GRR, which reflects fiscal impacts on income in the transition from work to retirement.³⁰³ In Portugal, the net theoretical replacement rate for the base case of a worker retiring at the standard pensionable age after a 40-year career is expected to fall 12.8 percent between 2013 and 2053, whereas GRR declines 11.2 percent over the same period. It is projected that the Portuguese pension system will become more progressive between 2013 and 2053: the base case of a low earnings worker decreases from a NRR of 90 percent to 77.6 percent, whereas the base case of a high income worker decreases from a NRR of 85 percent to 60.8 percent.

³⁰⁰ Difference between values for men and women.

³⁰¹ Difference between values for women and men (for part-time employment).

³⁰² The unadjusted Gender Pay Gap (GPG) represents the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. Industry, construction and services (except public administration, defense, compulsory social security). Data source: Eurostat [earn_gr_gpgr2]

³⁰³ As mentioned in the PAR 2012 the “net replacement rates are always higher than gross replacement rates because pension benefits are exempt from income tax to a higher level than wages.”

The net theoretical replacement rate for early retirement due to disability – particularly in the case of a low earnings male³⁰⁴ worker – is particularly penalising: 68.9 percent compared to the 77.6 percent of the base case. These figures relate to the case of a male worker.

Challenges for pension adequacy

The first main challenge for pension adequacy in Portugal remains the structurally low levels of benefits provided by the pension system. In spite of the positive evolution of poverty indicators (AROPE and at risk of poverty) referred to above, in 2012 the annual average old-age pension was EUR 4,748.3, still below the poverty threshold for the same year (EUR 4,902). Furthermore, the rise in the levels of severe material deprivation as well as in the poverty intensity rate send worrying signs regarding the living conditions of the elderly in Portugal at the present moment.

The low level of income provided by pension benefits in Portugal may also explain the considerable higher percentage of older people engaged in paid activities. According to the Active Ageing Index, in 2010, Portugal presented the second highest employment rate (after Romania) among people aged 65 to 69 years old (24.5 percent) and the highest one among those aged 70 to 74 years old (21.4 percent). This is more a sign of low pension adequacy than high participation among older people.

Elderly women stand out as particularly vulnerable given the overall lower level of pensions they receive and their increased exposure to poverty and material deprivation.

Future challenges also lie in the continuity of specific benefits which have been introduced in the Portuguese Social Security system aiming at fighting poverty amongst the elderly. The Solidarity Supplement for the Elderly (CSI) implemented in 2006 has been under strain. This non-contributory old-age benefit has strongly contributed to increasing the elderly's income up to a level close to the poverty threshold. However, in recent years (and in the prospects for 2015) the freezing and subsequent decrease of the reference value for calculating the CSI³⁰⁵ may undermine the effectiveness of this benefit in fighting poverty in the near future.

Such challenges may be significantly increased in a political context where the pension system's overall sustainability is addressed by an almost exclusive focus on sustainability.

Other relevant factors seem to be undervalued in terms of the search for adequate solutions which do not necessarily imply more austerity measures. Such is the case of the reduction in Social Security contributions arising from the sharp unemployment increase during latest years (in spite of the current decreasing unemployment rates), the slowdown of economic activity and the deep salary reductions.

The Social and Economic Council has expressed very similar critical judgements on the Draft State Budget for 2015 highlighting the fact that it continues to pay insufficient attention to the growth of the economy and the actual improvement of the living conditions of the Portuguese population.

5. Sustainability

The evolution of the demography, employment rate and expenditure can give us information about the sustainability of the pension system in the future.

³⁰⁴ The 2053 NRR for early retirement due to disability in the case of a female worker is 80.1 percent, a huge difference from the 61.6 percent for the male worker for which there is no credible explanation. The validated figures not yet available may help explain such inconsistency.

³⁰⁵ In February 2013, the annual reference value for the CSI decreased from EUR 5,022 to EUR 4,909.

Demography

The old-age dependency ratio (population aged 65 and over as a percentage of the population aged 20-64) in Portugal is projected to increase from 32.4 percent in 2013 (EU-28: 30.3 percent) to 69.8 percent in 2053 (EU-28: 54.9 percent).

Portugal belongs to the group of Member States where the increase in old-age dependency ratio is projected to be above the EU-28 average. Over the period 2013 to 2053, the old-age dependency ratio is projected to increase by 37.4 p.p. (EU-28: 24.6 p.p.).

The share of working-age population (20-64) (60.6 percent of the total population in 2013) is projected to drop by 11.0 p.p. by 2053 (to 49.6 percent of the total population), compared with 9.2 p.p. for the EU as a whole by 2053.

The economic old-age dependency ratio for Portugal is projected to rise by 37.2 p.p. from 44.6 percent in 2013 to 81.8 percent in 2053 and it will be above the EU-28 average (66.2 percent in 2053).

Employment

The labour market participation rate (of people aged 20-64) in Portugal (78.3 percent) was above the EU-28 average in 2013 (76.5 percent) and it is projected to be above the EU-28 average in 2053 (80.9 percent versus 79.9 percent). The participation rate of older workers (54.3 percent, aged 55-64) in 2013 was almost equal the EU-28 average (54.4 percent). Over the period 2013 to 2053, the participation rate of older workers is projected to increase by 14.3 p.p. to 68.6 percent in 2053. The percentage increase is lower than in the EU-28 (15.3 p.p.: from 54.4 percent in 2013 to 69.7 percent in 2053).

According to the 2015 Ageing Report, the employment rate (of people aged 20-64) is projected to increase from 65.4 percent in 2013 (EU-28: 68.4 percent) to 75.0 percent in 2053 (EU-28: 74.9 percent). The employment rate of older people (aged 55-64) is projected to change from 46.8 percent in 2013 to 64.5 percent in 2053 (EU-28: from 50.3 percent to 66.6 percent).

The employment rate for older workers (from 55 to 64 years) in Portugal in 2013 was lower than the EU-28 average: 46.8 percent (53.5 percent – men, 40.8 percent – women) versus 50.3 percent at the EU-28 level (57.6 percent – men, 43.3 percent – women).

The effective exit age from the labour force in 2013 was 64.1 (64.3 – for men, 63.9 – for women) and it is above the EU-28 average (63.1 – total, 63.5 – for men, 62.7 – for women).

Main drivers of pension expenditure

According to the 2015 Ageing Report, the gross public pension expenditure will decrease from 13.8 percent of GDP in 2013 to 13.1 percent of GDP in 2060.

In accordance with the 2015 Ageing Report, the demographic factor has the strongest upward effect (+11.7 p.p. of GDP) on gross public pension expenditure over 2013-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and career shift). The lowering effect of coverage ratio (-3.1 p.p.) and benefit ratio (-5.9 p.p.) on the public pension expenditure are more pronounced than the employment rate effect (-1.9 p.p.).

6. Main opportunities for addressing pensions-related challenges

The first long-term policy recommendation arising from the evolution of the pension system in Portugal is the need for a clear political agreement of wide spectrum on the definition of a national strategy to consolidate it and make it sustainable. The absence of such an explicit political commitment and strategic guidelines results 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.

There are, however, other more specific policy recommendations which directly arise from the challenges identified above:

- The need to introduce reforms allowing for a gradual access to retirement and for part time old-age retirement ensuring the continued accumulation of pension entitlement rights, making more attractive the continued contribution of older workers and allowing for a gradual transition into work inactivity;
- Putting in place flexible mechanisms that allow older persons to choose to retire even beyond the statutory retirement age and affect increase their eventual pension benefit;
- The calculation of the pensions' amounts should be based not only on work-related income but should also include all incomes related to other social benefits and allowances and to other credits granted by the social protection system (e.g. child related credits, paternity related credits, disease and invalidity credits, unemployment). This would directly address gender imbalances in the pension system;
- Ensuring the provision of a guaranteed minimum pension the amount of which should protect the elderly from poverty and material deprivation situations, taking into specific consideration the particularly vulnerable situation of elderly women;
- Ensuring that the burden of austerity programmes does not curtail the development of basic care networks, the consequences of which would fall heavily on (older) women and on those in need of care.

As regards the evolution of second and third pillar the decline suffered since 2011 leaves few hopes of major expansion in the near future. Moreover, the introduction of a ceiling in the public pension system – announced as a Government measure under the so-called State Reform – has been abandoned at least until the forthcoming elections in the second half of 2015. Such change could have probably fostered the expansion of voluntary occupational pension plans and personal pension saving arrangements. On the other hand, the expansion of the third pillar will certainly also be dependent on improvements registered in the overall economic and social situation in Portugal, namely as regards its impact on the financial situation of households. In fact, the available income of Portuguese households has been consistently shrinking since 2008 (from EUR 32,663 in 2008 to EUR 30,531.4 in 2013)³⁰⁶ which will certainly not constitute the most favourable context for the expansion of personal pension saving arrangements.

³⁰⁶ Annual average available income of households in Portugal available at:
<http://www.pordata.pt/Portugal/Rendimento+medio+disponivel+das+familias-2098>

7. Background statistics – Portugal

1. Relative incomes of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.94	0.98	0.90	0.11	0.09	0.13
Income quintile share ratio (S80/S20), 65+	4.9	5.1	4.8	-0.5	-0.3	-0.4

2. Poverty and material deprivation

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+	20.3	18.3	21.6	-7.4	-6.3	-8.3
At-risk-of-poverty rate (AROP), 65+	14.6	13.7	15.2	-7.7	-5.5	-9.3
Severe material deprivation (SMD), 65+	9.0	7.3	10.2	-1.1	-1.3	-1.1
At-risk-of-poverty or social exclusion (AROPE), 75+	23.6	21.5	24.8	-7.9	-6.9	-8.7
At-risk-of-poverty rate (AROP), 75+	17.6	16.6	18.3	-8.1	-7.0	-8.7
Severe material deprivation (SMD), 75+	10.0	8.6	10.8	-1.4	-0.2	-2.3
Relative poverty gap, 65+	13.4	12.1	13.6	-4.3	-5.3	-4.3
At-risk-of-poverty rate (AROP), 65+: 40 % threshold	2.4	2.3	2.5	-2.2	-0.9	-3.2
At-risk-of-poverty rate (AROP), 65+: 50 % threshold	6.3	5.6	6.7	-5.4	-4.5	-6.1
At-risk-of-poverty rate (AROP), 65+: 70 % threshold	23.8	22.0	25.2	-12.7	-9.4	-15.0

3. Housing situation of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Housing cost overburden rate, 65+	3.2	2.7	3.5	1.2	0.9	1.4
Tenure status among people 65+: share of owners	77.3	79.7	75.6	3.9	1.2	5.8
Severe housing deprivation rate, 65+	2.4	1.6	3.1	-0.1	0.2	-0.2

4. Income replacement by pension systems

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Aggregate Replacement Ratio (ARR)	0.59	0.67	0.59	0.08	0.01	0.10
Benefit Ratio (BR) (Public pensions)	61.8					
Gross Aggregate Replacement Rate (Public pensions)	:					
Gender Gap in Pension Income, % (65-79)	34.5*			-1.8*		
Gender Gap in non-coverage rate (W-M in p.p.) (65-79)	4.2*			3.7*		

5. Sustainability and context indicators

Indicator	2013			Projections for 2053		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65+, years	19.5	17.6	21.2	23.4	21.6	25.0
Old-age dependency ratio (20-64)	32.4	27.7	36.9	69.8	58.3	81.7
Economic old-age dependency ratio (15-64)	44.6	34.3	55.3	81.8	66.2	98.3
Employment rate, age group 55-64	46.9	53.5	41.0	64.5	65.2	63.9
Pension expenditure as % of GDP (ESSPROS)	14.8*			Projections for 2060		
Gross public pensions as % of GDP (AWG projections)	13.8			13.1		

Data source: Eurostat. Sustainability indicators and projections (EPC AWG) – Commission Services (DG ECFIN), based on The 2015 Ageing Report. Data on gender gaps – ENEGE. Notes: * - 2012 data; : - not available.

6. Theoretical Replacement Rates (TRRs)

TRR case	Net				Gross				
	2013		2053		2013		2053		
	Men	Women	Men	Women	Men	Women	Men	Women	
Average Earnings	Base case I: 40 years up to age 65	92.3		66.5		74.7		52.1	
	Base case II: 40 years up to the SPA	92.3		79.5		74.7		63.5	
	Increased SPA: from age 25 to SPA	92.3		84.2		74.7		67.6	
	AWG career length case	87.4	86.4	82.7	75.0	71.3	71.4	66.3	59.5
	Longer career I: from age 25 to 67			78.1				62.3	
	Shorter career I: from age 25 to 63			55.6				42.5	
	Longer career I: from age 25 to SPA+2			104.1				87.3	
	Shorter career I: from age 25 to SPA-2			72.2				57.1	
	Career break – unemployment: 1 year			79.5				63.5	
	Career break – unemployment: 2 years			79.5				63.5	
	Career break – unemployment: 3 years			79.4				63.4	
	Career break due to child care: 0 year				84.2			67.6	
	Career break due to child care: 1 year				79.5			63.5	
	Career break due to child care: 2 years				79.5			63.4	
	Career break due to child care: 3 years				79.3			63.3	
	Short career (30 year career)			62.6				48.7	
	Early retirement due to unemployment			79.6				63.6	
	Early retirement due to disability			70.3				55.4	
	Indexation: 10 years after retirement			69.7				57.7	
Low Earnings (66%)	Base case I: 40 years up to age 65	90.0		64.8		74.8		52.6	
	Base case II: 40 years up to the SPA	90.0		77.6		74.7		64.1	
	Increased SPA: from age 25 to SPA	90.0		82.0		74.8		68.3	
	AWG career length case	86.2	83.6	80.6	74.0	71.3	71.4	67.0	60.1
	Longer career I: from age 25 to 67			76.3				62.9	
	Shorter career I: from age 25 to 63			52.9				43.0	
	Longer career I: from age 25 to SPA+2			102.9				88.2	
	Shorter career I: from age 25 to SPA-2			71.0				57.6	
	Career break – unemployment: 1 year			77.6				64.2	
	Career break – unemployment: 2 years			77.5				64.1	
	Career break – unemployment: 3 years			77.4				64.0	
	Career break due to child care: 0 year				82.0			68.3	
	Career break due to child care: 1 year				77.6			64.2	
	Career break due to child care: 2 years				77.5			64.1	
	Career break due to child care: 3 years				77.4			64.0	
	Short career (30 year career)	68.7		60.6		55.6		49.2	
	Early retirement due to unemployment			77.6				64.2	
	Early retirement due to disability			68.9				55.9	
	Pension rights of surviving spouses				98.1			90.4	
High	Base case I: 40 years up to age 65	85.0		51.3		68.8		36.2	
	Base case II: 40 years up to the SPA	85.0		60.8		68.8		44.8	

Data source: TRRs for 2013 - Member State; TRRs for 2053 - OECD

Romania (RO)

1. General description of the pension system

The Romanian pension system combines a PAYG earnings-related public scheme (first pillar), with two funded components: mandatory open pension funds (second pillar) and private voluntary funds (third pillar). The funded pillars are privately managed and will provide benefits based on the individuals' contributions and on the investment returns generated by the pension fund.

Coverage. The participation in public pension scheme is mandatory for most type of contracts and employment categories. The only exceptions are magistrates, judges, prosecutors and court auditors who have their own dedicated pension scheme, and workers who earn less than 35 percent of average. Second pillar is compulsory for people born in or after 1973 and optional for those born between 1963 and 1972. In 2014, the third pillar schemes counted 337 thousand participants, equivalent to ca. 4.1 percent of the employed population.

Contributions. The level of the social contributions varies depending on the working conditions, ranging from 26.3 percent to 36.3 percent of the gross wage. The contributions are paid both by the employer (variable rate) and employee (fixed rate of 10.5 percent). The employees' contribution is divided between first and second pillar, with 5 percent of the base salary going to the latter (this share has been gradually growing in the last years). Contributions to the third pillar are elective, and separate from the regular social contribution.

The income base for contributions varies between 35 percent and 500 percent of the average national gross salary. Generally, the minimum contribution period required to draw a pension is 15 years. Entitlement to a full pension is reached by men after 35 years and by women after 30 years (for schedule of increases please see "reform trends" section).

Types of benefits. 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 (64⁸/₁₂ years and 59⁸/₁₂ years for women in 2013) and the minimum contributory period (15 years). The complete contributory period, entitling to receiving full pension benefit, amounts to 35 years for men and 30 years for women.

Individuals not more than 5 years below the pensionable age can retire early if they fulfilled the complete 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. In the latter case, penalties up to 45 percent of the final benefit (approx. 9 percent for each missing year) apply. Once the pensionable age is reached, the beneficiaries become automatically entitled to their full benefit.

The *invalidity pension* is granted when an insured person loses at least half of the working capacity. The *survivor pension* is granted either to the insured person's children or to his/her spouse when she/he reaches 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 levels. The calculation of pensions is based on a points system. The benefit is calculated by multiplying the lifetime average number of points (i.e. relation between individual's gross income and the national gross average salary in a given year) by the point value. This value cannot be lower than 37.5 percent of the average gross salary, and for 2015

it was set at 830.20 lei (ca. EUR 185), a 5 percent increase compared to 2014, and more than the double of the nominal value in 2006. The *special service pensions* which are calculated as 80 percent of the last received salary are an exception to the above rule.

Pensioners with pensions higher than 740 RON are required to pay a 5.5 percent health insurance contribution, and pensions higher than 1,000 lei (net of health insurance contribution) are taxable. However, disabled pensioners are exempt from income tax. The disability certificates are issued by local authorities.

For all pensioners, a *minimum benefit (social indemnity for pensioners)* is guaranteed, payable from the general budget, limiting thus the strain on the social security budget. In 2015 the amount of this benefit increased, for the first time since 2009, by 14 percent and reached 400 lei (ca. EUR 89).

2. Reform trends

The latest pension reforms are rooted in the 2010 law (L263/2010), which abolished some sectorial schemes (e.g. military, police, diplomats, navigation personnel) and put in place a *unified pension system*. The standard pensionable age, contributory periods and working conditions regulations were also modified. A new indexation formula for the pension point was adopted and the conditions for partial early retirement and invalidity pensions tightened. The latter measures were aimed at increasing employment of people aged 50 years and over, but they succeeded only in regard to partial early retirement while the number of people entering the [full] early retirement doubled between 2010 and 2014.

In October 2014, the *social insurance contributions paid by employers decreased by 5 p.p.* This was meant to stimulate employment by reducing labour costs. The impact is yet uncertain, as most of the biggest employers in Romania have huge debts to the social insurance budget. Thus, the measure could act as a debt-curbing mechanism rather than an economic stimulus.

Previously, cumulating the pension benefit with any work income was allowed only for the retirees formerly employed in the private sector or for those who worked in the public sector (incl. companies with state as majoritarian shareholder) but whose pensions were lower than the national average salary. However, Law 134/2014 abrogated those restrictions, with exception of early retirees and of military and police personnel.

Military and navigation personnel were absorbed into the main public pension scheme in 2010, but there has been a constant pressure towards restoring privileges for these categories. Two legislative projects have been tabled in the parliament, proposing to change the formula of calculating benefits of those groups, limiting it from the entire work-life to the best 6 months during the last five years of work.

Some of the most sensitive issues such as the equalization of the retirement age for men and women, the legal clarification of the status of service pensions, the identification of the role of occupational pensions in the Romanian employment landscape, or the adoption of a fair and unitary assessment scheme for invalidity and disability remained unaddressed. Many structural issues inherent to the pension system – such as coverage disparities between rural and urban areas, high in-work poverty, and high inactivity rates among women and 20-29 and 55-59 age groups – also remain unacknowledged. This puts the future sustainability of the pension system at risk, and leads to the deepening of existing gender and occupational pension gaps, threatening to further increase social and income inequalities.

The equalization of the retirement rules for men and women is so far limited to raising the complete contributory period to 35 years for women by 2030. The government proposal to equalize SPA at 65 years (in 2035) continues to be off the legislative agenda.

For police officers, penitentiary staff, and military personnel the complete contribution stage is 22 year, and expected to reach 30 years in 2030.

The procedure to establish and assess invalidity is highly contested, and attempts are made to introduce a common framework for assessing invalidity and disability, in line with the International Functionality Classification (IFC). A strong institutional resistance delays the decision to start piloting a common framework.

Having a rather short history, the mandatory private pillar is still in the process of being consolidated and currently it lacks a methodology regarding benefit payments. However, an important achievement in this field was the establishment of the Guarantee Fund compensates the potential losses during the accumulation period as well as in the pay-out phase.

3. Impact of the crisis on the current pension system and present pensioners

The reconciliation of adequacy with sustainability under budgetary consolidation measures. Budgetary consolidation measures overlapped in Romania with the transition to a multi-pillar pension system. The objectives of the 2010 pension reform were to increase sustainability of the pension system in the long term and to improve the balance between contributors and beneficiaries in the short run. For example, tightening conditions of early retirement was considered both a necessary response to the increase of pension expenditure between 2006 and 2009, and an important means of increasing long-term sustainability of the system. The progressive increase in the standard pensionable age was meant to bring similar results.

Moreover, thanks to absorbing additional occupational categories in the public system, the number of contributors to the pension system increased. Helped by the slight decreased in the number of pensioners starting in 2009, the reform thus managed to improve, even if only temporary, the ratio of pensioners to contributors.

The freezing of the contribution to the mandatory private pillar to 2 percent of the gross wage, instead of increasing this to 2.5 percent, as scheduled, was one of the measures intended to re-balance revenues and expenditure of the social insurance budget. The measure partially had a negative effect on the consolidation of the mandatory second pillar.

The pension point value was ‘frozen’ in 2009 as a measure of budgetary consolidation. A new mechanism of indexation of the pension point was adopted in 2010 (based on inflation and national average salaries) in order to preserve pension adequacy but came into effect only in 2013 when indexation was resumed.

Another austerity measure was the freeze, in 2008, of the benefit level over which pensions are subject to income tax (1,000 lei/month). Within five years this resulted with a fourfold increase of the number of pensioners paying taxes: from 6 percent in the beginning of 2008 to 23 percent in 2013. In addition, in 2011 pension benefits over 740 lei/month (ca. EUR 166) became also subject to a 5.5 percent health insurance contribution. This was intended to reduce the health insurance budget deficit, and it affected a over 2 million pensioners. In 2012, the Constitutional Court declared it partially unconstitutional, and in consequence the contribution started to apply only to the part of the pension income in excess of 740 lei/month. Previously charged contributions started to be reimbursed in 2013, negatively affecting the health insurance budget.

In 2010 the salaries of a series of categories of employees working in public institutions were cut by 25 percent and also some social benefits were reduced by 15 percent to 25 percent. A series of court rulings in favour of employees reversed those reductions, obliging the government to reimburse them by 2016. This temporarily increased the revenues of the social insurance budget, as transfers from the state budget were made to cover social contributions for the reimbursed salaries. In consequence the social insurance deficit has markedly

decreased (2.7 billion lei in 2014 compared to 12.2 billion in 2013), and would be eliminated if the arrears, amounting to some 2.8 to 3 billion lei in August 2014, were paid (according to a report issued in September 2014 by the Fiscal Council, the state companies were the biggest debtor).

On the other hand, informal work increased in 2013 to 27.7 percent of the total employment, an increase of 2.7 p.p. compared to the last year. This amounts for a social contribution evasion of 2.43 percent of the GDP.

The budgetary consolidation measures did not affect significantly the level of pension adequacy or the monetary welfare of the old age population. Between 2007 and 2012, people aged 55-64 and over 65 years were the only age groups that did not experience an increase in the risk of poverty. On the contrary, the latter group became much less exposed to this risk. This is reflected by good levels of relative indicators such as the aggregate replacement ratio (0.65 in 2013, compared to the EU-28 average of 0.56), or by the fact that the median relative income ratio of the elderly has constantly increased over the period 2007-2013 and also exceeds the Union average. However, it should be kept in mind that the absolute levels of pension benefits in Romania are the second lowest in the EU, amounting on average to EUR 213/month for men and EUR 151/month for women (EU-SILC 2012 data).

The impact on the take-up of old age and early retirement pension. The 2010 law on pensions reduced the number of contributory years entitling to retire early on full benefit from 10 to 8 years, while increasing the penalty for retiring early on partial benefit, which can be now lower than regular pension by as much as 45 percent. Combined with the effects of economic crisis, the reform had a clear impact on early retirement decisions. With unemployment on the rise in 2010 and 2011, the number of persons drawing partial early retirement increased by ca. 10 percent. Even though female unemployment rates were lower between 2008 and 2013 than those of men, both the increase in unemployment and the decrease in employment of older workers affected women more.

In 2012, employment started to recover. In the context of improved economic environment and less appealing partial early retirement benefit, number of people claiming it drop. The decrease has been spectacular, with a higher rate among women (32 percent between 2011 and 2014) than among men (18 percent). The proportion of women among partial early retirement beneficiaries decreased from 66 percent in 2008 to 57 percent in 2014.

Despite the fact that pension benefits decreased in real terms since 2009, partial early retirement is by far a more appealing option for most of older workers than unemployment benefits or any other income support. Employment measures are mostly passive, and programs targeting vulnerable groups are mostly unable to reach out to these. Many people have been discouraged to register as unemployed, especially those who are not entitled anymore for any unemployment or income support benefit. The older workers' (aged 55 to 74) participation rate in education and training is extremely low (0.4 percent compared to EU average of 4.8 percent).

The impact on mandatory funded schemes. In Romania, the transition to a multi-pillar pension system took place during the economic crisis. In this context, the progressive increase of the contribution to the mandatory second pillar (from 2 percent in 2008 to 6 percent of the monthly gross income in 2016) put additional pressures on the pension budget. In 2009, the government decided to freeze the contribution rate to 2 percent, instead of increasing it to 2.5 percent, as previously scheduled. Whereas the measure contributed to the consolidation of the social insurance budget, it also brought a significant damage to the private accounts of the mandatory pension pillar. The Romanian Pension Funds Association (APAPR) estimated the loss at 303 million lei (ca. EUR 72 million). In 2010 the percentage increase in contribution resumed, reaching 4.5 percent of the gross wage in 2014 and 5 percent in 2015.

While the number of employed persons holding a private pension account under the mandatory private pillar was not affected by the economic crisis (it increased by almost 40 percent during 2008-2014), the collection rate has significantly decreased, from 77 percent in 2008 to 60 percent in 2014.³⁰⁷

4. Assessment of adequacy

Current adequacy

Monetary welfare indicators for people aged 65+ improved significantly during the first period of the crisis, with a drawback in 2013. In 2013, elderly were the age group least exposed to the risk of poverty or social exclusion. This is a stark improvement in comparison to 2007 when people aged 65-74 and 75+ were by far the most exposed age groups. As regards monetary poverty, elderly are better off than any other age group in Romania, being only slightly more exposed to poverty than elderly from other European countries. Still, the severe material deprivation among elderly (in 2013 44 percent of people aged 65+) is among the highest across Europe and about 4 times higher than the EU average. Moreover, the gender gap is high and increasing, approaching in 2013 its peak level of 2007.

The significant improvement in pensions' adequacy over the last years is the result of measures aimed at increasing the benefits value, especially for low pensions, in 2009. However, the positive outcomes in regard to the monetary situation of the elderly are not replicated at the level of material deprivation/social exclusion, for which the situation remains critical. The situation starts to deteriorate slightly in 2013, due the freezing of all pension benefits during 2009-2013; a revival of welfare indicators is expected after the successive increases in pensions starting with 2013.

Gender pension gap

The recent improvements in *pension adequacy* follow a slower pace for women, placing them in a weaker position relative to men. Thus, in 2012 women's pensions were, on average, 29 percent lower than men's, a gender gap that was 11 p.p. lower than the EU(28) average. The pension gender gap fluctuates over the period 2008-2012 between 28 percent and 30 percent, being rather stable, yet far higher compared to the gender gap in earnings.

The persistence of *pension gender gap* can be explained by shorter contribution periods of women compared to men, a lower standard pensionable age/ employment exit age, and lower earnings for women on average. One of the most important reform proposals, still in the form of a legislative project, is the equalization of pensionable age between men and women. The progressive increase and equalization of SPA and the future equalization of the complete contribution period for men and women, could lead to a constant decrease in pension gender gap.

Gender gaps in employment and pay. The gender gap in pension coverage was 7.7 percent in 2013, close to the European average. The current employment structure and structural disincentives for agricultural workers to seek insurance threaten to further increase it. Moreover, the Romanian gender gap in employment is higher than the EU average (15 percent as compared to 12 percent for the EU 27 for 20-64 years old, in 2013), and it tends to be higher for older population and for less educated persons. More than 1 million persons were registered as housekeepers in the last (2011) census. This is a highly (91 percent) feminised category. Thus, almost 17 percent of the women aged 20 to 59 years are inactive, with small chances to ever participate in the labour market.

³⁰⁷ <http://www.apapr.ro/statistics.html>

In addition, the gender gap³⁰⁸ in the employment rate of older workers (aged 55-64) increased by 8.4 p.p. over the period of 2004-2014 (EU-28: -5 p.p.) and amounted to 19.0 percent in 2014 (EU-28: 13.7 percent). The gender gap in the *duration of working life* came to 5.4 years in 2013 (EU-28: 5.2 years) and was higher by 1 year than in 2004. On the other hand, the *gender pay gap*,³⁰⁹ which in 2013 stood at 9.1 percent, is substantially lower than the EU-28 average (16.4 percent).

Taken together, the above trends indicate that future pensions-related gender gap in Romania will persist around current levels or slightly increase.

Future adequacy

Given the differences in the SPA between women and men, women have theoretically lower chances than men to replace their earnings through pensions. For women with average earnings and a career length from age 25 to the standard pensionable age (SPA), the net theoretical replacement rate (TRR) was in 2013 11.8 p.p. lower than for men with a similar work history (59.5 percent as compared to 71.3 percent). Once country specific labour market parameters are taken into consideration (the AWG case), the TRRs decrease for both genders. This results from lower exit ages and shorter work careers. However, the trends regarding the equalization of pensionable ages and of the complete contribution periods will have a mitigating impact on the gender gaps over the next 40 years (with a net 2053 TRR of 39.1 percent for women and 41.1 percent for men).

Due to the benefit calculation rules and tax-related provisions, the current pension system has a redistributive character, rewarding more the workers on the low-income end of spectrum and less those at the high-income end. Consequently, in 2013, after a 40 years career up to the SPA, the TRR was 84.1 percent for low-income male earners and 61.4 percent for male workers with high incomes, whereas the difference between the net and the gross TRR is highest for the low-income category. The redistributive character tends to weaken with time, equalizing the replacement rates for low and average earning persons. Partially this is due to the progressive withdrawal of the increase of the pension point after 2030, when pensions will be indexed solely with the inflation rate. After ten years of retirement, the net replacement rate will decrease by 7.6 p.p. (from 41.1 to 33.5) for a worker with average earnings who will retire in 2053.

In 2053, more than a third of the pensioners' income is projected to come from the private mandatory pillar. Though currently the main challenge is to reduce early retirement and to encourage people to work up to the SPA, in the context of an increasing importance of the mandatory funded component, the challenge, in the near future, will be to strengthen the incentives for longer working lives and later retirement past the SPA.

Challenges for pension adequacy

The 2014 European Council recommendation for Romania pointed out to the risks related to the long-term sustainability of pension system.³¹⁰

In 2013 the state spent 9.2 percent of GDP on pensions, i.e. 4 percent less than the EU average. Nevertheless, over the last years, the pension expenditure grew at a spectacular rate,

³⁰⁸ Difference between values for men and women.

³⁰⁹ The unadjusted Gender Pay Gap (GPG) represents the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. Industry, construction and services (except public administration, defense, compulsory social security). Data source: Eurostat [earn_gr_gpgr2]

³¹⁰ Council Recommendation of 8 July 2014 on the National Reform Programme 2014 of Romania, Official Journal Of EU, C 247/109, 2014 (accessed October 6th, 2014)

increasing by 46 percent between 2007 and 2010 (from 6.4 percent to 9.4 percent of GDP), and slightly decreasing since.

With a low contributors to pensioners ratio (1,15 in 2010 and less than 1 in 2014, partly due to the absorption of military, police and navigation personnel within the main public PAYG system) and high arrears accumulated by employers, the improvements in pension adequacy led to a huge social insurance deficit from 2011 to 2013.

One of the most important challenges faced by the reformed public pension system is the fact that farmers and agricultural workers are not encouraged to contribute, while, besides the general provisions, applying to all self-employed there is no *mandatory pension scheme for this category*. This arrangement will leave a significant part of the rural population uncovered, increasing future costs of social assistance. Census data from 2011 show an unequal pension coverage in rural and urban areas. In urban areas, 90 percent of people over 60 years of age are pensioners, compared to only 60 percent in rural communities³¹¹. A weak financial power of rural old population, along with a poor state support in ensuring long term care services *strengthen the vicious cycle of poverty and social disinvestment*.

Demographic challenges. Romania will double its old age dependency ratio between 2013 and 2060, shifting from 27.5 individuals 65+ for 100 individuals between 20 and 64 to 50.2 old persons for 100 active persons. The economic old age dependency rate is also projected to increase, reaching 194.5 in 2060, from 135.2 in 2013. In addition, Romania will face an abrupt decline of labour force until 2060. The labour force will be with 38.5 percent less numerous than today, putting additional pressure on the labour market and, consequently, on the pension system³¹².

Uneven and decreasing pension coverage induced by the employment structure. As a consequence of the high proportion of inactive individuals within the age group 20-59, the system will face difficulties in ensuring a good coverage of the future of the future old population. According to World Bank estimations, the pension coverage rate will decrease from 85 percent in 2013 to 65 percent in 2073³¹³. Consequently, the number of at-risk-of-poverty old persons will also increase.

During the last years, Romania took major steps towards increasing the adequacy of pension benefits while enacting reforms that will increase the sustainability of the system in the long run. However, some politically sensitive challenges still remained unsolved, whereas letting unaddressed the grim demographic prospects and labour market distortions risks.

5. Sustainability

The evolution of the demography, employment rate and expenditure can give us information about the sustainability of the pension system in the future.

Demography

The old-age dependency ratio (population aged 65 and over as a percentage of the population aged 20-64) in Romania is projected to increase from 26.2 percent in 2013 (EU-28: 30.3 percent) to 56.0 percent in 2053 (EU-28: 54.9percent).

Romania belongs to the group of Member States where the increase in old-age dependency ratio is projected to be above the EU-28 average. Over the period 2013 to 2053, the old-age dependency ratio is projected to increase by 29.8 p.p. (EU-28: 24.6 p.p.).

³¹¹Population and Housing Census-2011, vol. III, Stable Population, Social and Economic Structure, NIS 2013

³¹²The 2012 Ageing Report: Underlying assumption and project methodology, European Union, 2011.

³¹³ World Bank, 2014, p. 72

The share of working-age population (20-64) (62.6 percent of the total population in 2013) is projected to drop by 11.4 p.p. by 2053 (to 51.2 percent of the total population), compared with 9.2 p.p. for the EU as a whole by 2053.

The economic old-age dependency ratio for Romania is projected to rise by 45.6 p.p. from 36 percent in 2013 to 81.7 percent in 2053 and it will be above the EU-28 average (66.2 percent in 2053).

Employment

The labour market participation rate of people aged 20-64 in Romania (68.5 percent) was below the EU-28 average in 2013 (76.5 percent) and it is projected to decrease and remain below the EU-28 average in 2053 (67.5 percent versus 79.9 percent). The participation rate of older workers (aged 55-64) in 2013 was lower (43.0 percent) than the EU-28 average (54.4 percent). Over the period 2013 to 2053, the participation rate of older workers is projected to increase by 4.9 p.p. to 47.9 percent in 2053. The percentage increase is lower than in the EU-28 (15.3 p.p.: from 54.4 percent in 2013 to 69.7 percent in 2053).

According to the 2015 Ageing Report, the employment rate (of people aged 20-64) is projected to decrease from 63.6 percent in 2013 (EU-28: 68.4 percent) to 63.1 percent in 2053 (EU-28: 74.9 percent). The employment rate of older people (aged 55-64) is projected to change from 41.4 percent in 2013 to 46.4 percent in 2053 (EU-28: from 50.3 percent to 66.6 percent).

The employment rate for older workers (from 55 to 64 years) in Romania in 2013 was lower than the EU-28 average: 41.4 percent (51.4 percent – men, 32.6 percent – women) versus 50.3 percent at the EU-28 level (57.6 percent – men, 43.3 percent – women).

The effective exit age from the labour force in 2013 was 63.1 (64.0 – for men, 62.3 – for women) and it is in line with the EU-28 average (63.1 – total, 63.5 – for men, 62.7 – for women).

Main drivers of pension expenditure

According to the 2015 Ageing Report, the gross public pension expenditure will decrease from 8.2 percent of GDP in 2013 to 8.1 percent of GDP in 2060.

In accordance with the 2015 Ageing Report, the demographic factor has the strongest upward effect (+6.8 p.p. of GDP) on gross public pension expenditure over 2013-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio and benefit ratio). The lowering effect of benefit ratio (-4.0 p.p.) on the public pension expenditure is more pronounced than coverage ratio (-2.3 p.p.).

6. Main opportunities for addressing pensions-related challenges

In order to better address the pensions-related challenges and support present and future adequacy of pensions Romania should focus on:

- equalizing the retirement ages which would help to increase sustainability of the pension system and overcome the pension gender gap;
- finding ways to stimulate farmers' participation in the public pension system in order to prevent the future coverage deterioration;
- developing employment policies targeted at women and older workers;
- discouraging early retirement and developing incentives to work longer, especially through an effective lifelong learning policy targeted at individuals close to the SPA;
- consolidating the legislation on benefit calculations in the private mandatory pillar.

7. Background statistics – Romania

1. Relative incomes of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	1.04	1.12	0.96	0.19	0.19	0.16
Income quintile share ratio (S80/S20), 65+	4.5	4.0	4.6	-0.4	-0.4	-0.6

2. Poverty and material deprivation

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+	35.0	28.8	39.1	-14.2	-16.9	-12.5
At-risk-of-poverty rate (AROP), 65+	15.0	9.7	18.6	-11.0	-11.0	-11.1
Severe material deprivation (SMD), 65+	27.5	23.8	29.9	-11.4	-13.0	-10.4
At-risk-of-poverty or social exclusion (AROPE), 75+	39.5	31.5	44.3	-13.8	-17.6	-11.5
At-risk-of-poverty rate (AROP), 75+	18.0	10.8	22.3	-11.6	-11.7	-11.7
Severe material deprivation (SMD), 75+	30.8	25.7	33.8	-10.8	-12.7	-9.8
Relative poverty gap, 65+	18.3	18.0	18.5	-4.9	-4.6	-4.7
At-risk-of-poverty rate (AROP), 65+: 40 % threshold	3.6	2.7	4.2	-5.3	-4.1	-6.0
At-risk-of-poverty rate (AROP), 65+: 50 % threshold	8.4	5.1	10.7	-7.5	-7.0	-7.8
At-risk-of-poverty rate (AROP), 65+: 70 % threshold	24.1	18.0	28.3	-11.4	-11.3	-11.6

3. Housing situation of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Housing cost overburden rate, 65+	15.0	11.0	17.8	-11.2	-9.7	-12.2
Tenure status among people 65+: share of owners	99.2	99.4	99.0	-0.2	-0.1	-0.4
Severe housing deprivation rate, 65+	13.0	10.8	14.6	-3.6	-3.0	-3.9

4. Income replacement by pension systems

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Aggregate Replacement Ratio (ARR)	0.65	0.72	0.65	0.16	0.18	0.20
Benefit Ratio (BR) (Public pensions)	37.0					
Gross Aggregate Replacement Rate (Public pensions)	:					
Gender Gap in Pension Income, % (65-79)	28.9*			-1.4*		
Gender Gap in non-coverage rate (W-M in p.p.) (65-79)	6.9*			0.3*		

5. Sustainability and context indicators

Indicator	2013			Projections for 2053		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65+, years	16.1	14.5	17.7	21.4	19.9	22.9
Old-age dependency ratio (20-64)	26.2	21.0	31.4	56.0	49.3	62.9
Economic old-age dependency ratio (15-64)	36.2	25.4	50.0	81.7	61.7	108.8
Employment rate, age group 55-64	41.8	51.4	33.2	46.4	56.7	36.1
Pension expenditure as % of GDP (ESSPROS)	8.8*			Projections for 2060		
Gross public pensions as % of GDP (AWG projections)	8.2			8.1		

Data source: Eurostat. Sustainability indicators and projections (EPC AWG) – Commission Services (DG ECFIN), based on The 2015 Ageing Report. Data on gender gaps – ENEGE. Notes: * - 2012 data; : - not available.

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net				Gross			
		2013		2053		2013		2053	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Base case I: 40 years up to age 65	73.1	62.1	41.1	43.9	55.4	45.9	31.8	34.0
	Base case II: 40 years up to the SPA	73.1	62.1	41.1	40.1	55.4	45.9	31.8	31.0
	Increased SPA: from age 25 to SPA	71.3	59.5	41.1	39.1	52.4	41.2	31.8	30.2
	AWG career length case	68.1	57.1	41.1	39.1	50.4	40.9	31.5	30.0
	Longer career I: from age 25 to 67			45.8				35.5	
	Shorter career I: from age 25 to 63			40.5				31.3	30.2
	Longer career I: from age 25 to SPA+2			45.8	43.9			35.5	34.0
	Shorter career I: from age 25 to SPA-2			40.5	n.a.			31.3	n.a.
	Career break – unemployment: 1 year			40.0	33.1			31.4	29.4
	Career break – unemployment: 2 years			38.0	33.1			30.5	29.3
	Career break – unemployment: 3 years			36.0	31.6			29.7	27.7
	Career break due to child care: 0 year				39.1				30.2
	Career break due to child care: 1 year				39.1				30.2
	Career break due to child care: 2 years				39.1				30.2
	Career break due to child care: 3 years				39.1				30.2
	Short career (30 year career)			22.9	20.7			23.6	22.0
	Early retirement due to unemployment			33.4				29.1	
	Early retirement due to disability			41.1	36.4			31.8	31.6
	Indexation: 10 years after retirement			33.5				27.0	
Low Earnings (66%)	Base case I: 40 years up to age 65	84.1	72.3	43.6	46.6	62.7	51.8	33.8	36.1
	Base case II: 40 years up to the SPA	84.1	72.3	43.6	41.8	62.7	51.8	33.8	32.4
	Increased SPA: from age 25 to SPA	81.2	67.4	43.6	40.8	62.2	56.3	33.8	31.6
	AWG career length case	78.7	66.2	43.6	40.8	58.3	53.6	33.5	31.3
	Longer career I: from age 25 to 67			49.2				38.1	
	Shorter career I: from age 25 to 63			42.4				32.8	
	Longer career I: from age 25 to SPA+2			49.2	41.4			38.1	36.1
	Shorter career I: from age 25 to SPA-2			42.4	n.a.			32.8	n.a.
	Career break – unemployment: 1 year			42.5	36.4			33.4	30.7
	Career break – unemployment: 2 years			40.4	36.4			32.5	30.6
	Career break – unemployment: 3 years			38.3	35.0			31.6	29.0
	Career break due to child care: 0 year				40.8				31.6
	Career break due to child care: 1 year				40.8				31.6
	Career break due to child care: 2 years				40.8				31.6
	Career break due to child care: 3 years				40.8				31.6
	Short career (30 year career)	77.3	67.2	24.6	21.7	58.1	48.3	25.4	23.0
	Early retirement due to unemployment			34.5				30.0	
	Early retirement due to disability			43.6	38.4			33.8	31.6
	Pension rights of surviving spouses				40.8				31.6
High	Base case I: 40 years up to age 65	61.4	51.2	16.7		47.5	38.6	17.4	
	Base case II: 40 years up to the SPA	61.4	51.2	21.3	20.8	47.5	38.6	17.1	11.6

Data source: TRRs for 2013 - Member State; TRRs for 2053 - OECD

Slovenia (SI)

1. General description of the pension system

The Slovenian pension and disability insurance system is a pay-as-you-go system. It is uniform and mandatory for all employed persons and other persons generating income from employment or other gainful activity. Inactive persons can 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 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 a gross wage without a ceiling (the employee's contribution is 15.50 percent and the employer's is 8.85 percent). Transfers from the central government budget amounted to 32 percent of the total 2013 revenues of the Pension and Disability Insurance Institute of Slovenia.

The scheme includes: a) the right to pension (old-age, disability, survivors', widow/er's, and partial pension); b) disability insurance entitlements (such as occupational rehabilitation, temporary benefits, etc.); and 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 (non-purchased 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 in reduced pensions. The most important one is related to child-rearing: 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. On the other hand, the retirement age for men can be decreased by 2/3 of the military service period, and also in the case of men who started working before the age of 18 years, but with more severe restrictions – compared to those in the 1999 Pension and Disability Insurance Act (henceforth: ZPIZ-1) – regarding a sufficiently long insurance period.

The minimum pension is provided through the minimum pension assessment base that is fixed at 76.5 percent of the average net wage. There is also a maximum pension assessment base, which is four times higher.

The deductions for early retirement remain and now amount to 3.6 percent per year for retirement prior to the age of 65 years (up to a maximum of 18 percent). The accrual rates for later retirement were increased to 4 percent per additional year, for up to 3 years.

The use of nominal wage changes for the calculation of valorisation coefficients 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.³¹⁴ However, the 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,

³¹⁴ The reduction occurred because of the gradual taking into account of lower accrual rates (prescribed by the ZPIZ-1) and continuously changing valorisation coefficients, i.e., less favourable valorisation of past wages.

the indexation of pensions was changed from full indexation by wage growth in the ZPIZ-1 to indexation by 60 percent of wage growth and 40 percent of price growth.

The second pillar (occupational defined contribution schemes), in which two thirds of all employees are included, consists of mandatory schemes for public employees and persons employed in hazardous or arduous occupations, as well as various voluntary schemes organised by employers. Contributions tend to be low even for the mandatorily insured. Occupational schemes are therefore unlikely to be able to compensate for the reduction in replacement rates in the public scheme. A special scheme for workers employed in hazardous or arduous occupations offers them bridging pensions up to their standard pensionable age should they have to retire early.

2. Reform trends

The new pension act (ZPIZ-2) was passed in December 2012 and came into force on 1 January 2013. It can be considered a major reform, albeit a parametric one. The Slovenian pension system retains the basic features of a Bismarckian social insurance system. The ZPIZ-2 provides for a fairly short transition period, so that the final parameter values will be reached by 2022 at the latest.

This act brings a considerable improvement in the public pension system. The transparency of the system has been improved through simplified valorisation coefficients used in computing the pension assessment base. These coefficients are now equal to the growth in nominal wages. The new pension legislation thus made a radical departure by completely decoupling the valorisation and indexation mechanism; this is expected to improve the adequacy of pensions.

Though the pension reform has greatly improved the transparency of the system, it nevertheless stopped short of moving to a point system. The system retained the concept of net pensions, with the pension assessment base being computed from net wages. Also, there is no payment of contributions for health care insurance from individual pensions (these contributions are paid from the state budget). With generous tax allowances, only a small number of pensioners pay personal income tax.

The primary aim of the pension reform was 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 the long-term sustainability still remain (Majcen and Sambt 2014). 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 in the ten-year period. This is certainly a welcome development, as the pension reform had been stalled for a long period.

In 2013 Slovenia received a country-specific recommendation on strengthening “the long-term sustainability of the pension system beyond 2020 by further adjusting all relevant parameters, including through linking the statutory retirement age to gains in life expectancy, while preserving the adequacy of pensions” (Council 2013). Following the Council's recommendations and the public debate, Slovenia presented its 2014 National Reform Programme (NRP) (GRS 2014a) and the Stability Programme (GRS 2014b) in April 2014, with some first assessments of the latest pension reform showing positive short-term effects as well as favourable medium-term effects on fiscal sustainability. Among the key tasks for the years 2014-2015 they proposed the “preparation of the ground for the public debate on the pension and disability insurance system after 2020”, and the White Paper that will be “the basis for reflection on the credit system introduction and further development of second pillar

pension insurance” (GRS 2014a: 11). The Commission staff working document, which provides the state of implementation of country specific recommendations, states that Slovenia has made limited progress on addressing recommendation on strengthening the long-term sustainability of the pension system as well as in safeguarding the adequacy of pensions.

3. Impact of the crisis on current pension system and present pensioners

During the last several years the austerity measures adopted in order to achieve budgetary consolidation have had an important negative impact on current pensions and the minimum income provision for older people.

The Public Finance Balance Act (2012) that became effective on 31 May 2012 significantly reduced pensions for some groups of insured persons. Due to the lack of indexation of pensions and a temporary reduction in the annual supplement to pensioners, pension benefits have decreased in real terms. In 2010 the indexation of pensions amounted to 50 percent of wage growth and in 2011 to 25 percent of wage growth. In 2012 the pension indexation was suspended while in 2013 pensions increased by 0.1 percent. No indexation of pensions is foreseen in the state budgets for the years 2014 and 2015. In addition, under the *Convergence Programme* the financing of pension and disability insurance will not increase funds transfer from the state budget into ZPIZ in 2016; thereafter, this transfer will be reduced gradually in accordance with the adopted pension reform. This measure slows significantly the growth of pension expenditures. However, the at-risk of poverty rate for pensioners is expected to rise in the next few years.

From the start of the economic crisis in 2008 the number of unemployed almost doubled (from 67.7 to 117.2 thousand persons in 2013). The share of older people (55 years and over) in the total number of unemployed increased from 14.9 percent to 19.7 percent in the same period. Many lost hope to re-gain employment and opted for early retirement. As the periods of up to three years of unemployment are credited by pension contributions being paid on behalf of the affected individuals, the impact of short periods of unemployment on the Net Theoretical Replacement Rates (NTRR) are rather small. This also seems to be the reason for a high share of transitions from unemployment to retirement among older unemployed persons (aged 55 years and over). This share was at 49 percent already before the crisis (in 2008) and has not increased substantially in the following years. The peak value was observed in 2009 (55 percent), followed by a substantial drop in 2013 (to 37 percent), which was the first year of implementation of the pension reform that had tightened eligibility criteria for retirement.

The compulsory supplementary insurance pension contribution rate for public employees, provided by the Closed Mutual Pension Fund for Civil Servants (managed by the Modra zavarovalnica, d. d., Ljubljana), has been decreased by 80 percent in June 2013 (Addendum to the 2013 Collective Agreement). After a temporary increase in 2014, on 1 January 2015 the pension premium was decreased again to only 10 percent of its initial amount and will gradually increase to 30 percent of its initial amount by the end of 2015 (Addendum to the 2014 Collective Agreement). From 1 January 2016 the pension premium should be equal to its initial amount. The decrease in paid pension premiums seems to have been only provisional, but it has caused a drop in the total assets collected.

In the economic crisis, the share of paid premiums in the number of active insurance policies decreased from 88 percent in the year 2008 to 66 percent in 2013 for men and from 87 percent to 70 percent for women, which is a combined outcome of inability to pay insurance premiums due to unemployment, decreased wages or closed companies. We can expect the situation to improve with the economic recovery, but, nevertheless, an important share of

insured persons will be receiving even lower pensions than they had expected before the economic crisis.

The number of new old-age pensioners decreased by almost 40 percent in 2013 compared to 2012. This can be explained by anticipation effects of the new regulation (ZPIZ-2, effective as from 1 January 2013). Persons eligible for retirement retired under the former regulation (ZPIZ-1) that provided benefits for years of education, military service and unemployment. This so-called “added period” was abolished by the ZPIZ-2. The effects of gradual upward adjustments of the pensionable age will only be seen within the coming years. There is no evidence that the number of people unable to work until the pensionable age is on the rise. The data on the number of new disability pensioners is revealing a steady decreasing trend during the last decade.

The effect of a restricted access to early retirement benefits is already visible. The data on new old-age pensioners retired in 2013 under the new pension system (ZPIZ-2) show that 88 percent of men had 40 years or more of insurance period, compared to new old-age pensioners retired in 2013 under the old pension system (ZPIZ-1), where only 49 percent of men had 40 years or more of insurance period. This leads to a conclusion that, on the one hand, the latest pension reform has made important steps towards a better pension adequacy (especially for women) while, on the other hand, the austerity measures, together with changes in the social assistance regulation, have had opposite effects with a negative impact on the well-being of pensioners.

4. Assessment of adequacy

Current adequacy

The aggregate replacement ratio (the median individual gross pension of pensioners aged 65-74 years relative to the median individual gross earnings of persons aged 50-59 years) is relevant for the monitoring of current adequacy of pensions and their income replacement role. In 2013 in Slovenia the aggregate replacement ratio was 0.46, which is far below the EU-27 average (0.56). However, as the Slovenian pensions are virtually exempt from personal income tax and the social contributions payment, the aggregate gross replacement ratio has to be interpreted with caution. The net aggregate replacement ratio would therefore be a much better indicator.

The net theoretical replacement rates (NTRR) for persons earning the average wage and retiring in 2013 were 57.3 and 60.3 for men and women, respectively. The gender difference is the result of higher accrual rates for women’s first 15 years of work. As uniform career length assumptions are not necessarily representative for a typical worker retiring in 2013, the actual retirement practices should be taken into account. The current NTRRs (the AWG case), considering the career length assumptions and the duration of working lives, are in fact lower and the gender difference is smaller (the NTTR is 54.8 for men and 55.3 women).

The pension/wage ratio has been continuously decreasing since 2000, i.e., after the implementation of the new pension act (ZPIZ-1 1999) and new pension indexation rules. The minimum pension assessment base has also been decreasing in relative terms. This problem was further aggravated by incomplete pension indexation in 2010 and 2011, and a complete freeze in 2012. The following pension reform (ZPIZ-2 2012) made important steps towards stabilization of replacement rates and entry pensions, but the effects were partly neutralised by a negligible nominal increase in pensions in 2013 as well as a repeated freeze on pension indexation in 2014 and 2015.

Pensioners with full working careers have been affected by these temporary freezes. However, the adequacy challenge concerns especially pensioners with incomplete or short

working carriers, 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 has been increasing during the current economic crisis, more serious adequacy problems can be expected in future years.

Furthermore, changes in social assistance benefits brought by the 2010 Social Assistance Benefits Act and implemented in January 2012 have also negatively influenced the adequacy and coverage of pensions. The so-called state pension (a kind of social assistance benefit in the ZPIZ-1 and not based on paid contributions) was replaced by a permanent means-tested cash social assistance, while the minimum pension support (also regulated by the ZPIZ-1) was changed into income support (social assistance benefit regulated by the 2010 Social Assistance Benefits Act). Since the entitlement to social assistance is conditional on the family income and property test³¹⁵, the new regulation has excluded many of former beneficiaries. However, their decrease exceeded expectations, also due to the fact that social assistance had to be paid back from the beneficiary's legacy^{316, 317}.

In 2013 in Slovenia, the median disposable income of older people (aged 65 years and over) stood at 87 percent of the median disposable income of the population aged 0-64 years. This ratio was lower than the EU-28 average (93 percent). A positive change in the median income ratio in the period 2008-2013 in Slovenia was mainly due to negative changes in the earnings of the working-age population during the economic crisis that obviously exceeded the effect of the pension indexation freeze. The relative income of the elderly women is substantially lower than that of men (82 percent and 95 percent, respectively), revealing a 13 p.p. gap.

In 2013, 23 percent of the population aged 65 and over were at risk of poverty or social exclusion (AROPE), with a substantially higher rate for women (27.8 percent) than for men (15.8 percent). The risk of poverty for the elderly in Slovenia is higher than the EU-28 average (18.3 percent) while severe material deprivation is about the same (6.7 percent in Slovenia compared to 7.0 percent in the EU-28), which points to an overall high material standard of living in Slovenia, particularly compared to Eastern European EU Member States. Additionally, there is no difference in the severe material deprivation between persons aged 65 years and over and those aged 75 years and over. The important difference in AROPE for persons aged 65 years and over (23.0 percent) and persons aged 75 years and over (28.3 percent) is due to a higher at-risk-of-poverty rate for women aged 75 years and over (25.5 percent) compared to that for women aged 65 years and over (33.5 percent), as well as the higher proportion of women among the 75+. The opposite trends in the AROPE and AROP measures for women aged 65 years and over (decreased shares) and women aged 75 years and over (increased shares) are due to the increasing actual insurance period for the new pensioners as well as the household composition of both groups.

Gender pension gap

The gender pension gap was 22 percent for persons aged 65-75 years in Slovenia in 2012 and was 18 p.p. lower than the EU-27 average (Table 1). A steadily decreasing trend over time can be observed: the mean pension gender gap decreased from 31 percent to 22 percent in the

³¹⁵ Previously these tests were not applied strictly.

³¹⁶ A new social reform passed in the Parliament in 2013 and being implemented since the beginning of 2014 reduces this impact, limiting the amounts to be paid back and raising means-testing property thresholds.

³¹⁷ In mid-2012 the MLFSA ordered a study on the Assessment of effects of implementation of new social legislation that was carried out by Social Protection Institute of RS and made public in Spring 2013. One subchapter of the study is dedicated to income support (previous minimum pension support). The findings of the study were taken into account when changes/corrections of the social legislation were prepared by MLFSA in 2013. The study is available at the web page of MLFSA: http://www.mddsz.gov.si/si/medijsko_sredisce/raziskave/

years 2005-2012. The overall gender pension gap for persons aged 65 years and over is similar, revealing the same (decreasing) tendency over time. A substantially lower gender gap in annual earnings can be observed in 2010 (5.8 percent, compared to 23.1 percent in the EU-27), being also substantially lower than the pension gender gap.

Table 1: Gender gap in pensions (percent), Slovenia

	2005	2006	2007	2008	2009	2010	2011	2012
	Persons aged 65-79							
Mean Pension								
SI	31.1	30.3	28.1	28.7	26.2	26.3	25.9	22.3
EU-27	38.7	38.5	40.0	40.1	40.8	40.7	40.6	40.2
<i>Difference</i>	-7.6	-8.3	-11.8	-11.4	-14.6	-14.4	-14.8	-17.9
Median Pension								
SI	34.0	31.5	28.9	29.2	28.7	29.2	27.2	23.2
EU-27	43.0	43.0	44.6	45.9	45.9	44.7	45.2	44.9
<i>Difference</i>	-8.9	-11.5	-15.6	-16.7	-17.3	-15.5	-18.0	-21.7
	Persons aged 65+							
Mean Pension								
SI	31.2	30.4	28.5	29.1	27.9	28.6	28.4	25.6
EU-27	36.6	36.5	37.7	37.6	38.7	38.7	38.6	38.5
<i>Difference</i>	-5.4	-6.1	-9.2	-8.5	-10.7	-10.2	-10.1	-12.9
Median Pension								
SI	34.6	32.3	29.4	29.4	30.0	31.5	30.0	25.7
EU-27	38.4	38.0	41.5	41.7	42.3	42.2	42.1	41.3
<i>Difference</i>	-3.7	-5.7	-12.1	-12.3	-12.3	-10.7	-12.0	-15.6

Source: Bettio, Tinios and Betti (2015: 149-155)

The pension gender gap is mainly due to the gender gaps in pay, working hours and the duration of working life, which translate into lower contributions and shorter insurance periods for women, and consequently into lower entry pensions as well. The gender pay gap is rather stable and small: only around 2.56 percent for full-time wage earners. This fact is reflected in the calculated pension gender gaps for persons aged 65-79 years, by years of employment. The gender gap for women with above-median number of years of employment was only 2 percent in 2011, while, on the other extreme, it was 52 percent for women with short or broken careers and thus less than 15 years of employment (Bettio, Betti and Tinios 2015).

The most important factors behind a steady reduction in the pension gender gap are the gradual increase in the women's insurance period (from 35 to 38 years) between 2003 and 2013, and a lower decrease in the average pension for women, compared to men, due to the increasing number of best consecutive years of work for the calculation of the pension assessment base.³¹⁸

The gender gap in pensions is decreasing with an increase in education. If current trends persist, a shift towards more educated female pensioners in the future could lead to a narrowing of the gender gap in Slovenia. It is also worth noting that, while in all countries the pension gender gaps are wider for married women (the average is 52.3 percent) and more than double those for the residual category of women (single, divorced and widowed), the

³¹⁸ The observed insurance period of new female pensioner entrants has been thus increasing at a faster rate than that of men. In 2001, the achieved insurance period for new pensioners was 37 years and 1 month for men and 33 years and 11 months for women. In 2013 the corresponding values were 38 years and 1 month for men and 36 years and 3 months for women. This increase in the insurance period also contributed to a relative increase in the entry pensions for women (ZPIZ 2014). In spite of these improvements a large number of women (31 percent of new women-pensioners in 2012) have their pension computed from the minimum pension assessment base. The corresponding percentage for men is 15 percent. An increasing number of best consecutive years of work for the calculation of the pension assessment base obviously had a smaller negative effect on the pensions of women than on the pensions of men.

difference between both categories of women is rather small in Slovenia (the pension gender gap is 23.6 percent for married women and 21.3 percent for the residual category) – that is, being married doesn't imply a large disadvantage as regards gender gaps.

Coverage is a very important characteristic of a pension system. The calculated pension gender gap for the total population aged 65-79 years reveals a lower gender pension gap in Slovenia (15 p.p., compared to 22 p.p. in the EU-27) as a consequence of negative gender gap in the pension coverage rate (Bettio *at al.* 2015). As almost no difference in the gender gap was found when survivors were excluded, it seems that state pensions could have had an important positive role contributing to the negative gender gap in the pension coverage rate. However, in 2012 the state pension was replaced by the permanent cash social assistance, to which different entry conditions apply, which has led to a deterioration of the living standards for this group of older persons. The intra-household gender gap in the median pension of poor elderly couples is estimated to be lower compared to the corresponding gender gap for the whole population of the elderly couples (Bettio *et al.*, 2015). Exception to this general rule was found in Slovenia (in France, Germany and Belgium as well) – the fact that certainly deserves special attention and analysis.

On the one hand, the latest pension reform (ZPIZ-2) has equalized 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 percent) than for men (26 percent)). Important changes were also made in special provisions that enable the lowering of a statutory retirement age (a smaller number of months for which the age condition is decreased due to child rearing 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.

The maternity/paternity/parental leave normally does not have any impact on working careers because social security contributions are paid from the full earnings³¹⁹ compensation. Only for 75 days of paternity leave (if taken in addition to 15 fully compensated days) the social security contributions are based on the minimum wage (and paid from the state budget).

Gender gaps in employment and pay. The gender pension gap indicator presents a snapshot of developments in the employment and pension system factors, which determine the size of the gap. Since it is calculated for the entire population of 65-79 year olds there is a certain inertia in its development. To get a sense of whether it is likely to reduce or increase one can look at trends in the various gender gaps in employment and at how the pension system is changing.

The gender gap¹⁴⁰ in the *employment rate of older workers* (age 55-64) has decreased by 8.8 p.p. over the period of 2004-2014 (EU-28: -5 p.p.) and amounted to 8.0 p.p. in 2014 (EU-28: 13.7 p.p.). The gender gap in the *duration of working life*, which in 2013 came to 3.1 years (EU-28: 5.2 years), has decreased by 0.3 years since 2004 (EU-28: -1.2 years). The gender gap¹⁴¹ in *part-time employment* (for people aged 20-64), which reached 7.0 p.p. in 2014 (EU-28: 23.5 p.p.), has thereby increased by 3.0 p.p. since 2004. The gender *pay gap*¹⁴², which in 2013 at 3.2 percent was substantially lower than the EU-28 average (16.4 percent), has decreased by 1.8 p.p. since 2007 (EU-28: increase by 0.3 p.p. over the period of 2010-2013).

Future adequacy

Prospective net theoretical replacement rates (NTRR) are expected to rise over the long run. In the base case of a male worker in Slovenia retiring at 65 years of age after 40 years of career at the average wage, the NTRR would rise from 57.3 to 60.9 (from 60.3 to 63.6 for a

³¹⁹ In fact, it is the individual's average monthly gross wage during the 12 months prior to the leave.

woman). The same change would occur also in the base case II, while the change is higher under the presumption of increasing standard pensionable ages (from 55.4 and 58.8 to 60.9 and 63.6 for men and women, respectively).

A different outcome can be observed when comparing the changes in the NTRR levels over time for different earning profiles. Deterioration in income replacement levels after 40 years of career is evident for workers with high earnings. A deterioration, though a much smaller one, is expected for low wage earners as well, revealing the fact that recent pension reform has not paid enough attention to maintaining the relative level of low pensions and therefore to the protection against old-age poverty. However, it has to be emphasised that no reason for this deterioration could be found within the new pension system. Namely, since the worker at low earnings constantly earns less than the amount of the minimum assessment base (76.5 percent of average wage), for the purpose of pension calculation his/her earnings are increased to the level of the minimum assessment base in each year of the analysed period.

It must also be noted that the rules for computing the entry pension according to the previous act (ZPIZ-1) were not transparent.³²⁰ The new pension act (ZPIZ-2) made a radical departure, by completely decoupling the valorisation mechanism and indexation mechanism. If anything, this change will, together with the new indexation mechanism, improve the adequacy of pensions. Of course, this can only happen if both the effective retirement age and period of work are increased.

Challenges for pension adequacy

Along with a “positive” solidarity (like the minimum and maximum pension assessment bases) in the Slovenian pension system, there is also a provision that causes a “perverse redistribution”, i.e., acts to the detriment of low-income workers. In the computing of one's pension assessment base, gross wages are decreased by the rate of social insurance contributions and the average personal income tax rate. Obviously, this is quite favourable to high-income earners and is an important disadvantage to low-income earners.

There are provisions in the ZPIZ-2 that will have a negative impact on the future adequacy of pensions. 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 to men, with their pensions computed from the minimum pension assessment base, the average decrease in the pension assessment base will be lower for women.

The data on working years of younger generations reveal substantially lower values compared to those for older generations. The reasons can be found in higher shares of younger generations in the education process, their lower work-intensity, and the government's labour market measures. 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, which can be evaluated taking into account the changes of prospective net theoretical replacement rates, using a full career from age 25 to the standard pensionable age (SPA) due to: a) longer or shorter careers, b) forced early retirement, c) career breaks during years of childcare and unemployment, and d) surviving one's spouse. The projections indicate that, at average earnings, men delaying retirement by two years beyond the SPA increase their net replacement rates by 6.5 p.p. The incentive is similar for workers with low earnings (7.8 p.p.). In case of a two-year premature retirement, the drop in the NTRR levels is similar (-6.3 p.p. and -7 p.p. for workers with

³²⁰ In the “holier than Pope” attitude, the valorisation of past wages depended on pension indexation. The rationale for this was the strict observance of the principle of horizontal equity, so that pensioners with equal wage histories and age of pensioning would have equal pensions, regardless the time when they actually retired.

average earnings and those with low earnings, respectively). Similar differences apply to women.

The forced early retirement five years prior to the national SPA³²¹ due to the disability reduces the NTRR by around 5 p.p. at both average and low earnings. The drop in NTRR is much lower (about 2.5 p.p.) for workers who have to retire five years before the SPA due to disability. As the periods of up to two years of unemployment are credited by pension contributions paid by the Employment Service of Slovenia on behalf of affected individuals, the impact of short periods of unemployment on the NTRR is rather small. Up to two years of child care do not affect the NTRR at all, but it is decreased by 4 p.p. in case of three years of child care. Quite similar is the situation of a woman with low earnings. An increase in the NTRR is expected for surviving spouses as they are entitled to a part (15 percent of 70 percent) of the late spouse's pension.

A much larger decrease in the NTRR may be expected in the case of long-term career breaks. Calculations with an assumed 10-year break reveal a drop in the NTRR of about 15 p.p. for men and women with both average and low earnings.

Despite some quite unexpected values of prospective NTRRs for different career patterns, it can be concluded that the Slovenian pension- and social security systems are designed so that they do not cause great negative pressures on future adequacy of pensions. Substantially lower adequacy is found only in the case of long-term career breaks.

5. Sustainability

The evolution of demography, employment rates and expenditure can give us information about the sustainability of the pension system in the future.

Demography

The old-age dependency ratio (population aged 65 and over as a percentage of the population aged 20-64) in Slovenia is projected to increase from 27.3 percent in 2013 (EU-28: 30.3 percent) to 60.0 percent in 2053 (EU-28: 54.9 percent).

Slovenia belongs to the group of Member States where the increase in old-age dependency ratio is projected to be above the EU-28 average. Over the period 2013 to 2053, the old-age dependency ratio is projected to increase by 32.8 p.p. (EU-28: 24.6 p.p.).

The share of working-age population (20-64) (3.6 percent of the total population in 2013) is projected to drop by 13.5 p.p. by 2053 (to 50.1 percent of the total population), compared with 9.2 p.p. for the EU as a whole by 2053.

The economic old-age dependency ratio for Slovenia is projected to rise significantly by 35.3 p.p. from 38.5 percent in 2013 to 73.7 percent in 2053 and it will be above the EU-28 average (66.2 percent in 2053).

Employment

The labour market participation rate (of people aged 20-64) in Slovenia (75.1 percent) was below the EU-28 average in 2013 (76.5 percent), but it is projected to rise just above the EU-28 average in 2053 (80.3 percent versus 79.9 percent). The participation rate of older workers (aged 55-64) in 2013 (35.6 percent) was below the EU-28 average (54.4 percent). Over the period 2013 to 2053, the participation rate of older workers is projected to increase by 27.1 p.p. to 62.7 percent in 2053. The percentage increase is higher than in the EU-28 (15.3 p.p.: from 54.4 percent in 2013 to 69.7 percent in 2053).

³²¹ Applied to disabled people suffering from a disability of category II or III.

According to the 2015 Ageing Report, the employment rate (of people aged 20-64) is projected to increase from 67.4 percent in 2013 (EU-28: 68.4 percent) to 75.2 percent in 2053 (EU-28: 74.9 percent). The employment rate of older people (aged 55-64) is projected to change from 33.1 percent in 2013 to 60.3 percent in 2053 (EU-28: from 50.3 percent to 66.6 percent).

The employment rate for older workers (from 55 to 64 years) in Slovenia in 2013 was lower than the EU-28 average: 33.1 percent (41.4 percent – men, 24.7 percent – women) versus 50.3 percent at the EU-28 level (57.6 percent – men, 43.3 percent – women).

The effective exit age from the labour force in 2013 was 61.2 (62.5 – for men, 60.0 – for women) and it is slightly below the EU-28 average (63.1 – total, 63.5 – for men, 62.7 – for women).

Main drivers of pension expenditure

According to the 2015 Ageing Report, the gross public pension expenditure will increase from 11.8 percent of GDP in 2013 to 15.3 percent of GDP in 2060.

In accordance with the 2015 Ageing Report, the demographic factor has the strongest upward effect (+9.7 p.p. of GDP) on gross public pension expenditure over 2013-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and career shift). The lowering effect of coverage ratio (-2.7 p.p.) is more pronounced on the public pension expenditure than the benefit ratio effect (-1.4 p.p.) and employment rate effect (-1.3 p.p.).

6. Main opportunities for addressing pensions-related challenges

Short-term policy recommendations regarding the maintenance and improvement of adequacy of pensions in Slovenia are the following:

- a) To start an open public debate on the adequacy of pensions with all relevant stakeholders and based on the conducted analyses;
- b) To stop a further decline in real pensions due to the financial consolidation measures;
- c) To urgently conduct a thorough analysis of the effects of changes in the social assistance benefits (replacement of the state pension by permanent cash social assistance and the change of minimum pension support into income support) so that the government will be able to design measures aimed at providing appropriate support to low-income pensioners; and
- d) To continue monitoring regularly the impact of the ongoing pension reform.

The expected progress in addressing the recommendation on strengthening the long-term sustainability and adequacy of the pension system should go beyond financial sustainability. Namely, the data on the years of work reveal substantially lower values for younger generations compared to the older ones. The reasons can be found in higher shares of younger generations in the educational process, lower density of work and the government measures related to the labour market. Young generations will thus have a lower number of working years at their retirement age and consequently lower pensions. Coordinated actions in many areas, such as education, health care, long term care and the labour market, are necessary in order to effectively implement the needed pension system reforms.

7. Background statistics – Slovenia

1. Relative incomes of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.87	0.95	0.82	0.03	0.04	0.03
Income quintile share ratio (S80/S20), 65+	3.5	3.3	3.6	-0.1	0.1	-0.1

2. Poverty and material deprivation

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+	23.0	15.8	27.8	-1.4	0.8	-2.7
At-risk-of-poverty rate (AROP), 65+	20.5	13.2	25.5	-0.8	1.5	-2.0
Severe material deprivation (SMD), 65+	6.7	5.7	7.4	-0.7	0.0	-1.0
At-risk-of-poverty or social exclusion (AROPE), 75+	28.3	15.9	35.3	0.2	0.6	1.1
At-risk-of-poverty rate (AROP), 75+	26.0	12.6	33.5	0.1	0.2	1.3
Severe material deprivation (SMD), 75+	6.8	4.6	8.0	0.1	0.6	0.1
Relative poverty gap, 65+	18.9	17.1	19.3	-0.7	-1.0	-1.2
At-risk-of-poverty rate (AROP), 65+: 40 % threshold	2.6	1.4	3.5	-1.9	-1.2	-2.2
At-risk-of-poverty rate (AROP), 65+: 50 % threshold	11.4	6.7	14.5	-1.0	0.5	-1.9
At-risk-of-poverty rate (AROP), 65+: 70 % threshold	30.0	20.4	36.7	-1.1	-0.3	-1.1

3. Housing situation of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Housing cost overburden rate, 65+	7.1	4.6	8.9	0.5	0.1	0.9
Tenure status among people 65+: share of owners	86.9	90.6	84.4	-3.4	-3.3	-3.7
Severe housing deprivation rate, 65+	2.1	1.1	2.7	-8.9	-6.9	-10.2

4. Income replacement by pension systems

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Aggregate Replacement Ratio (ARR)	0.46	0.50	0.43	0.02	0.00	0.03
Benefit Ratio (BR) (Public pensions)	33.8					
Gross Aggregate Replacement Rate (Public pensions)	:					
Gender Gap in Pension Income, % (65-79)	22.3*			-6.4*		
Gender Gap in non-coverage rate (W-M in p.p.) (65-79)	-7.6*			0.8*		

5. Sustainability and context indicators

Indicator	2013			Projections for 2053		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65+, years	19.0	17.1	20.9	23.1	21.3	24.9
Old-age dependency ratio (20-64)	27.3	21.4	33.4	60.0	53.4	67.1
Economic old-age dependency ratio (15-64)	38.5	28.0	51.0	73.7	62.6	86.3
Employment rate, age group 55-64	33.5	41.8	25.2	60.3	61.3	59.2
Pension expenditure as % of GDP (ESSPROS)	11.6*			Projections for 2060		
Gross public pensions as % of GDP (AWG projections)	11.8			15.3		

Data source: Eurostat. Sustainability indicators and projections (EPC AWG) – Commission Services (DG ECFIN), based on The 2015 Ageing Report. Data on gender gaps – ENEGE. Notes: * - 2012 data; : - not available.

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net				Gross			
		2013		2053		2013		2053	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Base case I: 40 years up to age 65	57.3	60.3	60.9	63.6	39.4	41.5	38.7	40.7
	Base case II: 40 years up to the SPA	57.3	60.3	60.9	63.6	39.4	41.5	38.7	40.7
	Increased SPA: from age 25 to SPA	55.4	55.9	60.9	63.6	38.1	38.5	38.7	40.7
	AWG career length case	54.8	55.3	60.1	62.8	37.7	38.1	38.1	40.1
	Longer career I: from age 25 to 67			67.4				43.6	
	Shorter career I: from age 25 to 63			54.6				34.3	
	Longer career I: from age 25 to SPA+2			67.4	70.4			43.6	45.8
	Shorter career I: from age 25 to SPA-2			54.6	56.9			34.3	33.3
	Career break – unemployment: 1 year			60.5	68.1			38.7	40.7
	Career break – unemployment: 2 years			60.1	68.2			38.7	40.7
	Career break – unemployment: 3 years			58.8	68.4			38.7	40.7
	Career break due to child care: 0 year				63.6				40.7
	Career break due to child care: 1 year				63.6				40.7
	Career break due to child care: 2 years				63.6				40.7
	Career break due to child care: 3 years				59.6				38.7
	Short career (30 year career)			46.1	48.5			38.6	40.6
	Early retirement due to unemployment			56.8	59.3			38.7	40.7
	Early retirement due to disability			58.8	61.4			38.7	40.7
Indexation: 10 years after retirement			59.0				38.7		
Low Earnings (66%)	Base case I: 40 years up to age 65	66.4	69.8	61.7	65.0	45.7	48.1	41.1	43.3
	Base case II: 40 years up to the SPA	66.4	69.8	61.7	65.0	45.7	48.1	41.1	43.3
	Increased SPA: from age 25 to SPA	64.2	64.8	61.7	65.0	44.2	44.6	41.1	43.3
	AWG career length case	63.5	64.0	60.7	63.9	43.7	44.1	40.5	42.6
	Longer career I: from age 25 to 67			69.5				46.3	
	Shorter career I: from age 25 to 63			54.7				36.5	
	Longer career I: from age 25 to SPA+2			69.5	73.1			46.3	48.7
	Shorter career I: from age 25 to SPA-2			54.7	62.2			36.5	35.4
	Career break – unemployment: 1 year			61.2	73.0			41.1	43.3
	Career break – unemployment: 2 years			60.7	73.1			41.1	43.3
	Career break – unemployment: 3 years			59.2	75.6			41.1	43.3
	Career break due to child care: 0 year				65.0				43.3
	Career break due to child care: 1 year				65.0				43.3
	Career break due to child care: 2 years				65.0				43.3
	Career break due to child care: 3 years				60.2				41.1
	Short career (30 year career)	51.9	55.4	46.2	48.6	35.7	38.1	41.1	43.2
	Early retirement due to unemployment			56.9	59.8			41.1	43.3
	Early retirement due to disability			59.1	62.2			41.1	43.3
Pension rights of surviving spouses				65.0				43.3	
High	Base case I: 40 years up to age 65	57.3	60.3	39.9	41.7	39.4	41.5	30.4	32.0
	Base case II: 40 years up to the SPA	57.3	60.3	39.9	39.0	39.4	41.5	30.4	29.7

Data source: TRRs for 2013 - Member State; TRRs for 2053 – OECD

Slovakia (SK)

1. General description of the pension system

The pension scheme comprises three main components or “pillars”. The first component is the insurance-based *mandatory defined-benefit PAYG pension scheme* administered by a statutory public body – the Social Insurance Agency. This 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 component or also by the second component at the same time. Employees contribute presently with 4 percent and employers with 14 percent; or in a mixed pension plan (optional one), 4 percent of contributions from employers are redirected to the employee’s personal pension account.

The scheme is compulsory for all employed persons or persons pursuing any type of professional activity.

There is an upper cap on the assessment base which is set at level equal to five times of the average wage. The minimum contribution period for pension entitlements is 15 years. The state pays premiums only on behalf of specific groups (for instance persons receiving maternity benefit, persons taking care of children up to 6 years of age and carers of persons with severe disabilities). This pension component has a mixed content based on solidarity and earning-related principles. Maximum value of the contribution is limited and the value of lower pensions is upgraded by solidarity. Pensionable age is set at 62 years for men and women. Pensions are annually indexed, currently temporally by a fixed equal sum for each pensioner, to increase the lowest pensions lagging behind.

The early retirement is possible, accepted also as an instrument of the labour policy in time of a shortage of job opportunities. Conditions of the qualification for entitlement are: 15 years of the pension insurance, age of 2 years prior to the pensionable age and the expected amount of the early retirement pension must be higher than 1.2 times of the subsistence minimum. An early retired person may not perform any gainful activity associated with mandatory social insurance. The amount of an early pension is reduced by a length of time before reaching the pensionable age, 0.5 percent per 30 starting days missing to the pensionable age.

The amount of a deferred old-age pension is increased by 0.5 percent per 30 days of deferment. According to the OECD statistics, in 2012 the official age of the retirement was 62.0 years of age for men, and 59.75 years of age for women. During years 2007-2012 the average effective age of retirement was 60.9 years of age for men and 58.7 years of age for women.

The statutory optional defined-contribution funded pension scheme represents the second component. The participation in this tier (pillar) currently depends on the decision of labour market entrants up to the age of 35 years to opt in. The original obligation and contribution rate has been changed. Presently, the contribution rate for saving is 4 percent and from 1st January 2017 will increase on a yearly basis by 0.25 percent each year and reach the target level 6 percent in 2024 where it will remain thereafter. After the introduction of the funded scheme (Act No 43/2004), around 60 percent of the economically active population decided to transfer a part of their pension contributions to their personal accounts. The scheme has been changed to opt-in and has been temporarily opened several times to enable participants to opt out. The enrolment level in this scheme has varied depending on its obligatory or voluntary status.

Since 2015, there has been no minimum contribution period for pension entitlements in this tier, contrary to 15 years in the PAYG scheme. First old-age pensions from the scheme are paid out from 2015.

Contributions as well as pensions in payment in both schemes are exempted from taxation.

The third component is *the voluntary supplementary defined-contribution funded scheme*. It is basically open to employees, self-employed and also to voluntary savers. Tax incentives for savers have been reintroduced since 2014: contributions are now tax deductible up to EUR 180 per year for all new savers (with contracts signed after 31.12.2013) as well as for those savers who have agreed to the stricter payout conditions. Employers who contribute to their employees' voluntary pension insurance can utilize tax deduction up to 6 percent of the employee's gross wage. Employers may contribute to their employees' savings accounts, usually under terms specified in collective agreements. Certain risky (arduous) works and artistic professions are mandatorily covered by this scheme. The employer is obliged to contribute in this case. Conditions for the entitlement are 10 years working in this category and the age of 55 years. This condition partly resembles the occupational pension scheme, thus this scheme can be regarded as a hybrid between personal and occupational pension scheme. Otherwise there is no classical occupational pension scheme in Slovakia.

Special social security systems cover services including soldiers, policemen, customs officers, firemen, and rescue workers. The scheme covers exclusively limited kind of professions. It is funded from contributions paid by active members and from direct state budget subsidies.

2. Reform trends

The pensionable age is set at 62 years for men and women. Due to an ongoing transitional period, however, the older women retire earlier depending on the number of children they have raised. As from 2017, the pensionable age shall be automatically linked to the development of the life expectancy. The automatic adjustment shall take changes in 5-year averages of life expectancy at the applicable pensionable age into account. In line with the expected longevity gains, the pensionable age could be increased by approximately 50 days per year. The obvious goal is to improve the long-term sustainability of the pension system.

The amount of the pension benefit depends on individual average earnings and the length of the contribution period. The maximum value for calculating the personal wage point (a basis for calculation of pensions) is 3 times the national average earnings. Since 1st January 2013 the solidarity element has been strengthened during a transition period 2013 – 2018 in the following way: a coefficient for a reduction of the average pension point higher than 1.25 is gradually decreasing from 84 percent to 60 percent by 4 p.p.a year with target level in 2018 and will remain thereafter, and the coefficient for an increase of the average pension point lower than 1.00 is gradually rising from 16 percent to 22 percent by 1 p.p. a year with target level in 2018 and will remain thereafter.

These amendments reduced the correlation between the wage-earning and pension benefits and strengthened the principle of solidarity. The aim of a change in the pension formula is to increase the replacement rate for new pensioners whose wage was low during their working career. It is necessary to point out that solidarity element does not apply to person receiving between 1 and 1.25 of the average wage.

Until 2013, old-age pensions were indexed annually by the arithmetic average of the wage growth and inflation. In the period 2013-2017 pensions are to be indexed annually by a fixed sum determined as a certain percentage of the average monthly retirement benefit. This percentage is calculated taking year-on-year changes in wages and consumer prices into account, with a growing weight of inflation (by 10 p.p. every year) and a decreasing weight of

average wage growth (by 10 p.p. every year). Starting from 2018, pensions shall be indexed again by a percentage, but reflecting only the year-on-year growth of consumer prices in pensioners' households.

The introduction of the statutory private pension accounts scheme was an important reform. This scheme has operated since 2005. The component suffers from numerous legislative changes.

More than 1.5 million of citizens entered the scheme at the time of its introduction. A massive advertising campaign made by private pension companies contributed to this figure. The initial contribution rate has been lowered from 9 percent of the gross wage to 4 percent from September 2012. Savers may contribute with additional 2 percent and deduct this sum from their income tax base till the end of 2016. The contribution rate to the second pillar shall be increased by 0.25 percent each year to reach 6 percent between 2017 and 2024. The enrolment principle (opt-in or opt-out) has been changed several times. Situation of future pension recipients will be influenced by the decision of joining/leaving the private pension scheme, development of the rate of return or their possibility to increase the minimum contribution allowed by law to a higher level. The personal account scheme has been opened temporarily fourth times to enable participants to opt out, the last time it is from 15th March 2015 to 15th June 2015. Since 1st January 2013 new entrants to the social security system are by default enrolled only in the first pillar, but may apply for membership in the second pillar up to age 35.

Pension management companies are obliged to administer two types of funds, a guaranteed bond fund and an unguaranteed equity fund. They can also run other types of guaranteed or unguaranteed funds (e.g. mixed). Until 31st December 2012, pension management companies have administered four types of statutory funds (bond, mixed, equity, and index funds), while before 1st April 2012 there had been three funds (conservative, balanced, growth). Only bond and cash investments may now be included in bond funds. There is a 10-year running interval for balancing the pension unit value in bond funds and savers have to be compensated for possible decreases. Since the 1st of July 2014 the 80 percent upper limit on shares in unguaranteed equity funds has been no longer in place – i.e. 100 percent of assets in these type of funds can be now held in equities. Since 1st January 2015 the starting age from which saver's assets has to be transferred into the guaranteed conservative funds has been put in line with the pensionable age (basically, 10 years prior the pensionable age as compared to original 50 years of age). What's new is the possibility to decrease the percentage of these limits to half based on saver's request (i.e. 5 percent, 10 percent, ..., 50 percent instead of standard 10 percent, 20 percent, ..., 100 percent).

The minimum contribution period for pension entitlements in the second pillar was 10 years, until 1st April in 2012 it was 15 years and since 2015 there has been no minimum contribution period. This is different from the first pension component. The amended act regulates the payment of pensions from the funded pillar. The first retirement pensions from the scheme are paid out from 2015. Pensions are paid in the form of a life annuity by concluding an insurance contract, yet for some savers a temporary pension or programmed withdrawal also remains as an option. The amendment also introduces a new institutional framework for old-age pension saving entities (Central Information System of Offers).

The voluntary supplementary defined-contribution funded scheme had a period without tax incentives between 2011 and 2013. Tax allowances introduced since 1st January 2014 are less generous. Participation in this component depends on this incentive and the willingness of employers to financially support this component.

Changes in the pension scheme have increased its financial sustainability. The main challenge is to keep relative stability of the regulations approved by the present government. There are different views on pension sustainability solutions among the political parties.

3. Impact of the crisis on current pension system and present pensioners

The crisis and following budgetary consolidation have influenced the pension system in several successive steps.

In order to help the self-employed during the crisis, between April 2009 and December 2010, their level of contribution rate paid to Reserve fund of solidarity (forms part of total pension contribution) was temporarily decreased by 2.75 points. With the aim to decrease expenditures on the old-age pensions the conditions for the early retirement were tightened: the period for submitting an application for the early retirement was limited to 2 years prior to the pensionable age. Furthermore, measures increasing the amount of contributions were implemented. The minimum assessment base for the self-employed was increased, most recently as of January 2013. It is necessary to add that representative bodies of self-employed agreed on these measures. It has two fold effects: on the one hand, they pay higher contributions to Social Insurance Agency and on the other hand, self-employed will receive higher pension income in retirement and will be better protected against poverty.

In 2009, as a reaction to financial crisis and significant losses on most of the major financial markets around the globe, government decided to open the second pillar for the second time and to allow savers in the second pillar to reconsider their decision regarding the participation in this pension system. The number of participants in the second pension pillar decreased approximately by 4.5 percent.

In the next period, further measures aimed at the stabilization of the pension system were implemented.

In 2011, the conditions for the early retirement were restricted again by abolishing the concurrence of an early retirement age and incomes from employment. Between September 2012 and January 2013, the second pillar was re-opened again, the number of participants in the second pension pillar decreased approximately by 6 percent. More significant contribution to the decreasing of the public finance deficit was represented by lowering the contributions to the second pillar from 9 percent to 4 percent of the gross wage, which was implemented in September 2012.

Re-opening of the second pillar is implemented again in 2015. It is the result of the discussion regarding the level of the payments from the second pillar that are paid out from 2015 (for the first time). The government decided to open the second pillar and to allow people at the risk of low pensions to exit the scheme.

Since 2013, further changes in the pension systems have been implemented. Parametric changes motivated by the effort to increase low pensions included increasing the solidarity by changes in the coefficient in the pension calculation formula and increasing the resources of the Social Insurance Agency by increasing maximum assessment base for the pension insurance (from 4 to 5 times of the national average wage). Since 2013, pension insurance contributions are paid also from the earnings coming from the agreements on work performed outside an employment relationship. This step was motivated by the effort to allow persons working on the agreements be covered by benefits paid from social insurance system and get equality of mentioned status with standard employee. All these measures will improve the financial situation of the Social Insurance Agency.

Starting from 2017, the pensionable age will be linked to the development of life expectancy. It is in line with the CSRs from 2012 and 2013 which stressed further adjustment of the pay-

as-you-go pension pillar, mainly by introducing a direct link between the statutory retirement age and life expectancy. There is a need for increasing labour market participation of older people (and women) in order to reach the 2020 national employment target. However, persisting negative situation in the Slovak labour market leaves the question of older employees participation opened.

Finally, it is important to note that despite pressures on the financial consolidation, the regular indexation of the old pensions continued, together with provision of the Christmas bonus for low-pension recipients that was implemented in 2006.

4. Assessment of adequacy

Current adequacy

According to EU SILC 2013, the share of people at risk of poverty or social exclusion in Slovakia was 19.8 percent, which was less than the EU-28 average (24.5 percent). The figure has slowly decreased since 2008. In general, Slovak pensioners still face a comparatively lower poverty risk than the working-age population. At risk-of-poverty rate (monetary poverty) for people aged 65 years and more was 6 percent (2013), which is less than the EU-28 average (13.8 percent). The figure has decreased in the last years (since 2008). Better situation of retired people is determined by their relatively steadier income compared to by unemployment threatened active population and their dependant persons (children).

In 2012, the share of people at risk-of-poverty or social exclusion was lower for people aged 65 years or over than for people aged 0 – 65 years (14.5 percent and 20.7 percent). Both numbers are below the EU-28 average (20.4 percent and 25.9 percent). The figure has been stable in the last years.

Severe material deprivation of people aged 65 years and more was 9.2 percent in 2013. It is higher than the EU-28 average (7 percent). The figure has been decreasing during the last period.

Median relative income of older people (aged 65 and more) represents still relatively high 90 percent in 2013 with an increase in the last time. The figure varies by gender and it will depend mainly on the future replacement rate development. Private schemes, which are based on solidarity to a lesser extent, could change the gender difference.

There is no guarantee of a minimum retirement pension in the existing system. Persons with low pensions or without pension entitlement may apply for the means-tested benefit in material need and additional allowances to the benefit which are part of the social assistance scheme.

The importance of provisions in old age (mainly retirement and survivor's benefits) is well documented by the at-risk-of-poverty rate before all social transfers, which was 10.6 times higher (83.3 percent) in the 65+ population than the rate after all social transfers in 2012 (7.8 percent).

The income from pensions compared to the income from preretirement work (aggregate replacement ratio) is moderately above the EU average. Available data and comparisons suggest that current pension provisions substantially reduce the old-age income poverty and tend to be reasonably sufficient to preserve income and living conditions when moving from work to retirement. However, for groups such as low earners and persons with short or fragmented contributory periods (e.g. long-term unemployed) the system generates low pensions and/or social assistance benefits associated with a higher risk of poverty.

Gender pension gap

The gender gap in pensions was about 9 percent in Slovakia in 2012; being significantly lower (by 31 p.p.) compared to the EU-27 average. The gender gap in pensions in Slovakia decreased from 12 percent in 2008 to 9 percent in 2012. Gender gap in coverage rate is negligible in Slovakia. The gender pay gap³²², which was above the EU-28 average in 2013 (19.8 percent to 16.4 percent), has decreased by 3.8 p.p. since 2007.

The gender pension gap in the country is influenced by shorter working lives of women (the pension age of women was set lower in past), lower employment rates, prevailing employment in less remunerative jobs and sectors, and their lower share in higher management positions. Contribution rate paid by state in the name of women that take care of the children is 60 percent of average wage recorded two years before. For some women it is lower than previous income; for example, in case if they had an above average income. Aging of society is mainly result of a low fertility rate. Childbearing and child care (caring for the future generation) are regularly accompanied by social declines and troubles in family life. Pro-family incentives are not sufficient. Future old age pensions will also be influenced by the length of employment. In Slovakia, employment of women in age of 20 – 49 years with young children is very low due to not sufficient share of children 0 – 3 years old in formal child-care. The reason is that financially affordable pre-school facilities are missing or they are not at their disposal. Lower employment rate and shorter occupational career will meaningfully influence the future benefits of the group mentioned. The gender gap in the coverage rate is negligible in Slovakia. Unified statutory retirement age for both sexes does not automatically equalise the effective age of labour market exit.

Gender gaps in employment and pay. The gender pension gap indicator presents a snapshot of developments in the employment and pension system factors, which determine the size of the gap. Since it is calculated for the entire population of 65-79 year olds there is a certain inertia in its development. To get a sense of whether it is likely to reduce or increase one can look at trends in the various gender gaps in employment and at how the pension system is changing.

The gender gap in the employment rate of older workers (age 55-64) has decreased by 14.7 p.p. over the period of 2004-2014 (EU-28: -5 p.p.) and amounted to 15.9 p.p. in 2014 (EU-28: 13.7 p.p.). The gender gap in the duration of working life, which in 2013 came to 5.6 years (EU-28: 5.2 years), has thereby increased by 0.2 years since 2004 (EU-28: -1.2 years). The gender gap in part-time employment (for people aged 20-64), which reached 3.0 p.p. in 2014 (EU-28: 23.5 p.p.), has thereby increased by 0.3 p.p. since 2004. The gender pay gap, which in 2013 at 19.8 percent was higher than the EU-28 average (16.4 percent), has decreased by 3.8 p.p. since 2007 (EU-28: increase by 0.3 p.p. over the period of 2010-2013).

Future adequacy

A precondition for the future adequacy of pensions is participation and the rate of contribution within the scheme. Participants are mostly employed persons in or persons pursuing any type of professional activity. Unemployed and inactive persons are less frequently voluntary members of any scheme. Voluntary contributions are mostly paid at the minimum level allowed by law. More than 80 percent of them pay minimum contributions, which will impact the amount of their future pensions. In Slovakia further increase is expected in the old age dependency ratio after 2040.

³²² The unadjusted Gender Pay Gap (GPG) represents the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. Industry, construction and services (except public administration, defense, compulsory social security). Data source: Eurostat [earn_gr_gpgr2]

While in 2013 it was 18.4 percent, in 2053 the old-age dependency ratio is expected to increase to 65.9 percent. The increase in the economic old-age dependency ratio is expected from the level of 114.1 percent (in 2013) to 167.1 percent (in 2053).

The evolution of replacement rates will be influenced by a number of variables, including demographic factors, economic development, labour market performance, financial market movements, pension reforms adjusting parameters pensionable age, pension formula and indexation of pensions in payment, early retirement regulation, or coverage of statutory pension tiers. The assumed effect of these factors (particularly indexation rules) on the future adequacy could result in reduction of the relative level of pension (decrease by 7.2 p.p. for TRR case 10 years after retirement). Slovakia belongs to the group of Member States where the increase in old-age dependency ratio is projected to be above the EU average. But the labour market participation rate in Slovakia is still below the EU average and is projected to remain not sufficient for a longer period. Proposed replacement rates will secure better solidarity with lower income groups. Only average income earners will keep approximately the same replacement rate in near future.

The rate at which the retirement pensions will substitute the previous income from work will be also influenced by the modified indexation mechanism. The linking of the pension indexation to the growth of prices in pensioners' households should maintain the real purchasing power of pension benefits during the entire period of provision. The amount of the retirement pension may decrease compared to the previous indexation rules.

Slovakia has to fulfil its ratification commitments in the field of international social and labour standards obligations at the same time. Career breaks and indexation would lower the replacement rate as well. The improvement of women's employability can reduce the gender pension gap.

Challenges for pension adequacy

Challenges for the pension adequacy are its stability and sustainability in guaranteeing decent living standards during retirement. Comparably low levels of the income inequality result in a relatively small share of the elderly at risk of the (relative) poverty. A higher prevalence of severe material deprivation among the population 65+ is observed and this can be explained by the overall lower material standards of living. Both absolute and relative poverty measures should be taken into account for a comprehensive assessment of poverty risks in the old age. Growing wage inequalities can influence the adequacy of pensions.

The gender dimension with possible employment of women as a part of Europe 2020 goals has to be controlled. The flexible labour market and new (precarious) forms of employment, such as part-time contracts, bring necessity to protect future social protection rights on an adequate level to mitigate the impact on future pension benefits. Generous treatment of special occupational groups (military and law enforcement services) creates disharmony within pension scheme.

Discrepancy between the social situation of the age group of the 75 years old or more and that of the younger generation of pensioners has to be resolved without the threat to the sustainability of the pension system. Ageing of the society increases the proportion of older population. The adequacy of future pensions requires a substantial improvement of balance between years of contributions and the time of benefits obtaining to maintain sustainability. Future pensioners should have right to get a fairer deal of the wealth of the society at the time of their retirement.

5. Sustainability

The evolution of the demography, employment rate and expenditure can give us information about the sustainability of the pension system in the future.

Demography

The old-age dependency ratio (population aged 65 and over as a percentage of the population aged 20-64) in Slovakia is projected to increase from 20.3 percent in 2013 (EU-28: 30.3 percent) to 63.8 percent in 2053 (EU-28: 54.9 percent).

Slovakia belongs to the group of Member States where the increase in old-age dependency ratio is projected to be significantly above the EU-28 average. Over the period 2013 to 2053, the old-age dependency ratio is projected to increase by 43.5 p.p. (EU-28: 24.6 p.p.).

The share of working-age population (20-64) (65.7 percent of the total population in 2013) is projected to drop by 14.1 p.p. by 2053 (to 51.5 percent of the total population), compared with 9.2 p.p. for the EU as a whole by 2053.

The economic old-age dependency ratio for Slovakia is projected to rise significantly by 53.5 p.p. from 30.6 percent in 2013 to 84.0 percent in 2053 and it will be above the EU-28 average (66.2 percent in 2053).

Employment

The labour market participation rate (of people aged 20-64) in Slovakia (75.6 percent) was just below the EU-28 average in 2013 (76.5 percent) and it is projected to remain below the EU-28 average in 2053 (75.8 percent versus 79.9 percent). The participation rate of older workers (aged 55-64) in 2013 (49.6 percent) was below the EU-28 average (54.4 percent). Over the period 2013 to 2053, the participation rate of older workers is projected to increase by 16.1 p.p. to 65.6 percent in 2053. The percentage increase is higher than in the EU-28 (15.3 p.p.: from 54.4 percent in 2013 to 69.7 percent in 2053).

According to the 2015 Ageing Report, the employment rate (of people aged 20-64) is projected to increase from 65.2 percent in 2013 (EU-28: 68.4 percent) to 70.3 percent in 2053 (EU-28: 74.9 percent). The employment rate of older people (aged 55-64) is projected to change from 44.1 percent in 2013 to 62.5 percent in 2053 (EU-28: from 50.3 percent to 66.6 percent).

The total employment rate for older workers (from 55 to 64 years) in Slovakia in 2013 was lower to the EU-28 average: 44.1 percent (53.4 percent – men, 35.8 percent – women) versus 50.3 percent at the EU-28 level (57.6 percent – men, 43.3 percent – women).

The effective exit age from the labour force in 2013 was 60.6 (61.6 – for men, 59.7 – for women) and it is slightly below the EU-28 average (63.1 – total, 63.5 – for men, 62.7 – for women).

Main drivers of pension expenditure

According to the 2015 Ageing Report, the gross public pension expenditure will increase from 8.1 percent of GDP in 2013 to 10.2 percent of GDP in 2060.

In accordance with the 2015 Ageing Report, the demographic factor has the strongest effect (+11.3 p.p. of GDP) on gross public pension expenditure over 2013-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and career shift). The lowering effect of coverage ratio (-4.2 p.p.) and benefit ratio (-2.6 p.p.) on the public pension expenditure are more pronounced than the employment rate effect (-0.8 p.p.).

6. Main opportunities for addressing pensions-related challenges

An age-friendly labour market policy needs to be implemented and incentives to work longer should be strengthened so that the effective retirement age approaches the pensionable age.

The social protection scheme has to be promoted as a good life investment. In case of a voluntary decision, more incentives in favour of participation and rising of personal contribution could be proper social investment for the state.

Better wage compensations could bring new employment possibilities in services of general interest. The high number of the long-term unemployed is a lost opportunity for development, so disadvantaged groups of people should be further assisted to enter the labour market.

The increase of employment of women, older people and marginalised groups (especially Roma) together with the effective fight against discrimination are necessary for the inclusive growth and cohesion building. The guarantee of basic social rights (social protection floor, minimum income), with a functional possibility of improvement of the obtained pension benefits by participation in voluntary schemes is important.

Slovakia, like other EU member states, has to comply with the obligations arising from the adopted international and European social rights treaties and conventions.

7. Background statistics – Slovakia

1. Relative incomes of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.90	0.92	0.88	0.11	0.09	0.11
Income quintile share ratio (S80/S20), 65+	2.3	2.3	2.3	0.0	0.1	-0.1

2. Poverty and material deprivation

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+	13.6	10.4	15.5	-8.3	-5.3	-10.1
At-risk-of-poverty rate (AROP), 65+	6.0	3.3	7.6	-3.9	-0.5	-5.8
Severe material deprivation (SMD), 65+	9.2	7.8	10.0	-6.1	-5.3	-6.5
At-risk-of-poverty or social exclusion (AROPE), 75+	16.7	13.3	18.6	-9.1	-5.2	-11.0
At-risk-of-poverty rate (AROP), 75+	8.4	4.3	10.7	-3.8	0.6	-5.8
Severe material deprivation (SMD), 75+	11.0	10.6	11.2	-6.8	-4.9	-7.7
Relative poverty gap, 65+	7.9	5.6	9.3	-1.5	-2.6	-0.3
At-risk-of-poverty rate (AROP), 65+: 40 % threshold	0.4	0.3	0.4	-0.3	0.1	-0.6
At-risk-of-poverty rate (AROP), 65+: 50 % threshold	1.2	0.5	1.6	-1.7	-0.6	-2.3
At-risk-of-poverty rate (AROP), 65+: 70 % threshold	14.3	10.0	16.9	-8.9	-2.3	-12.7

3. Housing situation of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Housing cost overburden rate, 65+	8.1	6.1	9.2	-6.1	-1.6	-8.7
Tenure status among people 65+: share of owners	97.1	97.8	96.6	2.8	2.6	2.9
Severehousingdeprivation rate, 65+	1.6	0.7	2.1	-0.7	-0.8	-0.7

4. Income replacement by pension systems

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Aggregate Replacement Ratio (ARR)	0.61	0.59	0.66	0.07	0.05	0.11
Benefit Ratio (BR) (Public pensions)	45.7					
Gross Aggregate Replacement Rate (Public pensions)	51.7					
Gender Gap in PensionIncome, % (65-79)	8.9*			-3.4*		
Gender Gap in non-coverage rate (W-M in p.p.) (65-79)	-0.1*			-0.8*		

5. Sustainability and context indicators

Indicator	2013			Projections for 2053		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65+, years	16.6	14.7	18.4	21.7	20.0	23.4
Old-age dependency ratio (20-64)	20.3	15.4	25.2	63.8	56.2	71.7
Economic old-age dependency ratio (15-64)	30.6	20.7	42.9	84.0	65.2	108.5
Employment rate, age group 55-64	44.0	53.3	35.7	62.5	67.6	57.5
Pension expenditure as % of GDP (ESSPROS)	8.4*			Projections for 2060		
Gross public pensions as % of GDP (AWG projections)	8.1			10.2		

Data source: Eurostat. Sustainability indicators and projections (EPC AWG) – Commission Services (DG ECFIN), based on The 2015 Ageing Report. Data on gender gaps – ENEGE. Notes: * - 2012 data.

6. Theoretical Replacement Rates (TRRs)

TRR case	Net				Gross				
	2013		2053		2013		2053		
	Men	Women	Men	Women	Men	Women	Men	Women	
Average Earnings	Base case I: 40 years up to age 65	76.0	77.9	59.5		58.8	60.3	46.7	
	Base case II: 40 years up to the SPA	64.4		66.1		49.8		51.8	
	Increased SPA: from age 25 to SPA	59.6	58.8	69.6		46.1	45.4	54.6	
	AWG career length case	62.8	48.6	63.0	57.9	48.6	37.6	49.6	45.6
	Longer career I: from age 25 to 67			69.6	77.4			54.8	57.6
	Shorter career I: from age 25 to 63			53.2	59.3			42.0	44.1
	Longer career I: from age 25 to SPA+2			77.7				61.2	
	Shorter career I: from age 25 to SPA-2			59.5				46.7	
	Career break – unemployment: 1 year			68.3				53.6	
	Career break – unemployment: 2 years			67.1				52.5	
	Career break – unemployment: 3 years			62.2				48.8	
	Career break due to child care: 0 year				69.6				54.6
	Career break due to child care: 1 year				69.1				54.3
	Career break due to child care: 2 years				68.6				54.0
	Career break due to child care: 3 years				68.0				53.6
	Short career (30 year career)			59.7				46.1	
	Early retirement due to unemployment			58.1				49.3	
	Early retirement due to disability			62.1				50.6	
	Indexation: 10 years after retirement			62.4				46.7	
	Low Earnings (66%)	Base case I: 40 years up to age 65	78.9	80.9	62.4		63.9	65.6	51.2
Base case II: 40 years up to the SPA		66.9		69.4		54.2		57.0	
Increased SPA: from age 25 to SPA		61.9	61.0	73.1		50.1	49.4	60.3	
AWG career length case		65.2	50.4	65.9	60.7	52.8	40.9	54.4	50.2
Longer career I: from age 25 to 67				73.1	78.9			60.3	61.5
Shorter career I: from age 25 to 63				55.8	60.4			46.1	47.1
Longer career I: from age 25 to SPA+2				81.5				67.2	
Shorter career I: from age 25 to SPA-2				62.4				51.2	
Career break – unemployment: 1 year				71.9				59.0	
Career break – unemployment: 2 years				70.6				57.9	
Career break – unemployment: 3 years				68.8				53.9	
Career break due to child care: 0 year					73.1				60.3
Career break due to child care: 1 year					72.5				59.8
Career break due to child care: 2 years					72.0				59.4
Career break due to child care: 3 years					71.5				59.0
Short career (30 year career)		50.2		65.2		40.6		52.8	
Early retirement due to unemployment				60.3				53.5	
Early retirement due to disability				63.7				54.6	
Pension rights of surviving spouses					94.1				75.0
High		Base case I: 40 years up to age 65	62.0	63.6	49.0		45.9	47.1	27.6
	Base case II: 40 years up to the SPA	52.6		54.0		38.9		30.4	

Data source: TRRs for 2013 - Member State; TRRs for 2053 – OECD

Finland (FI)

1. General description of the pension system

In Finland, the statutory (1st pillar) pension system consists of three defined benefit (DB) parts: 1) earnings-related pensions (ERP) aiming at income smoothing and maintaining the income level achieved during the working career; 2) a residence -based national pension (NP) that is tested against income from the legislated ERP schemes; 3) a guarantee pension (GP introduced 2011), which aims at poverty alleviation and guaranteeing the minimum safety net³²³.

The statutory ERP scheme is a mixed system that is partially PAYG and partially funded (funds amounting to 85 percent of the GDP) and it covers all wage and salary earners and self-employed persons. The ERP is divided into separate schemes for the private sector, state employees, municipal employees and a few smaller schemes. There are some differences in the financing and the degree of funds collected but in principle, benefits are the same in all the schemes. The self-employed have their own schemes with similar benefits with the wage earners³²⁴.

Due to universal coverage and the absence of ceilings (neither in income nor in pension amounts), the role of supplementary pension, i.e. occupational pensions or individual private pension insurance, is negligible in Finland³²⁵. Whereas occupational collective DC schemes cover less than 10 percent of the labour force, the private pension policies (the 3rd tier) are virtually non-existent.

Employers and employees jointly finance the ERP. The contribution rate of the payroll in 2014 was 23.6 percent in the main private sector employee pension scheme (TyEL), whereof employees under 53 years of age pay 5.55 percent of their income and those who are 53 or older pay 7.05 percent. The ERP system is statutory and fully mandatory. The TyEL scheme is run by private pension insurance institutions (6, covering 70 percent of all insured persons), company pension funds (14) and industry-wide funds (6). ERP is coordinated by the Finnish Centre for Pensions. Social partners participate in the administration of the ERP schemes. The NP and GP are financed by the state on a PAYG basis. The Social Insurance Institution of Finland (Kela) administers these two schemes.

Both the ERP and NP systems include old-age pension and disability pension. Whereas in the ERP the retirement age is flexible (63 to 68 years of age), the pension age in the NP is fixed at the age of 65. A reduced NP is available from the age of 63 years. The reduction for each month of early retirement is 0.4 percent. NP can be deferred after the age of 65 which increases the pension amount by 0.6 percent for each postponement month. ERP can be deferred after the age of 68. If the ERP is deferred, the pension is incremented by 0.4 percent for each postponed month. Persons who are incapable of working may receive a disability pension before their old-age pension begins, but there are no special regulations for arduous work.

³²³ See e.g., http://www.etk.fi/en/service/the_pension_system/1399/the_pension_system and <http://www.oecd.org/about/publishing/35203549.pdf>.

³²⁴ The most important employee's pension systems are: TyEL (Employees Pensions Act for the private sector employees), VaEL (State Employees' Pensions Act), KuEL (Local Government Pensions Act), KiEL (Evangelical-Lutheran Church Pensions Act) and MEL (Seafarer's Pensions Act). In addition, self-employed have their own separate schemes: YEL (Self-employed Persons' Pensions Act) and MyEL (Farmers' Pensions Act).

³²⁵ SPC/ISG/2015/01/3.2.

The 2005 pension reform introduced two main incentives to encourage the postponement of retirement. The ‘super’ annual accrual rate of 4.5 percent at ages 63-67 was planned to serve as a positive incentive to continue in work. The second incentive was the life expectancy coefficient that cuts monthly pension depending on increases in longevity. It has been calculated that working one year less than the Standard Pension Age case (SPA) would cut pension rights by 5 p.p. and correspondingly, working 2 years more will increase the pension by 5 p.p. These cuts and increases are close to the EU average.³²⁶

It is possible to continue working after retirement and the work income does not affect the earned pension. Work income after taking pension accrue additional pension at the annual rate of 1.5 percent until the age of 68.

All the legislated pensions are coordinated with each other. The amount of the NP depends on the size of the ERP benefits, which reduce the NP by 50 percent. In 2014 pensioners whose ERP was more than EUR 1 310.30 (single) or EUR 1 166.96 (couple) a month were not entitled any more to NP (in 2015: EUR 1315.88 and EUR 1172.05 respectively). The full NP is granted on the basis of 40 years of residence in Finland. In 2014, the full NP was EUR 633.91 a month for single pensioners and EUR 562.27 for married pensioners (in 2015: EUR 636.63 and EUR 564.69, respectively). The full NP is approximately 20 percent of the average wage. The NP is supplemented by GP benefits that are payable for those pensioners whose income consists of the NP only or with a very small ERP. The GP is fully dependent on other pension incomes that are deducted 100 percent from the full GP. In 2014 the full minimum pension guarantee was EUR 736.64 (in 2015 EUR 746.57) per month³²⁷.

2. Reform trends

The Finnish ERP system was reformed in 2005, when life-time income (instead of the last 10 years in employment) became the basis for benefits calculations. New accrual rates (1.5 percent for people 18-52 years of age, 1.9 percent for 53-62 year-olds and 4.5 percent for 63-67 year-olds), a flexible retirement age from 63 to 68 years of age and the life expectancy coefficient were introduced. The purpose of the life expectancy coefficient is to limit the growth in pension expenditure due to rising life expectancy as well as to contribute to prolonged working lives.

However, the 2005 reform did not manage to achieve all the goals in the postponement of retirement, increasing pension age and lengthening work careers to cope with the sustainability problems of the public sector in general, and the pension system in particular. Therefore, a new pension reform is underway. The new system should be effective at the beginning of 2017. The main principles of the future ERP reforms were agreed upon by social partners in September 2014. The Ministry of Social Affairs and Health has finished the preparation of legislation regarding the oncoming pension reform, which is based on the agreement concluded by the social partners, who were likewise involved in the preparation. The government proposal will be given to the parliament in autumn. Main points are:

- The lowest pension age will be gradually increased from 63 to 65 years of age by 3 months per cohort beginning with the cohort born in 1955. As of the cohort born in 1965, the retirement age will be linked to life expectancy so that the time spent working in relation to the time spent in retirement will remain at the 2025 level.
- The difference between the lowest and the highest pension ages will remain flexible.

³²⁶ SPC/ISG/2015/01/3.2, p. 28.

³²⁷ <http://www.kela.fi/web/en/pension>.

- The accrual rate will be 1.5 percent in all age groups. The pension will begin to accrue at the age of 17.
- Part-time pension will be replaced by a partial old age pension available at the age of 61 years (62 years from 2025 and then linked to life expectancy as of the cohort born in 1965). The partial early old-age pension is 25 or 50 percent of the pension that has accrued. In cases where claimants withdraw a partial old age pension before the earliest retirement age, the pension amount will be reduced permanently by 0.4 for each month.
- Postponement of the old-age pension after the eligibility age will yield an increase of 0.4 percent per month. The increment for deferred retirement shall replace the ‘super’ annual accrual rate of 4.5 percent.
- In the present system the employee’s pension contribution is deducted from the pensionable salary. The reform will abolish this rule and pension calculations will be based on total income.
- Those in arduous jobs with a work career of 38 years can get their pension at the age of 63 (linked to life expectancy as of the cohort born in 1965) with certain conditions.
- The life expectancy coefficient (see above) will be preserved, but its effect will be mitigated to take into account the rises in the pension age.
- The future role of survivors’ pension will be evaluated by the end of 2016.

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 longer work careers and higher pension ages that will be linked to life expectancy. These two links are expected to compensate the pension decreasing effect of the life expectancy coefficient. Long-term simulations (Appendix table 2) predict that the cuts in the level of pensions are compensated by working longer, and in fact longer working careers will yield better pensions than the present system. The effect will be stronger in the lowest income quartile than in the highest quartile. There are two main reasons for this: the careers of workers in the highest income quartile are emphasized more in the older ages, where accrual rates are decreased by the reform, and in the other hand, disability pensions are on average increased more than old-age pensions. The predicted effects are rather gender neutral. Despite improved pensions, the reform will stabilize pension contributions— providing that effective retirement ages will increase as projected.³²⁸

Since future pensions will also be totally income-related, the evolution of collective pension programs or individual pension policies will be modest. In the early 2010s the signing of new individual pension policies almost stopped (50 000 new policies in 2009 and less than 8 000 policies in 2011). The stop was linked to changes in tax treatment, changes in retirement ages and the economic crisis. Consequently, future decisions on tax deductions of the insurance premiums paid and pension ages will be important for the further development of 3rd tier pensions in Finland. Furthermore, the increasing pension age in the legislated system may give impetus to an expansion of the 2nd and 3rd tier programs.

3. Impact of the crisis on current pension system and present pensioners

The impact of the 2008 crisis on the Finnish pension system was not that dramatic. Despite of the worsening economic situation the government implemented the guarantee pension (2011) that considerably improved the level of minimum pension. On the other hand indexation of

³²⁸ ETK (2014): Arvio vuoden 2017 eläkeuudistusta koskevan neuvottelutuloksen vaikutuksesta eläketason muutoksiin. Helsinki: Eläketurvakeskus.

pensions was decreased. Whereas in 2014 the earnings-related TyEL index increased by 1.4 percent and national pension index by 1.3 percent, in 2015 the increases were lowered to 0.4 percent in both pension systems³²⁹. The solvency rules of private pension institutions were temporarily relaxed between 2008 and 2012 due to 2008 financial crisis. The solvency framework was reformed and the new legislation comes into force in 2017.

At the system level, it introduced a small flat-rate element into the pension system. Due to fiscal consolidation it is not likely that increases in minimum pension will take place by increasing national pensions. Rather, increases are likely to take place in guarantee pensions which increases the flat-rate element in the system.

The Finnish mandatory earnings-related pension system is partially funded and partially based on the PAYG principle. In the OECD area private pension fund's assets vary from 0 percent of the GDP in Greece to 166 percent in the Netherlands. The OECD simple average of the funding level is 37 percent of the GDP. By its pension funds comprising up to 51 percent of the GDP, Finland has above average private sector pension fund assets in the OECD hemisphere. These statistics exclude the buffer funds that the public sector pension schemes have.³³⁰

The relation of pension funds to the GDP fell from 66 percent in 2007 to 54 percent in 2008. In a similar way, there was a smaller decline in 2011. Both in 2008 and 2011 the annual rate of investments declined, too. The annual rate of return was negative in 2008 and 2011 but since 2012 the return rates have been over 8 percent. Preliminary figures for 2014 indicate that the positive trend has continued.

The 2008 economic crisis did not constitute a major challenge for the earnings-related pension system in Finland. Neither did the economic crisis trigger plans to reform the 2005 pension system. The reasons were related to aging of the population, increasing life expectancy, efforts to increase labour force participation rates and to improve the sustainability of the welfare state.³³¹

4. Assessment of adequacy

Current adequacy

The income level of elderly people has remained rather stable 2008 to 2013. The aggregate replacement ratios are 49 percent and there are no major gender gaps. During the period of 2005-2013, the median income of the Finnish elderly population has hovered around 75-80 percent of the national median income. After the crisis of 2008 the ratio has increased (in 2013 it was 78 percent for all pensioners and 83 percent for male and 74 percent for female retirees). The ratio is lower than in many other countries, but it is important to remember that because of the lack of private pensions, the Finnish ratio is legislated pensions to median income.

Theoretical replacement rates (TTRs) yield rather identical results – net replacement rate of 69.5 percent – for all the three TRR measures. In Finland, the difference in the net current TTRs between the AWG and base case II is about 5 p.p. Pensions in relation to work income tend to be higher among low-income groups (about 10 p.p. more than for average earners) but due to lack of pension ceilings, the compensation level for high-income earners is only 8 p.p. lower than the compensation level for the average income earner. The difference is one of the

³²⁹ http://www.etk.fi/en/service/el%C3%A4kkeiden_indeksointi/248/el%C3%A4kkeiden_indeksointi.

³³⁰ OECD (2014): Pension Markets in Focus. Paris: OECD.

³³¹ Suomen eläkejärjestelmän sopeutuminen eliniän piteneeseen: eläkekysymysten asiantuntijatyöryhmän raportti.

smallest in the EU. The same goes for the differences between net and gross replacement levels for different income groups now and in the future.

The picture of the adequacy of the Finnish pension scheme very much depends on the measure used. According to the 70 percent at-risk-of-poverty line (AROP70) the Finnish scheme does not fare well in comparison to many other EU countries: the poverty risk is 24.4 percent for men and 37.2 percent for women. However, the situation considerably changes if the poverty threshold is lowered to 50 percent or 40 percent of the median income. The average poverty rate will drop from 31.7 percent (AROP70) and 16.1 percent (AROP60) to 5.0 percent and 1.0 percent. Although the AROP60 and AROP70 rates in Finland are higher than the EU mean, the poverty gap is smaller (11.3 percent) than the EU average.

Although pensioners with a low pension usually get housing allowance, their incomes fall below the poverty line. Furthermore, the gap between the 60 percent poverty line and minimum pension has expanded: while in 1995 the national pension was about 70 percent of the poverty line, in 2010 it was only 53.3 percent. The introduction of the Guarantee pension increased the share to 61.4 percent in 2012.

Towards the end of the first decade of 2000s, the AROP60 increased (the peak for men 15.5 percent in 2008 and 28.4 percent in 2009 for women), to be in decline after 2008 (the 2013 figure for males is 11.4 percent and 19.6 percent for women). From 2008 to 2013 the AROP70 rate decreased as much as 9.5 p.p. The corresponding numbers for AROP50 and AROP40 were 1.9 and 0.7 p.p., respectively. The improved situation partially reflects real improvements: the implementation of the guarantee pension increased the level of minimum pension by 26 percent. Also, the share of those pensioners having no earnings-related pension is decreasing gradually.

The AROP in Finland is age- and gender specific. When it comes to those who are 65 years of age, their AROP60 rates are the same as among the working age population. The poverty risk sharply increases when moving up in age. About 15 percent of males and 29 percent of females of 75 years of age are suffering from low income. For the age group of 85 the AROP rates are as high as 25 percent and 40 percent, respectively.

The share of the elderly suffering from material deprivation is very small, and in fact smaller than among younger age groups. Neither are there substantial gender differences in material deprivation. There are several factors contributing to the relative poverty risks among the pensioners. Being single is one factor. Poverty risks among those without or with short work careers are higher than among those receiving earnings-related pensions. Furthermore, in Finland women live about 7 years longer than men and they are more exposed to the long-term impacts of indexation of pensions than men.

An evaluation of the sufficiency of basic social security is conducted every four years. An independent expert group is to be appointed for the task, and to administer the assessment autonomously. The newest evaluation examines the development of the sufficiency of basic social security, and the factors affecting it, from 2011 to 2015. According to their report, the income level of guarantee pension recipients living alone is 48 percent of the income level of average income earners. Unlike the other people relying on basic social security, the income level of pensioners is sufficient to cover reasonable minimum costs stipulated in the reference budget.

Gender pension gap

The gender gap in pensions for the 65-79 year-olds in Finland was at the level of 26 percent in 2012, being 14 p.p. below the EU average. Due to a rather even income distribution, the gender gap in Finnish pensions is comparatively modest. There are no substantial differences between the pension gender gaps and the central gaps in earnings. The pension coverage rate

for women is 0.7 p.p. higher than for men, compared to 6.8 p.p. lower coverage for women in EU-27.

On average, female employment in Finland is high and at present the effective female retirement age is de facto a bit higher than the male one (62.0 years vs. 61.8 years in 2011, respectively). The employment rate of older workers was 4.6 p.p. in 2014 higher for women than for men. The gender gap in the duration of working life in 2013 came to 1.1 years.

However, the labour force participation of mothers whose youngest child is under 3 years is only 52 percent. The share increases to close to 80 percent among mothers whose youngest child is older than 6 years. The age-specific fluctuations in female employment are linked to the characteristics of the child care system. In Finland, long family-related leaves are possible due to the home care allowance, which facilitates absences from the labour market for three years, thus bringing down the employment rates of mothers and decreasing women's future pensions. The 2005 pension reform tried to tackle the problem by making the time spent on home care allowance pensionable thus mitigating the effect of absences. The level of nominal income used as a basis for pension calculations is about 20 percent of the average wage which means that long care periods may create gaps in pensions³³².

The gender pay gap in 2013 at 18.7 percent was higher than the EU-28 average (16.4 percent). Since the Finnish pension system reflects differences in the labour markets³³³, one important driver behind the pension gender gaps is related on the rather segregated labour markets in Finland. Public sector employment is female-dominated and wages are lower in social and care occupations than in male-dominated industrial occupations. Also long family leaves contribute to the gap. Short term absences from the labour market do not curb TTRs that much in Finland. In low-income groups the effect is negligible. Longer absences have stronger impact: an absence of 10 years will cut average earner's TTRs by 10 p.p. For low income earners the impact is less than 5 p.p.³³⁴ The problem is that long family-related absences concentrate to women in low-paid jobs where pensions tend to be low already without absences. The gender gap in part-time employment (for people aged 20-64) reached 9.4 p.p. in 2014 (EU-28: 23.5 p.p.).

In Finland the gender gap in pension is also related to educational attainments. Whereas the gaps are 18.2 and 20.7 p.p. among pensioners with primary and secondary education, the gap is as high as 33.3 p.p. among those with tertiary education. The difference in the gap between primary and tertiary education is one of the highest in the EU and reflects the combined effect of the total income-relatedness (no pension ceilings), segmented labour markets and gendered salary differences in high-education groups.

The new scheme is supposed to be gender neutral, which also is documented in long-term projections on the effects of the scheme planned.

Gender gaps in employment and pay. The gender pension gap indicator presents a snapshot of developments in the employment and pension system factors, which determine the size of the gap. Since it is calculated for the entire population of 65-79 year olds there is a certain inertia in its development. To get a sense of whether it is likely to reduce or increase one can look at trends in the various gender gaps in employment and at how the pension system is changing.

³³² OECD (2013a): Pensions at a Glance. Paris: OECD 2013.

³³³ BETTIO, FRANCESCA; PLATON, TINIOS & BETTI, GIANNI (2014): Gender Inequality Chapter for the 2015 SPC Pension Adequacy Report. Luxembourg: Enege; BETTIO, FRANCESCA; PLATON, TINIOS & BETTI, GIANNI (2015): Data on the pension gender gap for the 2015 2015 Pension Adequacy Report. SPC/ISG/2015/01/3.1.

³³⁴ SPC/ISG/2015/01/3.2, pp. 32-34

The gender gap¹⁵² in the *employment rate of older workers* (age 55-64) has decreased by 6.5 p.p. over the period of 2004-2014 (EU-28: -5 p.p.) and amounted to -4.6 p.p. in 2014 (EU-28: 13.7 p.p.) (the employment rate was lower for men than that for women). The gender gap in the *duration of working life*, which in 2013 came to 1.1 years (EU-28: 5.2 years), has decreased by 0.5 years since 2004 (EU-28: -1.2 years). The gender gap¹⁵³ in *part-time employment* (for people aged 20-64), which reached 9.4 p.p. in 2014 (EU-28: 23.5 p.p.), has thereby increased by 0.4 p.p. since 2004. The gender *pay gap*¹⁵⁴, which in 2013 at 18.7 percent was higher than the EU-28 average (16.4 percent), has decreased by 1.5 p.p. since 2007 (EU-28: increase by 0.3 p.p. over the period of 2010-2013).

Future adequacy

The current adequacy problem is the low income level among those elderly (women) who have short work history and who are living alone. The magnitude of the problem may be smaller in the future but the problem remains. Since the structure of the Finnish pension system is geared towards earnings-related pensions, future adequacy is strongly linked to changes in employment and in the earnings-related pension system. Long-term calculations show that in 2053 the present system's theoretical replacement rates (TRR) would be close to 20 p.p. lower than the 2013 TTRs for a low-income earner. For average and high –earning profiles the difference is about 10 p.p.³³⁵ However, these calculations are based on the legislation in force and do not reflect the upcoming pension reform.

The present pension system will be replaced by a new one in two years. There may be adequacy problems for those whose work careers remain shorter than 40 years. It is assumed that when people live longer and are healthier they also work longer. Therefore, in calculations the detrimental effects of cuts in the level of pensions are supposed to be compensated by longer work careers.

The future development of the gender and socio-economic gaps and the adequacy of pensions depend on what kind of employment patterns there will be among gender and socio-economic groups. Pensions just mirror these patterns. The other crucial question is how periods of care will accumulate pension rights.

Challenges for pension adequacy

Pension adequacy in Finland has two dimensions. While national and guarantee pensions aim at giving protection against old age poverty, the tasks of earnings-related pensions are wider. Their outspoken goal is to protect the standard of living achieved, give guarantees against inflation and longevity, and simultaneously, also protect against poverty.³³⁶ When it comes to poverty alleviation, much depends on the political decision-makers and what is regarded as a sufficient and decent minimum level of living in old-age. At present the largest group of the poor consists of those who are living alone, regardless of their age. The problem is accentuated among the elderly.

The second dimension, i.e., ensuring the standard of living achieved may be jeopardized by the life expectancy coefficient. Lower level of pension due to increasing life expectancy demands longer working careers and if this, for some reason, does not materialize, the level of accumulated pension rights is reduced.

³³⁵ SPC/ISG/2015/01/3.2, p. 23.

³³⁶ BARR, NICHOLAS (2013): *The pension system in Finland: Adequacy, sustainability and system design*. Helsinki: ETK 2013, retrieved at 1.12.2014 at

http://www.etk.fi/fi/gateway/PTARGS_0_2712_459_440_3034_43/http%3B/content.etk.fi%3B7087/publishedcontent/publish/etkfi/fi/julkaisut/tutkimusjulkaisut/erillisjulkaisut/the_pension_system_in_finland_adequacy_sustainability_and_system_design_7.pdf; BARR, NICHOLAS; DIAMOND, PETER (2008): *Pension Reforms*. Oxford: Oxford University Press.

It has been discussed that the level of the guarantee pension could be increased to give adequate protection against poverty. If this flat rate component of the pension is increased, low-income earners with shorter work careers end up in a situation where their guarantee pension is at the same level as their earnings-related pension. They have paid their pension contributions but they are not de facto benefitting from their payments – something that may pose a challenge to the present structure of the Finnish pension system.

5. Sustainability

The evolution of the demography, employment rate and expenditure can give us information about the sustainability of the pension system in the future.

The economic sustainability of the pension scheme is linked to demographic development, employment rates, economic performance and the generosity of the scheme. To meet these challenges a new pension system is underway. The background calculations for the 2017 reform show that the scheme will be sustainable and there is no need for major increases in pension contributions. In fact, the demographic change will cause more tensions in social services than in social transfers.³³⁷

According to international comparisons³³⁸ Finns believe in their pension system. The share of those who say that there are no possibilities to maintain pensions is one of the lowest in Europe. One possible challenge for the legitimacy may be that those with higher educational attainments are much more critical (40 percent) than those who are lower-educated (20 percent). However, national surveys show that the confidence has lately diminished a little.

Demography

The old-age dependency ratio (population aged 65 and over as a percentage of the population aged 20-64) in Finland is projected to increase from 32.5 percent in 2013 (EU-28: 30.3 percent) to 46.9 percent in 2053 (EU-28: 54.9 percent).

Finland belongs to the group of Member States where the increase in old-age dependency ratio is projected to be significantly below the EU-28 average. Over the period 2013 to 2053, the old-age dependency ratio is projected to increase by 14.4 p.p. (EU-28: 24.6 p.p.).

The share of working-age population (20-64) (58.9 percent of the total population in 2013) is projected to drop by 5.6 p.p. by 2053 (to 53.3 percent of the total population), compared with 9.2 p.p. for the EU as a whole by 2053.

The economic old-age dependency ratio for Finland is projected to rise by 16.4 p.p. from 40.8 percent in 2013 to 57.1 percent in 2053 but it will be below the EU-28 average (66.2 percent in 2053).

Employment

The labour market participation rate (of people aged 20-64) in Finland (79.2 percent) was above the EU-28 average in 2013 (76.5 percent) and it is projected to equal the EU-28 average in 2053 (79.5 percent versus 79.9 percent). The participation rate of older workers (aged 55-64) in 2013 (62.7 percent) was above the EU-28 average (54.4 percent). Over the period 2013 to 2053, the participation rate of older workers is projected to increase by 3.2 p.p. to 65.9 percent in 2053. The increase in the EU-28 is 15.3 p.p.: from 54.4 percent in 2013 to 69.7 percent in 2053.

³³⁷ Suomen eläkejärjestelmän sopeutuminen eliniän pitenemiseen: eläkekysymysten asiantuntijatyöryhmän raportti.

³³⁸ European Social Survey, wave 2008.

According to the 2015 Ageing Report, the employment rate (of people aged 20-64) is projected to increase from 73.2 percent in 2013 (EU-28: 68.4 percent) to 74.9 percent in 2053 (EU-28: 74.9 percent). The employment rate of older people (aged 55-64) is projected to change from 58.4 percent in 2013 to 62.2 percent in 2053 (EU-28: from 50.3 percent to 66.6 percent).

The employment rate for older workers (from 55 to 64 years) in Finland in 2013 was above the EU-28 average: 58.4 percent (56.5 percent – men, 60.1 percent – women) versus 50.3 percent at the EU-28 level (57.6 percent – men, 43.3 percent – women).

The effective exit age from the labour force in 2013 was 63.4 (63.6 – for men, 63.1 – for women) and it is similar to the EU-28 average (63.1 – total, 63.5 – for men, 62.7 – for women).

Main drivers of pension expenditure

According to the 2015 Ageing Report, the gross public pension expenditure will remain at the same level in 2060 as in 2013 – 12.9 percent of GDP.

In accordance with the 2015 Ageing Report, the demographic factor has the strongest effect (+6.0 p.p. of GDP) on gross public pension expenditure over 2013-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and career shift). The lowering effect of coverage ratio (-2.5 p.p.) and benefit ratio (-2.7 p.p.) on the public pension expenditure are more pronounced than the employment rate effect (-0.3 p.p.).

6. Main opportunities for addressing pensions-related challenges

Given the tight economic situation and budget limitations, the Finnish government has to do hard choices. The high at-risk-of-poverty rates for older single pensioners would be combatted by increasing the level of basic pensions. However, there are budget limitations. In combatting old age poverty among single pensioners, one option would be to differentiate guarantee pensions between singles and couples. At present the GP amount is not dependent on family relations, it is an individual benefit. In fact, Nicholas Barr, when evaluating the Finnish pension system, recommended that the GP rate for single pensioners should be higher. Furthermore, in order to try to level off the gender gap, the future pension system could better recognize the care periods and more generously give accrual points for care-givers. The extension of socioeconomic and gender gaps in pensions and the level of pensions (adequacy) depend on the length of the work careers of the different groups. There are some incentives, carrots and sticks, installed into the new pension scheme. However, no matter how good the incentives are, they cannot solve all the problems. Labour market institutions and working conditions must be reshaped so that they enable all people to continue longer in work, thus accumulating better pensions, at the same time contributing to the sustainability of the scheme.

7. Background statistics – Finland

1. Relative incomes of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.78	0.83	0.74	0.06	0.05	0.05
Income quintile share ratio (S80/S20), 65+	3.3	3.4	3.1	0.1	0.1	0.1

2. Poverty and material deprivation

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+	16.8	11.9	20.5	-7.1	-4.0	-9.0
At-risk-of-poverty rate (AROP), 65+	16.1	11.4	19.6	-6.4	-4.1	-7.8
Severe material deprivation (SMD), 65+	1.1	0.8	1.2	-2.1	-0.6	-3.2
At-risk-of-poverty or social exclusion (AROPE), 75+	24.6	15.8	29.8	-7.9	-6.1	-8.4
At-risk-of-poverty rate (AROP), 75+	23.9	15.2	29.0	-6.2	-6.3	-5.7
Severe material deprivation (SMD), 75+	1.1	0.9	1.2	-3.1	0.2	-5.0
Relative poverty gap, 65+	11.3	11.3	11.3	-0.1	0.5	-0.2
At-risk-of-poverty rate (AROP), 65+: 40 % threshold	1.0	0.7	1.2	-0.2	-0.4	-0.1
At-risk-of-poverty rate (AROP), 65+: 50 % threshold	5.0	3.4	6.2	-1.9	-0.7	-2.7
At-risk-of-poverty rate (AROP), 65+: 70 % threshold	31.7	24.4	37.2	-9.5	-7.7	-10.4

3. Housing situation of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Housing cost overburden rate, 65+	5.4	4.0	6.4	0.2	0.4	0.2
Tenure status among people 65+: share of owners	83.1	85.9	80.9	1.7	-1.0	3.3
Severe housing deprivation rate, 65+	0.5	0.4	0.6	-0.1	0.0	-0.2

4. Income replacement by pension systems

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Aggregate Replacement Ratio (ARR)	0.49	0.50	0.49	0.00	0.02	0.00
Benefit Ratio (BR) (Public pensions)	52.1					
Gross Aggregate Replacement Rate (Public pensions)	46					
Gender Gap in Pension Income, % (65-79)	26.1*			1.7*		
Gender Gap in non-coverage rate (W-M in p.p.) (65-79)	-0.7*			-1.2*		

5. Sustainability and context indicators

Indicator	2013			Projections for 2053		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65+, years	19.6	17.8	21.4	23.4	21.7	25.1
Old-age dependency ratio (20-64)	32.5	27.4	37.8	46.9	42.4	51.5
Economic old-age dependency ratio (15-64)	40.8	33.0	48.9	57.1	50.8	63.7
Employment rate, age group 55-64	58.5	56.5	60.5	62.2	60.6	63.8
Pension expenditure as % of GDP (ESSPROS)	13.0*			Projections for 2060		
Gross public pensions as % of GDP (AWG projections)	12.9			12.9		

Data source: Eurostat. Sustainability indicators and projections (EPC AWG) – Commission Services (DG ECFIN), based on The 2015 Ageing Report. Data on gender gaps – ENEGE. Notes: * - 2012 data; ; - not available.

6. Theoretical Replacement Rates (TRRs)

TRR case	Net				Gross				
	2013		2053		2013		2053		
	Men	Women	Men	Women	Men	Women	Men	Women	
Average Earnings	Base case I: 40 years up to age 65	69.5		59.1		62.2		50.8	
	Base case II: 40 years up to the SPA	69.5		59.1		62.2		50.8	
	Increased SPA: from age 25 to SPA	69.5		59.1		62.2		50.8	
	AWG career length case	65.5	63.8	58.6	57.1	58.2	56.4	50.2	48.5
	Longer career I: from age 25 to 67			64.8				57.2	
	Shorter career I: from age 25 to 63			53.5				44.2	
	Longer career I: from age 25 to SPA+2			64.8				57.2	
	Shorter career I: from age 25 to SPA-2			53.5				44.2	
	Career break – unemployment: 1 year			58.8				50.5	
	Career break – unemployment: 2 years			58.6				50.2	
	Career break – unemployment: 3 years			57.7				49.1	
	Career break due to child care: 0 year				59.1				50.8
	Career break due to child care: 1 year				59.1				50.8
	Career break due to child care: 2 years				58.4				50.0
	Career break due to child care: 3 years				58.5				50.1
	Short career (30 year career)			49.2				39.1	
	Early retirement due to unemployment			51.8				42.2	
	Early retirement due to disability			51.7				42.1	
	Indexation: 10 years after retirement			53.8				44.6	
Low Earnings (66%)	Base case I: 40 years up to age 65	81.3		62.5		73.2		52.5	
	Base case II: 40 years up to the SPA	81.3		62.5		73.2		52.5	
	Increased SPA: from age 25 to SPA	81.3		62.5		73.2		52.5	
	AWG career length case	77.3	76.6	61.0	61.1	68.7	67.4	50.5	49.8
	Longer career I: from age 25 to 67			67.4				58.7	
	Shorter career I: from age 25 to 63			57.7				46.2	
	Longer career I: from age 25 to SPA+2			67.4				58.7	
	Shorter career I: from age 25 to SPA-2			57.7				46.2	
	Career break – unemployment: 1 year			62.4				52.3	
	Career break – unemployment: 2 years			62.3				52.2	
	Career break – unemployment: 3 years			61.9				51.6	
	Career break due to child care: 0 year				62.5				52.5
	Career break due to child care: 1 year				62.6				52.5
	Career break due to child care: 2 years				62.3				52.1
	Career break due to child care: 3 years				62.3				52.2
	Short career (30 year career)	77.7		59.6		66.0		47.9	
	Early retirement due to unemployment			59.0				46.7	
	Early retirement due to disability			58.7				46.2	
	Pension rights of surviving spouses				85.3				81.9
High	Base case I: 40 years up to age 65	62.6		49.8		54.6		39.9	
	Base case II: 40 years up to the SPA	62.6		49.8		54.6		39.9	

Data source: TRRs for 2013 and 2053 – Member State

Sweden (SE)

1. General description of the pension system

The current Swedish pension system has four main layers. The two first are publicly provided and managed. The *guarantee pension* ensures a basic pension for all people with no or low contributory entitlements. The *income pension* strictly reflects the accumulated earnings-related contributions. The third and fourth layers are privately managed and consist of *collective occupational pensions* based on collective tariff agreements and *personal pension saving schemes*.

The public pension system also contains the fully funded *premium pension*. Both the income pension and the premium pension are defined contribution (DC) schemes. The total pension contribution is 18.5 percent of pensionable income: 16 p.p. for the income pension and 2.5 p.p. for the premium pension. Contributions are shared between wage-earners and employers: wage-earners pay 7 percent of their eligible earnings up to a ceiling of 8.07 “income base amounts”³³⁹ which is slightly above an average full time wage. Employers pay 10.21 percent on all earnings (both below and above the ceiling, which means that contributions above the ceiling are taxes). The central government pays the pension contribution for those receiving social insurance or unemployment insurance benefits that qualify for pension accrual. There is no lower or upper age limit for accruing income and premium pension rights and the retirement age is flexible. Pension can be drawn from the age of 61, with no upper age limit, and employees have legal rights to remain in their jobs until the age of 67.

The *income pension* is a “notional defined contribution” (NDC) pension based on lifetime earnings which emulates a funded defined contribution scheme by estimating an internal rate of return for accumulated pension contributions. All insured persons have an account where their contributions are recorded. The notional balance in the account is indexed annually on (pension qualifying) income growth. At retirement, notional assets in the individual account are converted to an annuity using the “annuity divisor” which is the expected remaining unisex life expectancy for that person’s cohort plus an internal rate of return of 1.6 percent. Thus there are strong actuarial incentives to defer pension take-up and avoid early retirement. Benefit pay-outs are indexed to an “economic adjustment index” which is the income index minus 1.6.³⁴⁰

The income pension system has an *automatic stabilizer* to ensure the financial sustainability. If the ratio of assets to liabilities falls below one, the balancing mechanism is activated. Both pension rights and pensions are then indexed by the change in a balance index instead of the change in the income index. A period of balancing thus starts with reduction of the indexation. This is followed by a period in which the balancing ratio has a direct impact on the indexation. During a period of balancing, the balance ratio will both raise and lower the annual indexation of pensions and pension rights. When the balance index reaches the level of the income index, that is to say when pensions and pension rights regain the value they would have had, if they had only been indexed with the income index, balancing ends. The balancing mechanism was activated for the first time in 2010, and has since then contributed

³³⁹ The income base amount is an accounting device used in the pension system, and it is indexed to increases in average earnings.

³⁴⁰ For example, if the income index is 2.0, the economic adjustment index is $1,02/1,016=1,0039$ which means 0.4 percent. 1.6 percent is deducted because the same percentage rate of return is applied to the notional annuity at retirement. Thus the annuity is front-loaded and this is compensated for afterwards by the construction of the economic adjustment index.

to both increases and decreases in indexation. In 2015 the indexation was 0.9 percent and in 2016 will it be 4.2 percent. The level of the pension payments in 2016 will still be 1.7 percent lower due to the balancing mechanism.

The *premium pension* is also based on individual accounts, but unlike the NDC accounts, it is funded. Participants may place their premium pension contribution in up to five investment funds. To minimize administrative costs, pension contributions and fund choices are centrally managed by a government agency. All fund balances are annuitized at the time of retirement as a fixed or a variable annuity. For both, the capital is divided by the annuity divisor to calculate the annual pension.

For those with insufficient income pension entitlements, the *guarantee pension* pays basic income support. The pension is payable starting at age 65, and 40 years of residence in Sweden after the age of 25 are required for a full pension. The pension is reduced proportionally for missing years. The guarantee pension is designed as a supplement to the income pension, up to a threshold. If a pensioner does not have any income pension rights at all, the guarantee pension is 2.13 price base amounts for single pensioners and 1.90 price base amounts for married/partnered pensioners. For those with an income pension, the guarantee pension is reduced in proportion to the size of the income pension.

Every person with pension rights in Sweden receives an annual pension statement, the so-called “orange envelope,” that contains estimates of future pension benefits based on current and historical individual employment and various economic growth scenarios. The “orange envelope” contains information about the public pension and do not include any information about occupational pension. Most pension savers can, however, find information about the complete pension at the website www.minpension.se.

Retirees with low income are also eligible for housing supplements. The housing supplement is a tax-free, income-tested supplement payable starting at age 65.

Finally, *maintenance support for the elderly* is the last resort source of income support for those 65 and older. The benefit is income-tested and tax-free guarantees a basic minimum of SEK 5,353 per month in 2014 and a housing benefit. Very few elderly people receive this benefit; in 2013 there were 15,700 recipients, which is less than 1 percent of all pensioners. The overwhelming majority of those receiving this benefit consist of people, who have not lived in Sweden for 40 years and do not qualify for a full guarantee pension.

Occupational pension schemes: Four negotiated agreements cover nearly 90 percent of Swedish wage-earners: SAF-LO (blue-collar private sector workers); ITP-1 (white collar workers in the private sector); PA03 (for state employees); and KAP-KL (for municipal employees).

The occupational pension sector has grown in importance during the last few decades. In 2013, negotiated pensions constituted 24 percent of all pension pay-outs. In 2013, 61 percent of contributions were paid to the state pension, 35 percent to occupational pensions, and 4 percent to private pension savings. In 2013, occupational pension assets administered by life insurance companies were SEK 1,948 billion, about a 100 percent increase since 2006. In comparison, assets in the premium pension system where the value has more than doubled since 2006 totalled SEK 645 billion in 2013.

The occupational pension sector has changed substantially since the 1990s. The four large sectoral schemes remain, but today after a gradual transition, private-sector occupational pensions are defined contribution, and participants choose the type of funded pension product they prefer. Public sector occupational pensions are hybrid schemes,

combining elements of defined contribution and defined-benefit. In general, employers in all four sectoral schemes pay a contribution of 4.5 percent of wages below the ceiling for contributions to the public pension, and 30 percent of wages above it. This makes occupational pension costs for high-income earners much higher than they are for average wage earners. 14 percent of contributors had income above the statutory ceiling in 2012.

2. Reform trends

The current public pension system is the result of a major reform adopted in two steps, in 1994 and 1998. In June 1994, a five-party coalition in Parliament adopted the principles of the new pension system. The decision came after more than a decade of discussion and investigation. In 1998, the same coalition of parties adopted detailed legislation to implement the new system. The reformed pension system has the following characteristics:

- Earnings-related pensions are based on notional defined contributions (NDC) and lifetime earnings;
- Pension contributions (18.5 percent of pension-qualifying income) are shared by employers and employees;
- Earnings-related pensions rely on both pay-as-you-go financing (16 percent) and funding (2.5 percent);
- Pension accrual and pension pay-outs are automatically adjusted to (*pension qualifying*) income growth and life expectancy;
- Retirement age is flexible starting at 61 with no upper age limit;
- The funded part of the earnings-related pension contributions (13.5 percent of contributions) is ear- marked for funded, individual investment accounts (the premium pension);
- In principle, pension-qualifying income consists of annual income (from earnings, sickness cash benefits, parental cash benefits, unemployment cash benefits, etc.) reduced by the individual pension contribution;
- Time spent on care for small children, studies, military service, sickness or activity compensation is also taken into account when pension credits are calculated;
- Individuals with insufficient pension entitlements receive a guarantee pension, which provides basic income support.

The new system took effect in 1999 and was fully operational in 2003. Persons born 1938 and later participate in the reformed system; those born before are covered by the previous system,³⁴¹ but the indexation rules for pensions in payment are the same for all pensioners. Transitional rules apply for persons born between 1938 and 1953. Persons born 1954 and later are fully covered by the reformed system.

³⁴¹ The previous system included both a flat-rate basic pension (*folkpension*) and an earnings-related pension, ATP. The basic pension was close to one “base amount” for unmarried and a bit less for married (an accounting unit used in social insurance schemes), and the ATP system paid a defined benefit based on the best 15 of 30 years of labour market participation. A maximal ATP pension was 60 percent of 6.5 base amounts, plus the basic pension. Pensioners without an ATP pension received a supplement (*pensiontillskott*) to their basic pension as well as a housing subsidy. Persons in the old system who received only the basic pension, the pension supplement and housing subsidy are now covered by the guaranteed pension and housing subsidy.

The broad five-party³⁴² coalition behind the pension reform has committed to negotiate and agree all aspects of the reform including any future changes in the common pension committee, it has established.

So far there have been no major changes to the original reform. Two minor changes have however been implemented recently. One is the change moving from an annual to a three-year moving average for assessing the National Pension Funds when calculating the balance ratio (2010). The second change entails a more correct valorisation of the pension credits that are earned during a period of balancing.

Reform debates. Five issues presently dominate debates about the future direction of the pension system: the retirement age, the design of the premium pension, the design of automatic balancing, reducing the gender gap and the constitution of the National Pension Funds.

Raising the effective retirement and the pensionable age: The pension system is designed to provide incentives for people to work more and longer and although the effective retirement age has increased to close to 65, there have been no big changes in when people claim their pension. Most people still prefer to take-up their pension at age 65. Policymakers now argue that the minimum pensionable ages (presently 61 for the earnings-related and 65 for the guarantee pension) needs to be increased because of growing life expectancy and the increasing old age dependency ratio. The five parties behind the pension reform agreed in early 2011 that the government should establish an official commission of inquiry to investigate issues related to raising the effective retirement and the pensionable age and to propose options for changes to pension legislation. The commission's main recommendation is that pensionable ages for all parts of the pension system, including occupational pensions, should be raised and linked to average life expectancy. Proposals are under discussion including with the social partners.

The premium pension: Two aspects of the premium pension are controversial and have been debated at length in 2013. The system provides immense choice between providers and risk profiles but very few people make an active choice. Should the system be simplified or should one do more to get people to choose wisely?

The second aspect of the premium pension concerns the potentially very different pension outcomes that the system is likely to produce. Depending on individual investment choices, financial market fluctuations and the timing of retirement, the pension income generated by the premium pension can vary dramatically. When the system is fully phased in premium pension benefits for pensioners with the same lifetime earnings may differ significantly depending on the rate of return to their fund portfolio. These issues will be further investigated.

In 2013, leading Social Democratic politicians, the Trade Union Federation (LO), and all of the major pensioner's organizations called for a reform or the abolition of the premium pension system. It is unlikely that this will happen, given that the Pension Group only makes consensual decisions.

The Automatic balancing mechanism has also been the topic of much debate since evaluations in 2013 argued that the balancing mechanism makes the pensions volatile and that it can be harder for pensioners to adjust to changes in their incomes than for younger persons. Mostly as a consequence of the construction of the balancing mechanism pensions were reduced by 4.3 percent in 2011 and increased by 3.5 percent in 2012. The Pensions

³⁴² Since 2014 even the Green Party supports the pension agreement and thus there are now six parties in the coalition

Group has proposed that a smoothing mechanism is established so that a less volatile development of the pensions can be ensured.

National reforms and EU 2020: The Europe 2020 strategy has not had influence on Swedish policy debates and decision-making concerning pensions. Despite this, Swedish policy priorities are largely in line with the Europe 2020 strategy because the current pension system rests on a political compromise that emphasizes both fiscal sustainability and benefit adequacy. As discussed above, raising the pensionable age is an important item on the political agenda, and much preparatory analysis has already been carried out. Moreover, the government has adopted some tax breaks for pensioners that aim to shield them from the negative effects of the financial and economic crisis and increased the housing benefit for low-income pensioners. These measures are discussed in Sweden's National Reform Programme, but they are rooted in domestic policy debates that have been conducted for more than a decade.

3. Impact of the crisis on current pension system and present pensioners

The stock market downturns of the 2008 and 2011 have led several political actors to question some of the basic elements of pension system. The activation of the automatic balancing mechanism in 2010 led to strong criticism from pensioners associations. Because of the widespread dissatisfaction among pensioners with the earned income tax credit (*jobbskatteavdrag*), and the temporary reduction of pension benefits, the centre-right government adopted some tax cuts for pensioners that offset some of the negative effect of balancing. Pensions were then increased in 2012 and 2013 on par with the reductions in 2010 and 2011. In 2014 income pensions are reduced again, this time by 2.7 percent, and in 2015 they were increased by 0.9 percent. Another round of tax breaks for pensioners has offset some, but not all, of the reduction in pension pay-outs in 2014. In 2016 there will be pay-back of the automatic balancing mechanism and pensions will increase 4.2 percent.

The pension system is constructed so that economic and demographic developments, rather than political decisions, determine the rate of return to notional pension assets and pension pay-outs. One of the strengths of the Swedish system is that it largely has performed the way it was designed to work in terms of financial sustainability. Thus when pensioners were affected by the automatic balancing mechanism and the government shielded pensioners from most of the effects through tax cuts to this did not affect the financial status of the pension system but only the general budget.

4. Assessment of adequacy

Current adequacy

In 2013, there were 2,065 million pensioners with large variations in pension levels. Despite this heterogeneity, all pensioners are guaranteed a minimum level of income via the guarantee pension and the income tested *maintenance support for the elderly*, which aim to ensure that the elderly are protected against the risk of poverty.

EUROSTAT statistics suggest a picture where the figures differ from the ones used in policy documents in Sweden.³⁴³ In 2012, 17.5 percent of those aged 65 or older were at risk of poverty (defined as 60 percent of equalized median income after social transfers), but the proportion is much higher for women than for men. According to EUROSTAT, 23.1 percent of women 65 and older were at risk of poverty, compared to 10.2 percent of men.

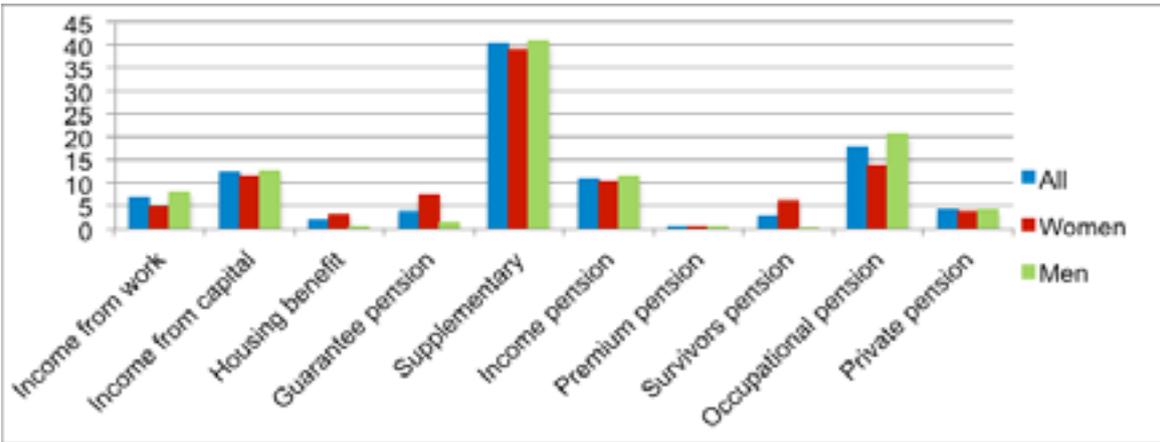
³⁴³ The Swedish National equivalence scale applies other weights to the various kinds of households than EUROSTAT. The main difference is that children are assumed to cost more. The result is that families with children appear worse off while families without children seem better off.

Single-person pensioner households have a particularly high at-risk-of-poverty rate. Sweden has a relatively large share of elderly women, who are living alone. This is one of the factors that contribute to the high share of women at-risk-of-poverty. Women’s at-risk-of-poverty rates are expected to decrease over the next two decades as the number of female pensioners with full working careers and equivalent earnings-related pension contribution increases.

Pensioners receive income from several sources: employment, capital investments, housing supplement, the guarantee pension, the supplementary pension (the old ATP system), the income pension, the premium pension, occupational pensions, and private pensions. The Figure 1 shows income sources for persons aged 66 or older in 2012. The data is shown in percent. For example, 51 percent of the total income for women and men 66 and older came from income related pensions (supplementary- and incomepension). Because the reformed pension system is not yet fully phased in, only 11 percent of pensioners’ income came from this source. Thus, 62 percent of pensioner income comes from the income-related pension systems. As the chart shows, occupational pensions are an important source of income for pensioners, accounting for 18 percent of pension income. 7 percent of pensioner income comes from employment.

The Figure 1 also demonstrates that women pensioners as a group tend to receive a larger share of their income from housing benefits and the guarantee pension than men.

Figure 1: Income sources for persons 66 and older, in percent (2012)



Source: Swedish Ministry of Social Affairs, 2014

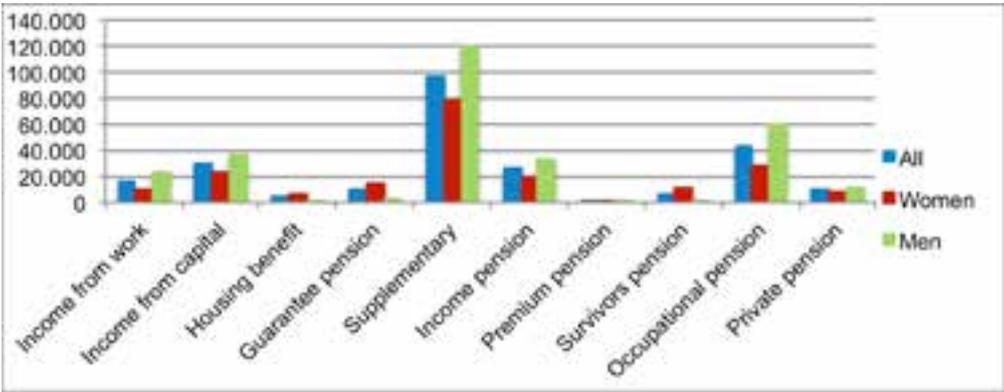
Men receive a much higher average income related pension than women, the sum of supplementary pension, income pension and premium pension (SEK 154,809 for men and SEK 100,373 for women), and men’s average occupational pension is significantly higher than women’s (SEK 60,252 for men versus SEK 28,092 for women).

In terms of public pension income, pensioners have fared differently during the last decade. In particular, those with the lowest pensions have seen their incomes increase the most since 2004, relative to more affluent pensioners. Low-income pensioners’ incomes rose by 14 percent. The main reason for this is the tax cuts for pensioners in the years 2009, 2010, 2011, 2013 and 2014. An unmarried pensioner with only basic support in the form of a guarantee pension – at about SEK 6,800 per month after tax - experienced an increase between 2004 and 2014.

To summarize, the Swedish pension system by and large performs well in terms of income adequacy, although women are far more likely to be at risk of poverty than men, especially at higher ages. Notably pensioners living alone are more likely to be at risk of poverty than pensioners living with partners. Finally, the income adequacy function of the

system has weakened somewhat because of the design of the automatic balancing mechanism, which has a more direct effect on pensioners than it does on workers.

Figure 2: Income sources for persons 66 and older; average amount per category in SEK (2012)



Swedish Ministry of Social Affairs, 2014.

Private pensions. Occupational pensions are an important supplement to public pension income. Moreover, given that 14 percent of workers had income above the ceiling in 2014, occupational pensions are a very important source of pension income for those with high incomes. Indeed, the assets in occupational pension schemes exceed assets in the premium pension system (Swedish Ministries of Finance and Social Affairs, 2013). Note however that the buffer funds for the income pensions include assets of more than 1 000 billion SEK by 2013. The wide coverage and size (in terms of contributions and pension pay-outs) mean that occupational pensions are an important element of the overall pension system in Sweden. However, the defined contribution design of these funded pensions means that individuals are more exposed to the volatilities of capital markets.

Gender pension gap

It is an important but also challenging task to apply a gender perspective to pensions, both when it comes to entitlement structures (current and future policy outputs) and outcomes such as poverty and health (current and likely future outcome). The reason is that both outputs and outcomes result from the interaction between a number of policy and structural factors.

We start by using EU SILC data to look at the *gender gap* (between pension mean income of men and women) for two mean and median incomes of two different age groups (65-79 and 65+) in Sweden compared to the average in EU-27. Table 1 shows a substantial gender gap in Sweden that has been consistently above 30 percent even if there is a slight decline for the later years.

It is also roughly the same for the two different age groups. The mean gender gap is clearly higher on average in the rest of EU, especially for the 65-79 year olds. The pattern is the same if the median is used instead of the mean.

There is really no measurable gender gap when it comes to the coverage of pensions. This has to do with the universal character of the pension system where every permanent resident is guaranteed an old-age pension.

Table 1: Gender Gap in Pensions

Sweden		Gender Gap in Pension Income (percent): Persons aged 65-79							
Mean Pension	2005	2006	2007	2008	2009	2010	2011	2012	
SE	31.6	31.5	31.4	31.6	32.4	33.9	32.5	31.1	
EU-27	38.7	38.5	40.0	40.1	40.8	40.7	40.6	40.2	
difference	-7.1	-7.0	-8.6	-8.5	-8.4	-6.8	-8.1	-9.1	
Persons aged 65+									
Mean Pension	2005	2006	2007	2008	2009	2010	2011	2012	
SE	30.8	31.8	32.0	30.8	32.0	32.5	32.0	30.1	
EU-27	36.6	36.5	37.7	37.6	38.7	38.7	38.6	38.5	
difference	-5.7	-4.7	-5.7	-6.8	-6.6	-6.2	-6.6	-8.4	

Data source: ENEGE

Table 2 gives information about important structural factors behind the gender gap in pensions: The Annual Earnings Gap for 2010 and the Gender Pay Gap for 2012 point to a difference of more than 15 percent between men and women, which is less than the EU average. The gender gap in employment rate is smaller in Sweden than in the rest of the EU but of course aggravates the effect of the differences in earnings.

Table 2: From labour market to retirement

Gender gap in:	Annual Earnings (2010)	Gender Pay Gap (2012)	FTE employment rate (2013)
SE	15.7	15.9	10.3
EU-27	23.1	16.4	18.3
Effective Retirement age	2009	2010	2011
Men	66.1	65.7	66.3
Women	63.6	63.9	64.4

To sum up, the gender gap in pensions in Sweden is above 30 percent in 2012 but slightly declining. There are no gender differences in pension coverage. The Gender Gap in annual earnings is lower than EU average gap in 2010 but certainly contributing to the gender gap in pensions in Sweden.

Pension gender gaps – both those experienced today and those anticipated in future - are affected in a complex manner by policy. Policy directions can be distinguished: (a) those affecting the existing situation, i.e. pensions *currently* being paid out; (b) those that will impact on pensions that will be awarded in future.

When it comes to the current situation the most important policy instrument appear to be the level of the guarantee pension. An additional policy instrument would be the housing allowance, especially those for single person household where women dominate. Survivor pensions are also compensatory measures in terms of improving benefits primarily for women. In Sweden we can conclude that while the 2003 implementation of the 1994/98 pension reform meant higher levels of guarantee pension, the price indexing means that pension levels lag behind during times of employment and wage growth – and this is what has happened over the past decade. Housing benefits have been adjusted upwards and the survivor's benefits are indexed to wages. The survivor's benefit has been abolished, but presently continues to be payable under lengthy transitional rules. At present it's declining and it will in the long term completely disappear.

When it comes to future benefits of retirees up to 2020 it can be noted that the Swedish NDC framework reproduces gender differences in pay and employment as such. It is important to note that it does so in a gender neutral way. Other benefit formulas may or may not include redistribution in favour of women, but in SE the gap primarily reflects the kind of gender differences that exist on the labour market.

The Swedish system does offer various compensations that help reduce the pension gender gap, such as child credits and compensations for periods out of the labour force. But these are not strong enough to offset the impact of gender differences in pay and employment. The compensatory mechanisms have not been strengthened since the introduction of the NDC system.

The occupational (2nd) pillar schemes include compensatory instruments (for example for parental leave periods and sickness) that help to reduce the future pension gender gaps, but basically they follow the DC formula. The remaining DB elements in the public sector (and the old private sector plans) typically favour high-income persons, among whom men dominate.

Will existing dynamics cause the observed gender gaps to be stable, reduce or increase in the future? This is of course an extremely demanding question requiring an extensive analysis, which anyway would be associated with big uncertainties. A few preliminary observations can be at this stage be offered.

Part of the gaps will disappear as older cohorts of women with very modest earned pension entitlements will be replaced by younger cohorts with more extensive contribution periods. Still substantial differences prevail between men and women in pay levels, labour supply and career patterns. Apart from elements of discrimination when it comes to wage levels, the major driver of gender gaps in pension qualifying income appear to be the differences in care responsibilities for primarily children but also frail elderly relatives. Only some of the differences, which are caused by differences in caring responsibilities, are compensated by redistributive elements in the income pension. The economic incentives provided by the pension system are apparently not enough to break the gendered division of unpaid care work (and the consequences of that).

Gender gaps in employment and pay. The gender pension gap indicator presents a snapshot of developments in the employment and pension system factors, which determine the size of the gap. Since it is calculated for the entire population of 65-79 year olds there is a certain inertia in its development. To get a sense of whether it is likely to reduce or increase one can look at trends in the various gender gaps in employment and at how the pension system is changing.

The gender gap³⁴⁴ in the *employment rate of older workers* (age 55-64) has increased by 0.7 p.p. over the period of 2004-2014 (EU-28: -5 p.p.) and amounted to 5.0 p.p. in 2014 (EU-28: 13.7 p.p.). The gender gap in the *duration of working life*, which in 2013 came to 2.5 years (EU-28: 5.2 years) has thereby increased by 0.3 years since 2004 (EU-28: -1.2 years). The gender gap³⁴⁵ in *part-time employment* (for people aged 20-64), which reached 24.1 p.p. in 2014 (EU-28: 23.5 p.p.), has thereby decreased by 0.5 p.p. since 2004. The gender *pay gap*³⁴⁶, which in 2013 at 15.2 percent was lower than the EU-28 average (16.4 percent), has decreased by 2.6 p.p. since 2007 (EU-28: increase by 0.3 p.p. over the period of 2010-2013).

³⁴⁴ Difference between values for men and women.

³⁴⁵ Difference between values for women and men (for part-time employment).

³⁴⁶ The unadjusted Gender Pay Gap (GPG) represents the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. Industry, construction and services (except public administration, defense, compulsory social security). Data source: Eurostat [earn_gr_gpgr2]

On top of the cohort effect discussed above this implies a moderate trend towards a reduction of the gap as far as the employment factors are concerned.

With its NDC design and its extensive superstructure of occupational pensions the Swedish pension system will continue to reflect gender differences in pay, working hours and duration of working life unless more is done to mitigate their impact on pension outcomes for men and women.

How can gender gaps then be reduced?

One strategy would be to introduce a number of compensation elements for gender differences in care work. This may reduce the gender gap in pensions, but it is likely to do that at the expense of gender inequality on the labour market. This includes pay, labour supply and careers.

Another strategy would be to reform other parts of the welfare state, such as parental leave benefits. In the Swedish case it has been proposed that the system should be individualised and the paid leave divided equally between men and women. This could break the pattern that gender inequalities on the labour market emerge in connection to the birth of the first child.

A third strategy would of course be to let the statutory pension system be flat rate, automatically closing the gender gap in that pillar. There are two political economy problems with that kind of solution. One is the threat of introduction of means-testing in times of austerity. The other is that the total gender gap is likely to be even higher if income security is left to the private sector.

This being said, it appears that decent levels of the guarantee pension could contribute in major ways to a reduction of the gap. Higher guarantee pensions will reduce the gender pension gap in the short term, but also in the foreseeable future.

What remains to be analysed is the long term consequences of the phasing out of the survivors pensions in the ATP-system. This reform preceded the big pension reform of the 1990s, but its full consequences have not been seen yet due to the very long transition period. What should also be analysed is the structure of the contribution in the occupational pension which favours high income earners and its impact on the gender gap in pensions. This is however negotiated by the social partners.

Future adequacy

The Theoretical Replacement rates (TRRs) provided in Table 6 below give some indications about the future adequacy of benefits provided by the Swedish pension system under the present rules. For individuals with working careers of 40 years we see a decline of the TRRs from almost 70 percent in 2013 to just above 55 percent in 2053. Hence it will require a later retirement to maintain the TRRs of today. But working to 67 years of age will not be enough. For persons with short work careers we look at TRR that will even be below 50 percent (both net and gross).

From a gender perspective it can be noted that shorter breaks due to childcare give very modest effects on replacement rates. Shorter careers and early retirement give substantial effects on replacement levels. These effects are smaller for persons with low incomes.

Challenges for pension adequacy

One of the goals of the pension system is to create strong work incentives, i.e. to encourage people to work more and to work longer. However, while the employment rate of older workers has continued to rise, the de facto pension take-up age has not increased as much as policymakers had hoped. In fact, the average age at which people claim their pension has remained stable since 1998 at about 65. A major report issued by an investigatory

commission observes that 80 percent of workers retire when they reach age 65. Moreover, the number retiring between 61 and 65 has been higher than expected. Thus it is an open question why the strong work incentives in the reformed pension system seems to have had such a limited impact on retirement ages. The highly probable reason for this is that the old system also had strong incentives for continued work and flexible retirement age. This being said there is an increased proportion of the labour force that continues to work beyond 65.

Nevertheless, an increasing number of retirees combine employment with pension receipt. Between 1997 and 2012, the percentage of retirees aged 66 with income from employment increased from 19 percent to 37 percent. For this group, employment income was 24 percent of their total income in 2012. For those aged 65 and over, employment income was 7 percent of total income. On the basis of the findings of the Retirement Age Commission, the government is considering legislation to raise the minimum pensionable ages.

Because of the pension system's reliance on DC principles, work incentives are strong. However, financial market fluctuations can mean variations in the level of the premium pension even for those with the same contribution history.

5. Sustainability

The evolution of the demography, employment rate and expenditure can give us information about the sustainability of the pension system in the future.

Demography

The old-age dependency ratio (population aged 65 and over as a percentage of the population aged 20-64) in Sweden is projected to increase from 33.3 percent in 2013 (EU-28: 30.3 percent) to 42.5 percent in 2053 (EU-28: 54.9 percent).

Sweden belongs to the group of Member States where the increase in old-age dependency ratio is projected to be below the EU-28 average. Over the period 2013 to 2053, the old-age dependency ratio is projected to increase by 9.3 p.p. (EU-28: 24.6p.p.).

The share of working-age population (20-64) (58.1 percent of the total population in 2013) is projected to drop by 4.2 p.p. by 2053 (to 53.9 percent of the total population), compared with 9.4 p.p. for the EU as a whole by 2053.

The economic old-age dependency ratio for Sweden is projected to rise by 8.9 p.p. from 37.1 percent in 2013 to 45.9 percent in 2053 but it will be below the EU-28 average (66.2 percent in 2053).

Employment

The labour market participation rate (of people aged 20-64) in Sweden (85.9 percent) was significantly above the EU-28 average in 2013 (76.5 percent) and it is projected to remain well above the EU-28 average in 2053 (87.4 percent versus 79.9 percent). The participation rate of older workers (aged 55-64) in 2013 (77.7 percent) was above the EU-28 average (54.4 percent). Over the period 2013 to 2053, the participation rate of older workers is projected to increase by 0.8 p.p. to 78.4 in 2053. The increase in the EU-28 is 15.3 p.p.: from 54.4 in 2013 to 69.7 in 2053.

According to the 2015 Ageing Report, the employment rate (of people aged 20-64) is projected to increase from 79.8 in 2013 (EU-28: 68.4 percent) to 82.9 percent in 2053 (EU-28: 74.9 percent). The employment rate of older people (aged 55-64) is projected to change from 73.7 percent in 2013 to 75.5 in 2053 (EU-28: from 50.3 to 66.6 percent).

The employment rate for older workers (from 55 to 64 years) in Sweden in 2013 was significantly above the EU-28 average: 73.7 percent (76.9 percent – men, 70.5 percent – women) versus 50.3 percent at the EU-28 level (57.6 percent – men, 43.3 percent – women).

The effective exit age from the labour force in 2013 was 65.2 years (65.8 years – for men, 64.5 years – for women) and it is similar to the EU-28 average (63.1 years – total, 63.5 years – for men, 62.7 years – for women).

Main drivers of pension expenditure

According to the 2015 Ageing Report, the gross public pension expenditure will decrease from 8.9 percent of GDP in 2013 to 7.5 percent of GDP in 2060.

In accordance with the 2015 Ageing Report, the demographic factor has the strongest upward effect (+2.6 p.p. of GDP) on gross public pension expenditure over 2013-2060. Only Sweden (+0.2 p.p.) in the EU projects a small increase in the coverage ratio contribution to the pension expenditure to GDP ratio. The negative budgetary effects are partially offset by other main influencing factors (employment rate, benefit ratio and career shift). The lowering effect of benefit ratio (-3.7 p.p.) on the public pension expenditure is more pronounced than the employment rate effect (-0.4 p.p.).

6. Main opportunities for addressing pensions-related challenges

The Swedish pension system is robust, financially sustainable, and performs well in terms of income adequacy. The system covers the self-employed and free professions, so all income-earners are subject to the same set of rules concerning their pension. Occupational pensions supplement public benefits for more than 90 percent of the workforce, and low-income earners are covered by other forms of income support in retirement (guarantee pension, maintenance support for the elderly).

Poverty rates of older women: older pensioners, especially single women, are much more likely to be risk of poverty than younger pensioners, male pensioners and couples.

Compared to EU averages, poverty rates are lower for men, but higher for women. However, in absolute terms, poverty rates for both men and women are declining. The drastic jump of the AROP poverty rates for women from 2007 to 2011 begs an explanation. It is clear that is *not* driven by the development of absolute pension levels as such. Rather it is the change in relative income levels of the working population due to the introduction and stepwise increase of the earned income tax credits that explain the poverty increases. Even if the retired have also benefitted from some tax reductions these have been much smaller. The same kind of jumps in poverty rates has been observed for other population categories without earnings.

Gender pension gap: The employment rate for the age group 20-64 for women was 77.2 percent and 82.2 percent for men in 2013, which is slightly higher than in 2012 and much higher than the EU-28 average of 62.5 percent for women and 74.2 percent for men. The employment rate of older workers aged 55-64 is also the highest in EU. The remaining difference in activity rates is, however, likely to continue to produce a gender gap in pensions. Moreover, the prevailing pay gap contributes to produce unequal pensions for men and women.

Some actions have been taken when it comes to pay levels, but since the social partners are responsible for wage formation and wages are regulated by collective agreements the measures primarily are about collecting information and statistics.

The Discrimination Act requires employers to undertake pay surveys and employers with 25+ employees have to draw up a written action plan for equal pay. The Equality Ombudsman

introducing a review of 100 private employers with a high share of white-collar workers among the employed where the biggest gender differences are found.

The Delegation for Gender Equality in Working Life, which was established in 2011 is to collect knowledge, stimulate debate and develop proposals about how gender equality in working life can be furthered.

The National Mediation Office publishes an annual report analysing the development of the gender pay gap, which in 2013 came to 13.4 percent. If differences in occupation, sector, age, education, and working hours are taken into account, the gender pay gap is reduced to 5.8 percent since one of the most important reasons for the gender wage gap is that women and men work in different types of occupations with different wage levels.

Moreover, there are some specific aspects of the pension system in relation to the labour market that deserve to be mentioned. Under the Employment Protection Act, an employee is entitled to keep working until 67 years of age and longer if the employer agrees. The effective retirement age has increased and was 64.4 years for women and 66.3 years for men in 2011 but as long as the difference is there it will contribute to the gender pension gap.

7. Background statistics – Sweden

1. Relative incomes of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.81	0.89	0.76	0.03	0.05	0.03
Income quintile share ratio (S80/S20), 65+	3.4	3.3	3.4	-0.2	-0.4	0.1

2. Poverty and material deprivation

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+	16.5	9.2	22.5	1.0	0.2	2.1
At-risk-of-poverty rate (AROP), 65+	16.4	9.2	22.3	1.4	0.4	2.6
Severe material deprivation (SMD), 65+	0.2	0.1	0.4	-0.6	-0.3	-0.7
At-risk-of-poverty or social exclusion (AROPE), 75+	25.0	12.7	33.2	2.5	0.6	4.0
At-risk-of-poverty rate (AROP), 75+	24.8	12.7	32.9	2.8	0.6	4.5
Severe material deprivation (SMD), 75+	0.2	0.0	0.3	-0.4	-0.3	-0.5
Relative poverty gap, 65+	10.2	11.1	10.2	-0.3	-2.6	1.0
At-risk-of-poverty rate (AROP), 65+: 40 % threshold	2.2	1.1	3.1	0.4	-0.4	1.1
At-risk-of-poverty rate (AROP), 65+: 50 % threshold	5.8	3.3	7.8	1.1	-0.1	2.1
At-risk-of-poverty rate (AROP), 65+: 70 % threshold	30.2	19.7	38.7	-4.1	-3.8	-3.9

3. Housing situation of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Housing cost overburden rate, 65+	12.5	4.7	18.8	-1.1	-2.5	0.3
Tenure status among people 65+: share of owners	72.7	77.9	68.3	3.2	2.6	3.3
Severe housing deprivation rate, 65+	0.1	0.1	0.0	-0.1	-0.1	-0.2

4. Income replacement by pension systems

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Aggregate Replacement Ratio (ARR)	0.58	0.62	0.54	-0.04	-0.02	-0.04
Benefit Ratio (BR) (Public pensions)	42.1					
Gross Aggregate Replacement Rate (Public pensions)	35.6					
Gender Gap in Pension Income, % (65-79)	31.1*			-0.5*		
Gender Gap in non-coverage rate (W-M in p.p.) (65-79)	-0.1*			1.0*		

5. Sustainability and context indicators

Indicator	2013			Projections for 2053		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65+, years	19.9	18.6	21.1	23.5	22.1	25.0
Old-age dependency ratio (20-64)	33.2	29.8	36.8	42.5	39.3	45.8
Economic old-age dependency ratio (15-64)	37.1	31.3	43.3	45.9	40.4	52.1
Employment rate, age group 55-64	73.6	76.9	70.3	75.5	79.7	71.1
Pension expenditure as % of GDP (ESSPROS)	11.9*			Projections for 2060		
Gross public pensions as % of GDP (AWG projections)	8.9			7.5		

Data source: Eurostat. Sustainability indicators and projections (EPC AWG) – Commission Services (DG ECFIN), based on The 2015 Ageing Report. Data on gender gaps – ENEGE. Notes: * - 2012 data.

6. Theoretical Replacement Rates (TRRs)

	TRR case	Net				Gross			
		2013		2053		2013		2053	
		Men	Women	Men	Women	Men	Women	Men	Women
Average Earnings	Base case I: 40 years up to age 65	69.3		55.3		69.4		55.1	
	Base case II: 40 years up to the SPA	69.3		55.3		69.4		55.1	
	Increased SPA: from age 25 to SPA	69.3		55.3		69.4		55.1	
	AWG career length case	75.1	70.5	59.0	55.9	76.2	70.7	59.2	55.9
	Longer career I: from age 25 to 67			59.6				60.2	
	Shorter career I: from age 25 to 63			48.7				47.5	
	Longer career I: from age 25 to SPA+2			59.6				60.2	
	Shorter career I: from age 25 to SPA-2			48.7				47.5	
	Career break – unemployment: 1 year			54.9				54.6	
	Career break – unemployment: 2 years			54.5				54.2	
	Career break – unemployment: 3 years			54.1				53.8	
	Career break due to child care: 0 year							55.9	
	Career break due to child care: 1 year							55.8	
	Career break due to child care: 2 years							55.4	
	Career break due to child care: 3 years							55.1	
	Short career (30 year career)			47.8				46.4	
	Early retirement due to unemployment			52.9				52.4	
	Early retirement due to disability			55.2				55.1	
Indexation: 10 years after retirement			50.4				50.1		
Low Earnings (66%)	Base case I: 40 years up to age 65	91.2		68.9		77.8		65.1	
	Base case II: 40 years up to the SPA	91.2		68.9		77.8		65.1	
	Increased SPA: from age 25 to SPA	91.2		68.9		77.8		65.1	
	AWG career length case	92.4	90.6	69.4	76.0	82.6	78.0	69.2	65.7
	Longer career I: from age 25 to 67			69.3				70.0	
	Shorter career I: from age 25 to 63			49.8				47.5	
	Longer career I: from age 25 to SPA+2			69.3				70.0	
	Shorter career I: from age 25 to SPA-2			49.8				47.5	
	Career break – unemployment: 1 year			64.9				64.8	
	Career break – unemployment: 2 years			64.7				64.6	
	Career break – unemployment: 3 years			64.4				64.3	
	Career break due to child care: 0 year							66.4	
	Career break due to child care: 1 year							66.2	
	Career break due to child care: 2 years							65.8	
	Career break due to child care: 3 years							65.6	
	Short career (30 year career)	88.2		68.0		70.4		56.3	
	Early retirement due to unemployment			67.9				62.7	
	Early retirement due to disability			68.9				65.1	
Pension rights of surviving spouses			68.9				65.1		
High	Base case I: 40 years up to age 65	74.6		50.9		68.1		45.4	
	Base case II: 40 years up to the SPA	74.6		50.9		68.1		45.4	

Data source: TRRs for 2013 and 2053 – Member State

United Kingdom (UK)

1. General description of the pension system

In the past, the United Kingdom has been described as having a very distinctive pension mix, combining ‘one of the least generous state systems in the developed world’ with one of the ‘most developed’ voluntary arrangements.³⁴⁷ Since that time there have been a number of changes: A series of reforms is currently taking place across state and private pension, including the introduction of auto-enrolment to mandatory occupational pension schemes and the National Employment Savings Trust (NEST). This ensures that although state and private pensions are separate, they are seen as part of an overall pensions package. The reforms place a greater focus on an individual’s responsibility for their future pension provision.

The current state system accounts for 55 percent of social security expenditure and includes a contributory state pension scheme consisting of a flat-rate basic State Pension, and an earnings-related additional state pension (both mandatory), and then the State Second Pension (S2P) that reformed SERPS from April 2002). The current level of pension reimbursement of the State Pension is a flat rate of £115.95 (ca. EUR 162) per week from April 2015, plus any additional pension award. Individuals may also have access to Pension Credit, a means-tested, tax-financed Pension consisting of guarantee pension credit providing a weekly income of £151.20 (ca. EUR 211) for a single person and £230.85 (ca. EUR 322) for a couple.

The wider pensioner reimbursement package includes funding of winter fuel payments, the Christmas bonus, free television licences (for the over 75s) as well as assistance from local authorities in the form of Housing Benefit, Council Tax support and the provision of free bus passes.

The government responded to the findings in the 2004 report from the UK Pension Commission which was critical of pension adequacy levels, and addressed this in a systematic way through a series of pension reforms. This included the successful introduction of the ‘triple lock’ guarantee from June 2010, which allows the basic State Pension to be increased by the higher of

- CPI inflation,
- average earnings growth, or
- 2.5 percent.

The current state pension age (SPA) is between 62 and 63 for women and 65 for men and will continue to change whilst the UK continues to equalise the state pension age for men and women. The Pensions Act 2011 raises the state pension age for women to 65 by 2018, and for both men and women to 66 between 2018 and 2020. In the future the state pension age is to be reviewed every six years and raised in line with developments in life expectancy. The review will be based around the idea that people should be able to spend a certain proportion of their adult life drawing a State Pension – possibly up to a third³⁴⁸. At present, pensioners with 30 qualifying years are entitled to the flat-rate basic state pension, however credits can be and are awarded to individuals who have caring or family responsibilities. This means that child care responsibilities do not prevent an individual from accessing a full UK State Pension.

³⁴⁷ Pension Commission (2004), *Pensions: Challenges and Choices. The First Report of the Pensions Commission*, London: TSO.

³⁴⁸ Chancellor's Autumn Statement of 5 Dec. 2013: <https://www.gov.uk/government/publications/autumn-statement-2013-documents>, p. 89 point 2.72

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 facilitated by the employer.

Private pension saving is a core element in helping individuals meet their expectations for a decent standard of living after retirement, but 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 2012³⁴⁹). To reverse this decline, from 2012 the UK has begun a programme requiring employers to automatically enrol eligible jobholders into a qualifying workplace pension. The roll-out will cover all employers by February 2018. Indications are that the long term decline is being reversed – workplace pension scheme membership has increased to 59 percent in 2014, from 50 percent in 2013³⁵⁰, driven by increases in membership of occupational and personal pension schemes.

Employers are free to choose which type of workplace pension they enrol eligible jobholders into, providing it meets quality criteria. However, to ensure every employer has access to a “qualifying scheme”, the UK has set up a new low-cost occupational pension scheme, the National Employment Savings Trust (NEST), which employers can use to fulfil their new duties.

The average age at which people leave the labour market – a proxy for the average age of retirement – rose between 2004 and 2010 from 63.8 years to 64.6 years for men and from 61.2 years to 62.3 years for women.³⁵¹ The number of people of state pension age and above in employment has also nearly doubled over the past two decades, from 753,000 in 1993 to 1.4 million in 2011. The labour market participation of older workers is 59.8 percent, what is considerably higher than the EU average of 50.2 percent.

2. Reform trends

Following on from a series of pension reforms – and building on the 2010 pension reforms – the new Pensions Act 2014 will introduce a simplified pension system from April 2016. This unifies the basic state pension and the state second pension into one higher-rate pension. The number of Qualifying Years required to claim the full new State Pension will rise to 35 years, and will include the introduction of a minimum qualifying period of 10 years.

Though the number of pensioners has been steadily increasing, until relatively recently spending on the state pension as a proportion of GDP remained steady at around 4 percent. Since the recession spending has risen to 5 percent of GDP as a result of slower GDP growth, relatively generous upratings and a rising caseload. The Office for Budget Responsibility (OBR)³⁵² forecasts that the share of GDP spent on state pensions will fall from 2012/13 to 2018/19, mainly as a result of the increase in the SPA for women to 65 by 2018. The OBR’s longer-term forecast has spending on state pensions rising from 5.1 percent of GDP in 2019/20 to 7.3 percent of GDP in 2064/65, mainly due to the projected rise in the population aged over 65, from 18 percent in 2015 to more than 26 percent in 2065.

³⁴⁹ Occupational Pension Schemes Survey 2013.

<http://www.ons.gov.uk/ons/rel/fi/occupational-pension-schemes-survey/2013/stb-opss.html>

³⁵⁰ 2014 Annual Survey of Hours and Earnings: Summary of Pensions Results.

<http://www.ons.gov.uk/ons/rel/ashes/annual-survey-of-hours-and-earnings-pension-tables/2014-provisional-results/art--2014-annual-survey-of-hours-and-earnings--summary-of-pension-results.html>

³⁵¹ ONS (2013) *Pension Trends. 2013 edition*; retrieved Nov. 1, 2013 at

<http://www.ons.gov.uk/ons/rel/pensions/pension-trends/index.html>

³⁵² Office for Budget Responsibility (2014) *Welfare trends report*, October 2014

Significant changes have also been made to the tax relief system for personal and occupational pensions. From April 2011, the annual allowance for pension tax relief was reduced from £255,000 (ca. EUR 348,000) to £50,000 (ca. EUR 68,000) which was expected to raise an additional tax revenue of £4 (ca. EUR 5.5) billion per annum, once in steady state. The lifetime allowance was also reduced from £1.8 (ca. EUR 2.5) million to £1.5 (ca. EUR 2.0) million. From April 2014 the annual allowance was further reduced to £40,000 (ca. EUR 54,000). These changes affect those who make the most significant pension savings, and restrict the amount on which tax relief may be claimed. According to the UK government, an annual allowance for pension tax relief of £50,000 (ca. EUR 68,000) was expected to affect 100,000 pension savers – 80 percent of those with annual incomes in excess of £100,000 (ca. EUR 136,000).³⁵³

From 6 April 2015, the Taxation of Pensions Act 2014 allows people aged 55 and over to access their DC pension savings when and how they choose, subject to their marginal rate of income tax. Related changes, such as the provision for the introduction of a guidance guarantee and a prohibition on transfers from some public service defined benefit pension schemes, except to other DB schemes, are in the Pension Schemes Act 2015.³⁵⁴

3. Impact of the crisis on current pension systems and present pensioners

Despite the 2010-2015 coalition government pursuing an overall strategy of public spending cuts, the elderly have been well protected, e.g. through the operation of the ‘triple lock’ guarantee (see Section 1). Over this period of time, a number of significant reforms to the UK’s pension system have also taken place (see Section 2).

The above mentioned reforms of the tax relief system for personal and occupational pensions were clearly related to the need for budget consolidation in the crisis.

While in the past the majority of occupational pension schemes have been defined-benefit schemes, the trend towards defined-contribution schemes strengthened in the crisis period. In 1997, 46 percent of employees were in a defined benefit pension scheme. By 2013, this had declined to 29 percent.³⁵⁵

4. Assessment of adequacy

Current adequacy

Between 2007/08 and 2012/13, the average disposable income of retired households increased by 7.9 percent after accounting for inflation and household composition, reaching £1,700 (ca. EUR 2,300) per month. The rise in income was largest for the bottom fifth of retired households (14 percent).³⁵⁶ Over the long term, the income of retired households has increased significantly. In 2010/11, the average annual disposable income for retired households was £17,700 (ca. EUR 24,000), which was over two and a half times higher in real terms than in 1977. More than half of this rise could be attributed to growth in income

³⁵³ <https://www.gov.uk/government/news/financial-secretary-to-the-treasury-announces-changes-to-restricting-pensions-tax-relief>

³⁵⁴ <http://www.parliament.uk/briefing-papers/RP14-57/taxation-of-pensions-bill-201415>

³⁵⁵ <http://www.ons.gov.uk/ons/rel/pensions/pension-trends/chapter-7--pension-scheme-membership--2014-edition/index.html>

³⁵⁶ Office for National Statistics ‘The Effects of Taxes and Benefits on Household Income, 2012/13’ <http://www.ons.gov.uk/ons/rel/household-income/the-effects-of-taxes-and-benefits-on-household-income/2012-13/etb-stats-bulletin-2012-13.html>

from private pension schemes - although income from the State Pension and other cash benefits has also grown in real terms over this period.³⁵⁷

The overall proportion of elderly people at risk of poverty has significantly declined since 2008. Much of this is due to the real-terms growth in household income for this group - but some is due to a reduction in the overall median income, against which the risk of poverty is measured. As measured before housing costs, older people in the UK continue to have a slightly higher risk of poverty than the rest of the population³⁵⁸. However, measuring income after housing costs - the UK government's preferred measure for the pensioner population - older people have a much lower chance of being in poverty than the general population³⁵⁹.

The relative median income ratio of older people (65+) has also significantly improved, jumping from 0.74 in 2008 to 0.87 in 2013. The aggregate replacement ratio (excluding other social benefits) was 0.53 in 2013, up 0.10 since 2008. The labour market participation of older workers is 59.8 percent, and considerably higher than the EU average of 50.2 percent.³⁶⁰

The Joseph Rowntree Foundation (JRF) is an independent organisation which regularly publishes a series of 'Minimum Income Standards'. These provide an estimate of the income that different households would need in order to achieve a socially acceptable standard of living, rather than representing any threshold for poverty. In April 2014, the JRF estimated that pensioner couples in receipt of Pension Credit would have income equating to 95 percent of the relevant Minimum Income Standard (MIS), and that their MIS for pensioner couples equated to 56 percent of the 2012/13 median income after housing costs.³⁶¹

Gender pension gap

In 2012 the gender gap in pension income in the UK was 42 percent, two p.p. higher than the EU-27 average. However the gap is narrowing, and has reduced by three p.p. since 2010. In comparison, the gender gap in coverage rate is negligible in the UK.

Poverty rates for women aged 65+ are higher than they are for men aged 65+, despite the fact that there have been a series of reforms to protect the contribution record of those who have not been engaged in paid work continuously. However, the gap has been narrowing: between 2008 and 2013, the at-risk-of-poverty rate fell by 9.8 p.p. for men aged 65+, but for women aged 65+ the rate fell by 11.4 p.p., helping to narrow the gap between the genders. The gender pensioner poverty gap also shows up in the UK national data, where there is also evidence that the gap is reducing: In 1994/95 the percentage of pensioners below the relative low income threshold (after housing costs) was 24 percent for men and 31 percent for women. By 2012/13, this had reduced to 12 percent for men and 14 percent for women.³⁶² The Poverty and Social Exclusion survey 2012 also found a striking reduction in the gender gap in poverty among those aged over 65 since the previous survey in 1999.³⁶³

³⁵⁷ ONS (2012) 'Income of Retired Households, 1977-2010/11'. Retrieved Nov. 3, 2013 at http://www.ons.gov.uk/ons/dcp171776_284355.pdf.

³⁵⁸ Source: EU-SILC retrieved on October 17, 2014 at http://epp.eurostat.ec.europa.eu/portal/page/portal/income_social_inclusion_living_conditions/data/database

³⁵⁹ Department for Work & Pensions 'Households Below Average Income. An analysis of the income distribution 1994/95 - 2012/13

³⁶⁰ European Commission (2014) *Background Statistics for the country profiles of the 2015 Pension Adequacy Report (2013-2053)*

³⁶¹ <http://www.jrf.org.uk/sites/files/jrf/Minimum-income-standards-2014-FULL.pdf>

³⁶² Source: DWP (2014) <https://www.gov.uk/government/statistics/households-below-average-income-hbai-199495-to-201213>. Chapter 6ts

³⁶³ Dermott, E. and Pantazis, C. (2014) 'Gender and poverty in Britain: changes and continuities between 1999 and 2012', *Journal of Poverty and Social Justice*, 22, 3, 253-269.

There are a variety of factors at play behind the gender gap: Women live longer and the coverage and value of occupational pensions fall with age; older pensioners may have opted for the married women's option before national insurance contributions were made compulsory; women are more likely to have incomplete contributory records, for career breaks whilst raising children; and most important they are less likely to have earned as much as men during their working lives. An analysis of the cohort born in the 1930s found that average lifetime state pension amounted to £196,000 but on average men received 120 percent of this figure and women only 70 percent - despite the fact that women received their state pension five years earlier and lived longer.³⁶⁴ However, once household pooling was assumed, there was little difference between the average pension entitlement of men and women.

The new State Pension that will begin in April 2016 has no earnings related element, so the gap in state pension entitlement between men and women is expected to diminish over time. However, for those wanting to receive a higher level of income in retirement, above and beyond the new State Pension, the only alternative in the future will be private provision. This is likely to result in a more unequal outcome between men and women, and between those on higher and lower incomes.

Gender gaps in employment and pay. To get a sense of whether the gender gap in pensions likely to reduce or increase one can look at trends in the various gender gaps in employment and at how the pension system is changing.

The gender gap in the employment rate of older workers (age 55-64) has decreased by 4.6 p.p. over the period of 2004-2014 (EU-28: decrease by 5 p.p.) and amounted to 13.4 p.p. in 2014 (EU-28: 13.7 p.p.). The gender gap in the duration of working life, which in 2013 came to 5.6 years (EU-28: 5.2 years), has decreased by 0.8 years since 2004 (EU-28: decrease by 1.2 years). The gender gap in part-time employment (for people aged 20-64), which reached 30.2 p.p. in 2014 (EU-28: 23.5 p.p.), has decreased by 4.7 p.p. since 2004. The gender pay gap, which in 2013 at 19.7 percent was higher than the EU average (16.4 percent), has decreased by 1.1 p.p. since 2007 (compared to the of 0.3 p.p. in the EU-28 over the period of 2010-2013).

This implies a trend towards a moderate reduction of the gap as far as the employment factors are concerned.

In the pension system, the introduction of a more robust universal pension will benefit women. The overall impact of introduction of automatic enrolment to occupational pension plans is likely to have only a weak impact: extending coverage (which is now lower for women) should lead to bridging the gap, but, as occupational pensions are earnings-related, the persistence of a pay gap would be reflected by a gap in pensions.

Future adequacy

In August 2014 the DWP published³⁶⁵ projections of adequacy among future pensioners which identified factors that could alter the chances of ending up undersaving. This showed that:

- Having a fuller working life between the age of 50 and State Pension age can markedly reduce the risk of undersaving.

³⁶⁴ Crawford, R., Keynes, S. and Tetlow, G. (2014) 'From me to you? How the UK state pension system redistributes', IFS Working Papers (W14/20).

³⁶⁵ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/254321/framework-analysis-future-pensio-incomes.pdf
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/341655/Scenario_analysis_of_future_pension_incomes.pdf

- Replacing the Triple-Lock up-rating guarantee on the State Pension with a simple earnings up-rating would lead to a large increase in the number of under-savers.
- Increased opt out rates cause higher levels of undersaving.
- Those in the middle incomes groups can see huge improvements to their pension adequacy by increasing contribution rates.

Each increase in the starting value of the new State Pension by £1 has been estimated to reduce the number of under-savers by around 110,000, up to the level of the pension's estimated starting rate of £154.20 per week.

Based on the Theoretical Replacement Rate (TRR) estimates for base case II shown in Table 6.6, the gross and net replacement rates for men at low and average earnings are expected to fall between 2013 and 2053, whilst the gross and net replacement rates for women are expected to rise. At high earnings, the TRRs are expected to reduce for both men and women between 2013 and 2053.

According to the sustainability indicators employment rates for those aged 55-64 are expected to rise from 59.8 percent in 2013 to 70.6 percent in 2060. In addition to this, national figures from the Office for Budget Responsibility suggest that expenditure on the state pension will increase from 5.1 percent of GDP in 2019/20 to 7.3 percent in 2064/65.

Challenges for pension adequacy

Up until recently there has been a decline in occupational pension coverage. Within the private sector many final-salary schemes have closed for new employees, and some even for current workers. According to estimates, nine out of ten private sector defined benefit schemes are now closed to new entrants and four out of ten prevent existing staff from accruing further benefit entitlements.³⁶⁶ The majority of those private sector employees with occupational pension coverage now rely on schemes based on the principle of defined contributions.

The change in the type of occupational pension scheme offered by many employers (from DB to DC) has shifted risk about future pension income from the employer to the employee. Future pension income for many will depend on the development of financial markets. Employer contributions differ significantly by sector, with the highest contributions paid in financial services (10.3 percent of salary) and the lowest contributions in the retail sector (5.2 percent).³⁶⁷

The long term decline in occupational pension coverage is being reversed thanks to pension automatic enrolment, which started in 2012. To date, the level of opt out has been encouragingly low. The employers' pension provision³⁶⁸ survey from 2013 suggested that opt out rates might be around 10 percent and the Department for Work & Pensions (DWP) has recently lowered its core assumption on the final opt out rate from 30 percent to 15 percent.

Since 2008 there has been a significant fall in the proportion of pensioners at risk of poverty. Nevertheless, on a before housing costs basis, poverty rates for pensioners in the UK remain above the EU average. Significant progress is being made to help more current and future pensioners enjoy an adequate income in retirement - through the uprating 'triple lock' for the basic state pension, the introduction of the new state pension and the rollout of pension auto-enrolment. Part of the challenge for the future will be to encourage greater take-up of means-

³⁶⁶ASISP 2014 Update on Pensions, health and long-term care, <http://ec.europa.eu/social/BlobServlet?docId=12986&langId=en>.

³⁶⁷ Alcover, Y.M.Y. (2011) 'Private sector cuts pension payments', *Financial Times*, Dec. 17/18, 2011, p. 6-7.

³⁶⁸ <https://www.gov.uk/government/publications/employers-pension-provision-survey-2013-preliminary-findings>

tested benefits. Though many eligible pensioners are at risk of poverty without this additional income, a significant proportion of these fail to claim their entitlement. To some extent this is due to lack of awareness of eligibility, despite of previous attempts to increase take-up of Pension Credit.³⁶⁹

5. Sustainability

The evolution of the demography, employment rate and expenditure can give us information about the sustainability of the pension system in the future.

Demography

The old-age dependency ratio (population aged 65 and over as a percentage of the population aged 20-64) in the United Kingdom is projected to increase from 29.4 percent in 2013 (EU-28: 30.3 percent) to 45.8 percent in 2053 (EU-28: 54.9 percent).

The United Kingdom belongs to the group of Member States where the increase in old-age dependency ratio is projected to be below the EU-28 average. Over the period 2013 to 2053, the old-age dependency ratio is projected to increase by 16.4 p.p. (EU-28: 24.6 p.p.).

The share of working-age population (20-64) (59.1 percent of the total population in 2013) is projected to drop by 6.2 p.p. by 2053 (to 52.9 percent of the total population), compared with 9.2 p.p. for the EU as a whole by 2053.

The economic old-age dependency ratio for the United Kingdom is projected to rise by 15.6 p.p. from 34.6 percent in 2013 to 50.2 percent in 2053 but it will be below the EU-28 average (66.2 percent in 2053).

Employment

The labour market participation rate (of people aged 20-64) in the United Kingdom (80.2 percent) was above the EU-28 average in 2013 (76.5 percent) and it is projected to be above the EU-28 average in 2053 (83.8 percent versus 79.9 percent). The participation rate of older workers (aged 55-64) in 2013 (62.9 percent) was above the EU-28 average (54.4 percent). Over the period 2013 to 2053, the participation rate of older workers is projected to increase by 10.2 p.p. to 73.1 percent in 2053. The increase in the EU-28 is 15.3 p.p.: from 54.4 percent in 2013 to 69.7 percent in 2053.

According to the 2015 Ageing Report, the employment rate (of people aged 20-64) is projected to increase from 74.8 percent in 2013 (EU-28: 68.4 percent) to 79.4 percent in 2053 (EU-28: 74.9 percent). The employment rate of older people (aged 55-64) is projected to change from 59.9 percent in 2013 to 70.4 percent in 2053 (EU-28: from 50.3 percent to 66.6 percent).

The employment rate for older workers (from 55 to 64 years) in the United Kingdom in 2013 was above the EU-28 average: 59.9 percent (66.9 percent – men, 53.1 percent – women) versus 50.3 percent at the EU-28 level (57.6 percent – men, 43.3 percent – women).

The effective exit age from the labour force in 2013 was 64.3 (64.9 – for men, 63.9 – for women) and it is above the EU-28 average (63.1 – total, 63.5 – for men, 62.7 – for women).

³⁶⁹ Radford, L., Taylor, L. and Wilkie, C., (2012) *Pension Credit Eligible Non-Recipients: Barriers to Claiming*, Research Report 819, Department for Work and Pensions; retrieved on November 3, 2013 from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/214374/rrep819.pdf.

Main drivers of pension expenditure

According to the 2015 Ageing Report, the gross public pension expenditure will increase from 7.7 percent of GDP in 2013 to 8.4 percent of GDP in 2060.

In accordance with the 2015 Ageing Report, the demographic factor has the strongest upward effect (+3.9 p.p. of GDP) on gross public pension expenditure over 2013-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and career shift). The lowering effect of coverage ratio (-1.6 p.p.) and benefit ratio (-0.7 p.p.) on the public pension expenditure are more pronounced than the employment rate effect (-0.5 p.p.).

6. Main opportunities for addressing pensions-related challenges

The following two linked recommendations are chosen because they present the best proposals that exist for reducing poverty in old age in the short-term.

*Pay the new State Pension to existing pensioners*³⁷⁰. Today's pensioners will be excluded from the new State Pension (nSP). They will continue to receive a basic pension and any additional state pension to which they are entitled, together with a means-tested addition if it is claimed. Around 55 percent of people in the first five cohorts to claim the new flat-rate state pension will not be receiving the full weekly £155 (ca. EUR 215) new flat-rate state pension when it is introduced in 2016³⁷¹. This proportion will, though, increase over time, and by the 2030s the majority of pensioners (over 80 percent) will be receiving the full amount. Women are slightly less likely to receive the full nSP, and anyone who spent years employed by a company that allowed them to save into a final-salary pension. They are not expected to get the full pension because they were allowed to pay reduced National Insurance (NI) contributions as they 'contracted out' of the second state pension. However, they are likely to receive at least an equivalent income to the contracted-out deduction from their occupational scheme.

From 2016, with the end of contracting out, everybody under pension age will pay the full rate of NI contributions, resulting in a big increase in contribution income for the NI Fund. The probable net cost to the NI Fund of paying the new State Pension to those already over pension age when it starts in 2016 would be around £10bn (ca. EUR 14bn) per year³⁷², reducing year by year as a new generation of workers reaches pension age. While this is not an insignificant sum, as the price to be paid for providing a minimum pension without a means test for most pensioners³⁷³ one could argue that it is relatively modest. And it 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 pension credit. Pensioner poverty is mainly driven by the non-take-up of Pension Credit. If every pensioner eligible claimed Pension Credit, it would close a substantial proportion of the pensioner poverty gap and lift many above the at-

³⁷⁰ This is the proposal of Tony Lynes, a respected pension expert who died in October 2014. The costings are based on answers to Parliamentary Questions tabled by Harriet Harman MP. More detail here <http://tonylynes.wordpress.com/2013/02/24/single-tier-pension-but-not-for-todays-pensioners/>

³⁷¹ <http://www.ifs.org.uk/comms/r82.pdf>

³⁷² https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/223172/cost_140_a_week_state_pension.pdf

³⁷³ The new State Pension will lift many out of means-testing, but it will still leave a significant number of pensioners subject to means-testing. Thus, means-testing would still need to be applied for pensioners with housing costs (eg those who rent their home, have service charges or an outstanding mortgages), for carers or those who are severely disabled.

risk-of-poverty threshold. Take-up is an enduring problem of means-tested benefits. Much effort was made to increase the take-up of Pension Credit both before and after it was introduced in 2003; but those efforts have had to be constrained due to the economic climate and, as we have seen, the latest estimates are that more than a third of those eligible are failing to claim³⁷⁴. A report from the Joseph Rowntree Foundation sets out recommendations for increasing take-up.³⁷⁵

³⁷⁴ <https://www.gov.uk/government/statistics/income-related-benefits-estimates-of-take-up-financial-year-201314>

³⁷⁵ 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

7. Background statistics – The United Kingdom

1. Relative incomes of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.87	0.88	0.87	0.13	0.12	0.14
Income quintile share ratio (S80/S20), 65+	3.8	3.8	3.8	-0.9	-0.9	-0.9

2. Poverty and material deprivation

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+	18.1	16.2	19.8	-10.4	-9.2	-11.1
At-risk-of-poverty rate (AROP), 65+	16.6	14.6	18.3	-10.7	-9.8	-11.4
Severe material deprivation (SMD), 65+	2.1	2.1	2.1	0.7	0.8	0.5
At-risk-of-poverty or social exclusion (AROPE), 75+	21.5	18.9	23.5	-10.7	-10.6	-10.6
At-risk-of-poverty rate (AROP), 75+	20.7	18.0	22.7	-10.5	-10.6	-10.4
Severe material deprivation (SMD), 75+	1.6	1.8	1.4	0.5	0.6	0.3
Relative poverty gap, 65+	17.7	16.5	18.7	-1.5	-0.3	-2.0
At-risk-of-poverty rate (AROP), 65+: 40 % threshold	3.2	2.5	3.7	-3.2	-2.5	-3.8
At-risk-of-poverty rate (AROP), 65+: 50 % threshold	9.0	7.3	10.5	-6.3	-5.0	-7.2
At-risk-of-poverty rate (AROP), 65+: 70 % threshold	27.3	24.4	29.7	-12.7	-12.5	-12.8

3. Housing situation of older people

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Housing cost overburden rate, 65+	3.7	3.4	3.9	-12.7	-9.8	-15.0
Tenure status among people 65+: share of owners	80.2	81.5	79.1	2.9	1.8	3.7
Severe housing deprivation rate, 65+	0.3	0.2	0.3	0.2	0.2	0.2

4. Income replacement by pension systems

Indicator	2013			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Aggregate Replacement Ratio (ARR)	0.53	0.54	0.53	0.10	0.09	0.09
Benefit Ratio (BR) (Public pensions)	36.4					
Gross Aggregate Replacement Rate (Public pensions)	:					
Gender Gap in Pension Income, % (65-79)	42.3*			-2.1*		
Gender Gap in non-coverage rate (W-M in p.p.) (65-79)	-0.1*			-0.4*		

5. Sustainability and context indicators

Indicator	2013			Projections for 2053		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65+, years	19.6	18.4	20.8	23.5	22.1	24.9
Old-age dependency ratio (20-64)	29.4	26.6	32.2	45.8	41.1	50.7
Economic old-age dependency ratio (15-64)	34.6	28.2	41.8	50.2	42.9	58.5
Employment rate, age group 55-64	59.8	66.8	53.0	70.4	72.2	68.6
Pension expenditure as % of GDP (ESSPROS)	12.3*			Projections for 2060		
Gross public pensions as % of GDP (AWG projections)	7.7			8.4		

Data source: Eurostat. Sustainability indicators and projections (EPC AWG) – Commission Services (DG ECFIN), based on The 2015 Ageing Report. Data on gender gaps – ENEGE. Notes: * - 2012 data; : - not available.

6. Theoretical Replacement Rates (TRRs)

TRR case	Net				Gross				
	2013		2053		2013		2053		
	Men	Women	Men	Women	Men	Women	Men	Women	
Average Earnings	Base case I: 40 years up to age 65	83.4	88.0	35.9 ^a		66.4	80.2	26.8 ^a	
	Base case II: 40 years up to the SPA	83.4	73.4	76.1		66.4	57.8	60.0	
	Increased SPA: from age 25 to SPA	83.4	71.4	80.4		66.4	57.2	63.8	
	AWG career length case	84.0	83.7	38.8 ^a		66.9	75.9	29.0 ^a	
	Longer career I: from age 25 to 67			41.5 ^a				31.0 ^a	
	Shorter career I: from age 25 to 63			32.2 ^a				24.0 ^a	
	Longer career I: from age 25 to SPA+2			79.4 ^b				71.2	
	Shorter career I: from age 25 to SPA-2			38.6 ^a				28.8 ^a	
	Career break – unemployment: 1 year			79.1				62.7	
	Career break – unemployment: 2 years			77.9				61.6	
	Career break – unemployment: 3 years			76.7				60.5	
	Career break due to child care: 0 year				80.4				63.8
	Career break due to child care: 1 year				79.1				62.7
	Career break due to child care: 2 years				77.9				61.6
	Career break due to child care: 3 years				76.7				60.5
	Short career (30 year career)			70.3 ^d					54.8
	Early retirement due to unemployment			73.8 ^e					61.4
	Early retirement due to disability			73.8 ^e					61.4
	Indexation: 10 years after retirement			74.8 ^f					58.8
Low Earnings (66%)	Base case I: 40 years up to age 65	92.7	101.8	33.6		76.0	93.9	26.8	
	Base case II: 40 years up to the SPA	92.7	83.3	90.6		76.0	67.4	74.9	
	Increased SPA: from age 25 to SPA	92.7	81.2	94.7		76.0	66.7	78.8	
	AWG career length case	93.1	96.8	36.2		76.4	88.8	29.0	
	Longer career I: from age 25 to 67			38.8				31.0	
	Shorter career I: from age 25 to 63			30.1				24.0	
	Longer career I: from age 25 to SPA+2			95.6				87.8	
	Shorter career I: from age 25 to SPA-2			36.0				28.8	
	Career break – unemployment: 1 year			93.5				77.7	
	Career break – unemployment: 2 years			92.4				76.6	
	Career break – unemployment: 3 years			91.2				75.6	
	Career break due to child care: 0 year				94.7				78.8
	Career break due to child care: 1 year				93.5				77.7
	Career break due to child care: 2 years				92.4				76.6
	Career break due to child care: 3 years				91.2				75.6
	Short career (30 year career)	82.3 ^c	76.3 ^c	84.5		65.3 ^c	60.2 ^c		69.1
	Early retirement due to unemployment			87.8					76.4
	Early retirement due to disability			87.8					76.4
	Pension rights of surviving spouses				147.5				128.6
High	Base case I: 40 years up to age 65	57.9	59.8	27.8		43.4	51.2	18.9	
	Base case II: 40 years up to the SPA	57.9	50.8	49.4		43.4	37.8	36.2	

Data source: TRRs for 2013 and 2053 - Member State

Notes: *n.a. – not applicable*

- a – TRRs are lower for these cases because the qualifying age for the UK state pension is currently legislated to be 68 in 2053. The TRRs shown are based on only the income received from other pillars of the UK pension system.*
- b – A lower net TRR is reported for the 25- SPA+2 case than the 25-SPA case due to higher net income at SPA+2. This is because National Insurance Contributions are not deducted from earnings once a person reaches state pension age. The gross TRR for the 25-SPA+2 case better illustrates the benefits of working an additional 2 years beyond SPA.*
- c – Based on employment between the ages of 25 and 44 (20 years), and then from ten years prior to SPA, up until SPA (a further 10 years).*
- d – Based on employment between the ages of 25 and 44 (20 years), and then from 58 up until SPA (a further 10 years).*
- e – Based on the TRR at the point that the SPA is reached. TRRs are calculated using the level of earnings prior to early retirement.*
- f – Based on the assumption that pensioners invest their DC pension pot in [an index-linked or a flat-rate] annuity.*

The European Union (EU)

Table 1: Background statistics – EU-28 (EU-27)

1. Relative incomes of older people

Indicator	2013 (EU-28)			Change 2008-2013 (EU-27)		
	Total	Men	Women	Total	Men	Women
Relative median income ratio, 65+	0.93	0.96	0.91	0.08	0.08	0.08
Income quintile share ratio (S80/S20), 65+	3.9	4.0	3.9	-0.2	-0.2	-0.2

2. Poverty and material deprivation

Indicator	2013 (EU-28)			Change 2008-2013 (EU-27)		
	Total	Men	Women	Total	Men	Women
At-risk-of-poverty or social exclusion (AROPE), 65+	18.2	15.3	20.5	-5.3	-4.3	-5.9
At-risk-of-poverty rate (AROP), 65+	13.8	11.4	15.6	-5.3	-4.4	-6.0
Severe material deprivation (SMD), 65+	6.9	5.7	7.9	-0.6	-0.5	-0.7
At-risk-of-poverty or social exclusion (AROPE), 75+	19.4	15.7	21.9	-7.0	-5.7	-7.5
At-risk-of-poverty rate (AROP), 75+	14.8	11.9	16.9	-6.9	-5.6	-7.6
Severe material deprivation (SMD), 75+	6.8	5.3	7.8	-1.0	-0.8	-1.1
Relative poverty gap, 65+	15.9	15.8	16.1	-1.3	-0.6	-1.4
At-risk-of-poverty rate (AROP), 65+: 40 % threshold	2.5	2.2	2.8	-1.3	-0.9	-1.6
At-risk-of-poverty rate (AROP), 65+: 50 % threshold	6.6	5.4	7.5	-2.9	-2.2	-3.4
At-risk-of-poverty rate (AROP), 65+: 70 % threshold	23.4	19.9	26.1	-7.0	-6.3	-7.5

3. Housing situation of older people

Indicator	2013 (EU-28)			Change 2008-2013 (EU-27)		
	Total	Men	Women	Total	Men	Women
Housing cost overburden rate, 65+	10.3	8.1	12.1	-0.3	0.2	-0.6
Tenure status among people 65+: share of owners	78.5	80.4	77.1	-1.2	-2.2	-0.5
Severe housing deprivation rate, 65+	2.1	1.7	2.4	-0.9	-0.6	-1.1

4. Income replacement by pension systems

Indicator	2013 (EU-28)			Change 2008-2013		
	Total	Men	Women	Total	Men	Women
Aggregate Replacement Ratio (ARR)	0.55	0.58	0.54	0.06	0.09	0.02
Benefit Ratio (BR) (Public pensions)	44.0					
Gross Aggregate Replacement Rate (Public pensions)	41.3					
Gender Gap in Pension Income, % (65-79)	40.2*			0.1*		
Gender Gap in non-coverage rate (W-M in p.p.) (65-79)	6.8*			0.2*		

5. Sustainability and context indicators

Indicator	2013 (EU-28)			Projections for 2053 (EU-28)		
	Total	Men	Women	Total	Men	Women
Life expectancy at 65+, years	19.4	17.6	21.0	23.4	21.8	25.0
Old-age dependency ratio (20-64)	30.3	25.8	34.8	54.9	48.5	61.5
Economic old-age dependency ratio (15-64)	41.5	31.8	52.8	66.2	55.0	79.1
Employment rate, age group 55-64	50.1	57.4	43.3	66.6	69.1	64.0
Pension expenditure as % of GDP (ESSPROS)	13.2**			Projections for 2060 (EU-28)		
Gross public pensions as % of GDP (AWG projections)	11.3			11.2		

Data source: Eurostat. Sustainability indicators and projections (EPC AWG) – Commission Services (DG ECFIN), based on The 2015 Ageing Report. Data on gender gaps – ENEGE. Notes: *- EU-27 data for 2012; ** - 2012 data.

Abbreviations

AROP	At-risk-of-poverty rate
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
ENEGE	European Network of Experts on Gender Equality
EPC	Economic Policy Committee
ESPN	European Social Policy Network
EUROPOP2013	Eurostat demographic projections 2013-2060
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)

Member States

BE	Belgium	HU	Hungary
BG	Bulgaria	MT	Malta
CZ	Czech Republic	NL	The Netherlands
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IE	Ireland	RO	Romania
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ES	Spain	SK	Slovakia
FR	France	FI	Finland
HR	Croatia	SE	Sweden
IT	Italy	UK	United Kingdom
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While the main report, published as volume I, is devoted to a comparative analysis of pension adequacy at EU-28 level, a detailed discussion of pension adequacy in each of the 28 Member States is given in volume II. This publication is available in electronic format in English only.

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