Pension Adequacy in the European Union 2010-2050

Report prepared jointly by the Directorate-General for Employment, Social Affairs and Inclusion of the European Commission and the Social Protection Committee

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This report has been drafted by the European Commission services of Directorate General for Employment, Social Affairs and Inclusion (Directorate D. Europe 2020: Social Policies, Unit D3: Active Ageing, Pensions, Healthcare, Social Services) in collaboration with the Member States delegates in the Indicators Subgroup[1] (ISG, chaired by Carin Lindqvist-Vitranen) and the Working Group on Ageing issues (SPC-WG-AGE, chaired by Niclas Jacobson) of the Social Protection Committee (SPC, chaired by Lauris Beets).

In Unit D3, Ana Agundez-Garcia and Jakub Wtorek have been responsible for the original development and drafting of the report under the supervision of Ralf Jacob and Fritz von Nordheim Nielsen. In the final phase of revision and editing Audronė Balkytė has been responsible for all the data work, while Noémi Ballun has handled the many suggestions for changes from Member States.

The report uses projections of the budgetary impact of ageing population in the 27 Member States of the European Union (EU) over the period 2010-2060 from The 2012 Ageing Report. Other data used in the report are provided by Eurostat and Member States. This report is presented after an active discussion with the Member States.

[1] The full list of the members can be found in Annex 6.

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Main Messages on Pension Adequacy 2010–2050

1. As people live longer and have fewer children retirement practices and pension systems have to be adapted periodically to continue to be sustainable and adequate. The challenges Member States face depend on the timing and intensity of population ageing and the character of pension provision. As both vary significantly among countries there is no single set of responses that fits all.
2. When trying to reconcile and optimise sustainability and adequacy concerns Member States face trade-offs and difficult choices. Achieving the goal of a cost-effective and safe delivery of adequate benefits that are also sustainable is quite challenging, as the time people spend in retirement and out of the labour market increases. Moreover, challenges have increased significantly as an effect of the economic crisis.
3. Through more than a decade of reforms most Member States have sought to bring about the adaptations that from a long-term perspective can ensure that adequate pensions will continue as an important part of social protection for their citizens. Great advances in the sustainability of public pensions have been achieved as a result (cf. The 2012 Ageing Report). Adequacy outcomes, however, are less impressive and largely contingent on changes in people's retirement and long-term savings behaviour.
4. Analysis of the change in replacement rates for a given career length demonstrates that the greater sustainability of public pensions in most Member States has, to a significant extent, been achieved through reductions in future adequacy. The challenge is therefore to devise means by which people can recoup the decline in replacement rates.
5. Member States are opening routes for people to improve their pension entitlements by working longer and retiring later. If pension systems sufficiently and sensibly reward working longer and discourage early retirement they can help ensure that longer working careers with fewer career breaks become the key avenue to better adequacy. This is the case in many Member States.
6. The success of pension reforms that raise the pensionable age and possibly link this or the benefit level to longevity gains depends crucially on their underpinning through work place and labour market measures that enable and encourage women and men to work longer. There are clear limits to how much age management practices at work can be influenced by incentive structures in pensions. Tackling the pension adequacy challenge will require determined efforts to promote longer and healthier working lives through employment and industrial relations policies.
7. Adequacy may also be successfully strengthened with additional contributions to pension schemes. In some Member States this may involve higher contributions for public schemes including possible pre-funded elements. In many other Member States, this entails a larger role for supplementary retirement savings via occupational and/or individual, pre-funded private pension schemes. Whatever the option chosen, there are considerable differences across countries in terms of coverage, cost-effectiveness and safety and hence major potentials for improvements.
8. In all Member States public pension schemes are used to help secure social goals such as protection against poverty. In the majority of European Union (EU) countries public schemes also play a core role in securing pension benefit levels that to a reasonable degree allow people to maintain their living standard from active years into retirement.

9. Analysis of the composition of projected pension income in 2050 demonstrates that Member States will continue to use public pension schemes as the main element in adequate retirement income provision, even though complementary occupational pension schemes and individual retirement plans are set to acquire an increasing share in earnings- and contribution-related provision in a growing number of Member States.

10. About a fifth of people aged 65 or older have pension incomes just below or just above the poverty risk threshold, consequently relatively small increases or decreases in their pensions can lead to important variations in the poverty rates of the elderly. The ability of the EU to achieve its goal of reducing the number of people at risk of poverty or social exclusion by 20 million by 2020 will therefore also very much depend on the extent to which pension systems will continue to help prevent poverty for older people.

11. An important part of the adequacy challenge is gender specific. As women live longer than men they constitute close to two thirds of pensioners. Yet, pension outcomes for women are currently significantly lower than for men. This may also be a function of pension design, but generally it results from gender differences in employment, pay and the duration of working life, which again is related to gender differences in care and housework.

12. Credits for labour market absence due to maternity and child care, derived pension rights and survivors' pensions mitigate a part of the current lower pension outcomes for women. The present trend in pension reforms towards defined-contribution in both pay-as-you-go and pre-funded schemes and a greater role for occupational and personal pensions tend to be unfavourable for many women unless much greater gender equality is achieved in labour markets and in private pension coverage.

13. Economic well-being is to a large extent determined by the disposable cash income of households, but free or subsidised services and in-kind benefits provided by governments can influence the consumption possibilities of households in major ways. A full assessment of the adequacy of pensions will therefore require taking into account the access to free or subsidized resources of economic value, including subsidized owner-occupier housing.

14. Detailed reporting on pension adequacy should be continued through a further deepening of the conceptual and methodological work of the Social Protection Committee including work with a particular emphasis on gender, the household dimension and access to non-pension economic resources. Building better tools such as through greater capacity for micro-simulation could help in the assessment of adequacy challenges. But the adequacy and sustainability dimensions of pensions need to be analysed together. Collaboration between the SPC and the EPC on developing better aligned indicators and methodologies should therefore intensify. In the next EU assessment of pensions this should allow for a better comparative analysis of how Member States manage to tackle both the sustainability and the adequacy challenges.

Summary of the Report on Pension Adequacy in the European Union 2010-2050

This report focussed on the adequacy dimensions of pensions has been developed by the Social Protection Committee (SPC) as a complement to the Ageing Report by the Economic Policy Committee (EPC) which primarily deals with sustainability aspects of pensions from a public budget perspective. For the purpose of this analysis the SPC has mobilised and applied the instruments and knowledge it has developed through more than a decade of investments in indicators and analysis thanks to the work of its Indicator Subgroup. The initial scoping and elaboration of the report has been handled by a Working Group on Ageing Issues under the SPC.

Context

Over the last decade most Member States have reformed their pension systems to improve their medium and longer term sustainability as a precondition for delivering on adequacy objectives. But in the context of accelerating population ageing and the current economic crisis achieving pension policy objectives are becoming more challenging. When trying to reconcile and optimise sustainability and adequacy concerns Member States face trade-offs and difficult choices. Achieving the goal of cost-effective and safe delivery of adequate benefits that are sustainable is quite challenging.

Public pension expenditures make up a big part of public expenditure (EU-27: 11.3% of GDP in 2010[2], variance 6% - 15%) and are a major factor in the present and medium to longer term public budget position. Sustainability relates to the fiscal and financial balance between revenues and liabilities (and ratio of workers/contributors to pensioners/beneficiaries) in pension schemes. Pension reforms are needed to ensure that a balance can be maintained even as the population ages. They may also be necessary to improve possibilities for short to medium term budget consolidation.

Importantly, pension systems affect economic growth through their impact on labour supply. In particular they influence the participation of older workers for whom employment rates especially need to improve. Moreover, pension levels largely determine the proportion of people 65+ that are exposed to poverty and social exclusion. The adequacy and sustainability of pensions will therefore also affect the ability of Member States to achieve the employment and poverty targets of Europe 2020, i.e. those of raising the employment rate to 75% for people aged 20-64 and of reducing the number of people exposed to poverty or social exclusions by 20 million by 2020.

Consequently, considerable attention has been devoted to pensions in the Europe 2020 process and it's European Semester, which starts with the Annual Growth Survey, where both in 2011 and 2012 there were major points on pensions and ends with the adoption of Country Specific Recommendations, where in 2011 16 Member States received recommendations pertaining to pension issues. In support of European concerns about pensions the Commission recently issued a White Paper outlining "An Agenda for Adequate, Safe and Sustainable Pensions" in which among 20 initiatives it commits to deepen the analysis of adequacy issues in collaboration with Member States. This report is the first result of this commitment.

[2] The 2012 Ageing Report, Public pensions, gross as % of GDP

Defining adequacy

The purpose of pensions is to provide an adequate income stream in retirement. Pension adequacy is defined and measured along the two dimensions of income replacement and poverty protection. To achieve adequacy pensions also need to be sustainable, safe and adapted to changing circumstances as reflected in the three European pension objectives of adequacy, sustainability and modernisation (or adaptability). In the framework of the Social OMC these policy objectives have formed the basis for development of the indicators that are used for the analysis of current and future pension adequacy in this report.

The combination of rising longevity and lower fertility will lead to a steep increase in the *demographic* old age dependency ratio. But to fully grasp the ageing challenge it is necessary to look also to the potential the *economic* old-age dependency ratio, which depends both on the changing age structure and on the employment situation. Thus the impact of population ageing can be substantially mitigated by raising the employment rate of all people of working-age. A well-functioning labour market is necessary to sustain pension promises.

As demonstrated by consecutive Ageing Reports including the 2012 edition pension reforms have substantially improved the medium to long-term sustainability of public pension expenditure. Thus public pension schemes have become much more able to withstand the pressures of population ageing and their future contribution to pension incomes is better assured. Yet, the consequences for the adequacy of the overall systems of pension provision emerging from reform efforts are less positive and more uncertain.

After a decade of reforms pension systems have become rather more complex than they used to be – even though single schemes may have been simplified and made far more transparent. Pension provision is now based on contributions from more pillars and new incentive structures have been introduced. Pension reforms have also meant a transfer of risk from pension scheme sponsors to beneficiaries. As maturing of the reformed pension systems takes time, the results will be visible primarily in the future pension benefits of the current working age population. Reformed pension systems fit better to ageing societies, but new challenges and risks are emerging from reforms and changing economic circumstances.

Generally, adequacy outcomes measured as replacement rates have become more contingent on longer and less interrupted working lives and on supplementary pension schemes that depend on returns and volatilities in financial markets. In that sense the higher sustainability of public pension expenditure in view of population ageing has been achieved in a partial trade off with the level and security of adequacy. Individuals will have to shoulder a larger share of the particular and systemic risks of their future pensions. If they are to acquire pension entitlements at levels of adequacy similar to those pensioners experience now they will have to change their working and savings behaviour.

Measured at the floor as poverty prevention the impact of reforms on adequacy is more mixed since several Member States as part of reforms also have improved the coverage and quality of minimum income provisions for older people (incl. basic, guarantee an minimum pensions). Much will depend on the changes to the indexation of benefits in payment and on budget cuts restricting the access to subsidised or free services and in-kind benefits.

Comparison of time spent in retirement with life expectancy at birth and at the time of retirement is an important aspect of pension adequacy and inter-generational solidarity. In some countries people who left the labour market in 2009 can expect around 25 years or more in retirement. It is only in a few countries retirement periods amount to less than 20 years. In the

majority of Member States people can presently expect to be able to spend between 20 and 24 in retirement.

Current adequacy

Pensions constitute by far the main source of income of older Europeans, who represent a large and growing share of the EU population. Over 120 million[3] or around 24% of Europeans are pensioners. Almost 2/3 of these are women. The number of pensioners in Europe exceeds the number of people aged 65+ by more than 30 million since many people start receiving a pension before they reach the age of 65.

Maintaining living standards

Currently, pensions allow retired Europeans to enjoy living standards that are close to those of the rest of the population and in some countries generally higher than for other groups on transfer incomes.

Pension incomes presently derive primarily from public schemes financed on a pay-as-you-go basis. So far it is only in a handful of Member States that privately managed funded pension schemes have a significant complementary role in the current adequacy of pension provision – and then mostly as an element that raises the aggregate replacement rate of the pension package.

In 2010 the pensionable age was lower for women than men in 13 Member States. Often women can retire five years before men. As a result the gross and net replacement rate are significantly lower for women than for men in almost all these Member States.

In almost all Member States postponing pension take up by working longer and retiring later results in higher net replacement rates while shorter careers result in lower replacement rates. Yet, the bonus/malus incentives embedded in pension systems currently are not symmetric: in all but a few Member States the increments in rates for prolonging working lives by two years are bigger than the falls in replacement rates owing to two years shorter careers and early retirement. Still the incentives to work longer and disincentives to early retirement are broadly preserved across the different income groups for many Member States.

In a few Member States, a career break due to child-caring duties is so well protected through care-crediting that calculations show no drop in current replacement rates as effect of absences of up to three years. In other Member States, childcare years result in a drop in replacement rates from the first year of absence, and the drop becomes sharper the longer the absence from the labour market.

In most Member States unemployment result in a loss of pension entitlements and lead to drops in replacement rates that increase in line with the break. But results show a decrease of less than 3 p.p. in most Member States for three years of unemployment. This implies a considerable protection of pension entitlements during unemployment in most Member States.

The effect on replacement rates of long-term career breaks (or ¾ careers) is quite sharp, reaching more than 10 p.p. in most countries.

[3] 2010, The 2012 Ageing Report

Preventing and reducing poverty

The EU-27 at-risk of-poverty-rate for people 65+ (15.9%) is currently slightly below the rate for those below age 65 (16.5%), and older people (6.4%) are less affected by material deprivation than the rest of the population (8.5%). Inequality among people 65+ is also lower than for the general population.

This masks wide divergences between Member States, as in some countries older people have benefited less from economic growth than the working-age population and are still exposed to higher poverty risk or are more likely to face material deprivation. Moreover, in many countries women living alone, notably those 75+, tend to have rather high risks of poverty.

At-risk-of poverty-rates and severe material deprivation of people aged 65+ have for some time been on a downward trend in many Member States. This suggests that the absolute living standards of older people were being improved prior to the crisis. It may reflect that more people have earned entitlements in maturing earnings-related schemes. It may also be an effect of the growing attention in recent reforms of minimum pensions respectively minimum income guarantees to providing adequate incomes in retirement and reducing poverty amongst older people.

It seems that in the first years of the economic crisis the incomes of older people have been relatively better protected than those of the working age population. In most present pension systems dominant public pay-as-you-go schemes with elements of solidarity and redistribution and with indexation of benefits in payments offer good protection against poverty risks and economic volatility. Yet, this is not the case everywhere as in some of countries pensioners are exposed to particularly high AROP rates or to considerable levels of material deprivation.

Furthermore, is to be expected that the crisis temporarily will stop the gradual improvement in the material living standards of the 65+, especially in Member States where these standards are lower. The observed trend towards reduction in poverty risks may also come to a halt in other countries as crisis generated changes to indexation of benefits in payment take effect - even if pensioners with the lowest pensions so far mostly have been spared. Older people may also be more vulnerable to cutbacks in other areas, such as health or care services.

Contribution to the poverty reduction target of Europe2020

Pensions represent by far the largest element in social protection systems, affecting the primary incomes of more people than any other part. The total number of pensioners in EU Member States presently comes to about 120 million or a quarter of the population.

Poverty rates of people 65+ are to a great extent a function of the poverty avoidance and poverty mitigating capacities of pension systems including instruments of minimum income provision for older people. The benefit level of minimum income provisions for older people is a determinant of the extent to which people 65+ are exposed to poverty.

In 2010 there were 16.9 million people 65+ who were at risk of poverty or social exclusion, as compared with the 99 million people in that situation aged 0-64. Without pensions, poverty rates among the 65+ would by construction be very high.

Many people over 65 have incomes just below or above the poverty threshold; hence relatively small changes in their pension incomes could lead to important variations in the poverty rates of older people.

Increasing the relative equivalised income of older people who are at-risk-of-poverty by 20% could help to lift around 7 million persons (those between 50% and 60% of median income), out of poverty (as defined within the EU2020 strategy). Similarly, a relative drop in incomes of

elderly people by 1/7th could add another 8.7 million people to the group at-risk-of-poverty, as those with the income currently between 60% and 70% of median would fall under the 60% at-risk-of-poverty threshold.

Pension systems could achieve large scale contributions to the poverty reduction goal, but if relative benefit levels drop by a fairly small margin they could also quickly augment the number of people at risk of poverty.

Thus, the ability of the EU to achieve its goal of reducing the number of people affected by poverty or social exclusion by 20 million by 2020 will also very much depend on the extent to which reformed pension systems will continue to contribute preventing poverty and social exclusion for older people.

Valorisation and indexation

Member States reform their rules on valorisation and indexation, and this can have an also impact on current replacement rates and the value of benefits in payment.

In all but a few Member States net replacement rates are significantly lower (at least 5pp and in some cases more than 10 p.p.) ten years after retirement. This shows how the living standards of a pensioner will drop over time relative to the rest of the population as the indexation of pensions in payment most often lag behind the evolution of wages.

However, Member States tend to prioritize the full indexing of basic, guarantee and minimum income provisions, so as to mitigate the risk of poverty and material deprivation for low income and vulnerable older people. Thus to avoid increasing precariousness as part of austerity measures, Member States consider it important to concentrate pension benefits where they are most needed and seek savings where they can be more easily absorbed without causing a significant detrimental effect.

Other economic resources available for 65+

Economic well-being is to a large extent determined by the disposable cash income of households, but free or subsidised services in-kind provided by governments can influence the consumption possibilities of households in major ways.

Thus the question may arise as to the need for high pensions if all necessary services are available for free for pensioners or what the real value of a high pension is if no age-related services are available.

There is a wide range of other specific benefits that are afforded to older people to help with a variety of expenses, such as health care, assistance with housing costs, transport and home care assistance and payments to help with things like heating costs in the winter or with general utility bills, such as gas, electricity and telephone costs. These benefits are alternative or complementary ways of ensuring adequate standards of living in old age.

Depending on the mix of services provided in a given country, the well-being of different age groups (or household types) is affected in distinct ways. This is studied through a so-called *imputation* method where public spending on in-kind benefits is allocated to actual or potential users. The principal assumptions relate to monetary value of the in-kind benefit in question and determining beneficiaries.

Tenure status is another non-monetary factor which influences living standards. Thanks to housing policies subsidising savings in owner-occupier dwellings older people may be more likely to own their homes, mortgage free, or in social housing have rents below market prices, so that their relative disposable income is in fact better than it seems from the cash measures on

the indicators for poverty and average income used in previous sections. The imputed rent method takes into account housing tenure, and the results are significant in certain countries.

Gender differences in current adequacy

Pension incomes are usually higher for men than for women, who represent the majority of older people. Women also more exposed to poverty risks but they may experience better replacement rates and better returns on their pension contributions since so far they are the main beneficiaries of minimum, guarantee and survivors pensions. Women and men come to very different results at the end of their working lives. The gender pension gap is originated from differences in the employment rates and employment conditions of women and men during their working lives (e.g. the gender pay gap) and an unequal distribution of roles between the genders, but it can also result from the design of pension schemes and trends in pension reforms.

Some Member States display strong differences between men and women in the aggregate replacement ratio. Though the increasing labour market participation of women will result in better pensions for women in the future, Member States will need to pay attention to the gender implications of different dimensions of pension policies, including in relation to minimum income provisions, plans for a bigger role of prefunded pension schemes in the future (given the much lower current coverage for women) and credits for periods spent out of the labour market.

Future adequacy

Pension reforms aimed at improving the sustainable base for adequate pension will in several Member States result in lower future replacement rates for a given retirement age. This is due to a mix of changes such as higher pensionable ages, longer required contributory periods, the introduction of life expectancy factors and the transition into multi-tier pension arrangements.

To achieve replacement rates similar to those of the present more people will have to work longer and/or take advantage of improved opportunities to build supplementary entitlements through safe complementary retirement savings in public or private pension schemes.

Calculations of replacement rates show that the distributional effects of the pension reforms in Member States might differ and that Member States face at the same time difficult choices to balance the conflicting objectives of, on the one hand, protecting people in different life situations, whilst at the same time providing the financial incentives for individuals to return to the labour market. The design of pension systems has a strong impact on the effective retirement ages and adequacy of pensions.

To properly interpret the TRR results, it is very important to take all the background and context information into account to fully understand how representative the calculations are for the different Member States.

It seems that in the short to medium term the pension challenge is more about reducing early retirement and making people work until pensionable age rather than deferring retirement after the pensionable age.

Employment of older workers has been one of the most dynamic components of the EU labour market in recent years, but despite of these improvements, they are still low in many Member States. Younger workers have been particularly hard hit by the crisis and this might have a negative effect on future level of their pension benefits.

In order to meet the demographic challenge recent reforms of public pensions have concentrated on increasing effective retirement ages by raising the pensionable age, increasing flexibility and strengthening eligibility requirements. This, however, entails a higher decision burden on beneficiaries and knowledge that achieving comparable standards of living in retirement in the future will require a longer working life.

Longer term adequacy

Analysis of the Theoretical Replacement Ratio scenarios demonstrate that as an effect of pension reforms net replacement rates are projected to decrease by at least 5 percentage points (p.p.) in 17 Member States between 2010 and 2050 and in 11 of them drops are projected to exceed more than 15 p.p., for a worker with average earnings retiring at 65 after a 40 years career. This may indicate that many countries in efforts to provide a reliable and sustainable pension promise in the future have felt compelled to reduce the benefit levels that can be obtained for a given contributory period.

Part of the decline in replacement rates may be an effect of shifts from benefit calculations based on a limited number of years to full career averages. The introduction of life expectancy adjustment factors in benefit calculations may play a significant role. While such changes reduce costs they may also add incentives to prolong workings lives and thus help to raise more revenue for their pension schemes.

In those countries that have shifted significant shares of their pension provision towards occupational or mandatory funded schemes decreasing replacement rates have to be seen in the context of the transition to multi-tier pension arrangements.

Apart from a couple of exceptions pension benefits at a given retirement age from statutory DB and NDC systems will be reduced in all countries. A number of Member States are expecting that these reductions in the replacement rates at a given retirement age from public schemes will be partially or more than fully compensated by increases in pension benefits from mandatory funded systems or occupational and third pillar schemes.

While in some countries replacement rates will be dropping care-crediting will improve and crediting for up till three years of unemployment will be similar to what it is today.

Reinforcement of the link between contributions and benefits may translate into relatively larger declines of replacement rates for low income earners and increased inequality in old age.

Effect of working more and longer on future adequacy

A crucial question is if pension systems in the future sufficiently and sensibly will reward working longer and discourage early retirement.

Calculations show that in all Member States delaying retirement by two years (retirement at 67 after a 42-year career instead of 65 after a 40-year career) will result in higher future net replacement rates (increases of 10 p.p. or more are projected in several countries), while earlier retirement (at 63 after a 38-year career) results in lower replacement rates. Also incentives to work longer are broadly preserved across the different income groups. Two years longer working will in most Member States provide higher pension entitlements in the future. But only in some will it allow people to fully make up for the large drops in total net replacement rates at careers of 40 years. In a number of countries pension systems will not respond sufficiently to people extending the duration of their working careers.

Again, as is the case with *current* replacement rates (which reflect past pension rules) the incentives embedded in current rules of pension systems (which are reflected in future theoretical replacement rates) are not symmetric. In all but a few Member States the bonus increments in rates for prolonged working lives by two years are larger than the malus falls in replacement rates owing to early retirement and two years shorter careers.

Since early retirement is far more popular than postponement of pension take up this situation is hardly ideal. In fact unless they are quite substantial and at least at actuarial level reductions for early retirement may not necessarily discourage people from using early retirement possibilities. In a number of countries 25% to 50% of workers de facto retire through early exit pathways. This can certainly have an impact on future at-risk-of-poverty rates. Moreover, flexible access to early pensions reduced with actuarial principles is likely to create a group of old-age pensioners with unacceptably low income, especially if indexation is below the evolution of median income.

The labour market exit age is usually lower than the pensionable age as early retirement, unemployment, sickness and disability benefits often are used as early exit pathways by those aged 55-64. In some Member States in the statutory pension systems people with full contributory periods are entitled to retire before the standard pensionable age. This underlines the fact that pension reforms cannot be focussed on increases in pensionable ages only. Minimum and full contributory periods need to reflect increasing overall life expectancy.

However, situation of people who started their careers early (usually unskilled workers and people with lower life expectancy) needs special attention. People in hard or damaging occupations are sometimes granted special treatment and can retire earlier, as well as the long-term involuntarily unemployed or those who retired due to economic reasons. Some countries also offer early retirement, where people can draw a pension with an applied malus (e.g. an actuarially reduced pension) which acts as a financial disincentive. In others some occupational groups are eligible to retire earlier and on more generous basis compared to standard old-age pensioners.

A majority of policy measures to promote longer working is rightly focussed on the elimination of disincentives to work. Such negative incentives also include a default retirement age, regulations with regard to employment after the pensionable age and how employment income is taxed or deducted from pension income and whether it is considered in the future calculation of pensions.

Most Member States encourage workers to stay longer in employment, so that they earn additional pension rights. Longer working (and reducing early retirement) is thus one of the ways of improving pension replacement rates. Nevertheless, even if the pension incentives are in place, the challenge is to a large extent with the labour market to provide enough job opportunities for the older workers.

The design of pension systems has a strong impact on effective retirement ages. Rules on deferred and (especially) early retirement influence people's decisions on when to retire. In recent years Member States have seen progress in tackling early retirement schemes, but more efforts are usually needed. With increases in pensionable ages and required contribution periods, the challenge of supporting adequacy of pensions is to a larger extent shifted to the ability of labour markets to create jobs and to keep people in the labour market. This calls for comprehensive active ageing strategies, including investments in the employability and life-long learning of older workers, and efforts to take their health and safety needs into account.

Currently, deferred retirement is usually possible and unlimited, but in some Member States the consent of the employer or a minimum number of hours worked is required, and deferred

retirement can be limited by collective agreements. One year of additional work can lead to a 2-7% pension bonus. In some countries the bonus is higher for people with longer contribution periods. If economic incentives to retire later are not actuarially neutral and are too low, they may not have the desired effect. But if they are too high, the cost to the public purse may be significant. There is also a risk of subsidising those who would in any case have postponed retirement. Deferred retirement in a majority of Member States has much lower appeal than early retirement. Some countries report there is no clear evidence to indicate that deferral had an impact on the labour market exit age of individuals.

Knowledge gaps

It will be important to continue work on profiling the adequacy, sustainability and safety risks inherent in different pension designs. It generally holds that as one chooses scheme designs and public/private mixes one will be choosing the type of risks to which the pension system will be exposed. Cost-effective delivery of adequate benefits will require pension planners to identify these risks and develop methods for their handling under different circumstances.

Particular attention will need to be devoted to work on the profiling of barriers and risks to gender aspects of adequacy. There may also be a need for devising indicators that can help capture progress towards greater gender equality in pension outcomes such as for example and indicator of the Gender Pension Gap.

Theoretical Replacement Rates (TRR) are calculations based on individuals while poverty and incomes are household based indicators. Providing some trends of TRR at household level and some indication of the trends in the structure of households can clarify the gap between these indicators.

There will also be a need to look to wider measures of economic resources in terms of wealth and in terms of access to subsidised or free services and other in-kind benefits.

Capacity building for the use of micro-simulation models in Member States could allow comparative monitoring of adequacy aspects to undergo a qualitative transformation towards a much higher level of accuracy.

But the crucial medium term goal in EU level reflections on the quality of pensions systems will be to develop concepts and measurements that will allow for the combined assessment of the adequacy and sustainability aspects of pensions. This objective should guide the future pension work of both the Economic Policy Committee and the Social Protection Committee.

1. Introduction: Context of the Report

Pension reforms in Europe over the last decade have been triggered by the expected increases in expenditure caused by demographic pressures. Most recently the financial and economic crisis have forced further reforms or caused countries to move the implementation of already adopted reforms forward. As noted in the Joint EPC-SPC Report on Pensions of November 2010, several Member States have improved the long term sustainability of their public pension schemes, and more sustainability enhancing reforms have followed in the last two years – including some major ones (e.g. EL, FR, ES, IT) – or are in preparation (e.g. LU, PL). The challenge for many countries now is to ensure that adequate pensions are available to people now and in the long term. Consequently, many Member States are now looking for ways to improve the overall future adequacy of income provisions for old age while preserving sustainability gains.

Member States face trade-offs and difficult choices. Generally, they are more likely to achieve adequate pensions by reforming not just pension systems, but also labour markets and other social policies to support a better balance between the time women and men spend in employment or self-employment and the time they spend in retirement or out of the labour market for other reasons. Meanwhile they will also need to provide minimum income provisions or other social protection provisions as poverty protection in old age to those who are unable to earn adequate pension entitlements. Offering, in a cost-effective and safe way, better opportunities for complementary retirement savings is another option to enhance the adequacy of pension provision, especially seen from the angle of income replacement.

It is essential to monitor whether pension systems actually can afford to pay out the benefits that they promise. However, in order to ensure that pension reforms do not improve financial sustainability simply by lowering benefits beneath acceptable standards, it is equally important to also monitor the adequacy of pension benefits.

Sustainability and adequacy challenges for all types of pension schemes have been aggravated by the crisis. Lower growth prospects and increasing deficit and debt affect sustainability, and in consequence the adequacy of pensions. Under pressure, some Member States have cut benefits or frozen their indexation. Moreover, as pension reforms make future benefits more dependent on performance of labour markets, the crisis forces us to improve our understanding of how pension entitlements are accrued under changing economic conditions.

Pension cost makes up a big part of public expenditure (EU-27: 11.3% of GDP in 2010[4], variance 6%-15%) and is a major factor in the present and medium to longer term public budget position. Sustainability relates to the fiscal and financial balance between revenues and liabilities (and ratio of workers/contributors to pensioners/beneficiaries) in pension schemes. Pension reforms are needed to correct for the negative impact of population ageing on this balance. They may also be necessary to improve possibilities for short to medium term budget consolidation. Thanks to reforms already enacted in most Member States ultimately only a handful of countries have sustainability problems due to a high risk to public finance sustainability from pensions and other ageing cost both in the medium and in the long-term.

Importantly, pension systems affect economic growth through their impact on labour supply. In particular they influence the participation of older workers for whom employment rates especially need to improve. Moreover, pension levels largely determine the proportion of

[4] The 2012 Ageing Report, Public pensions, gross as % of GDP

people 65+ that are exposed to poverty and social exclusion. The adequacy and sustainability of pensions will therefore also affect our ability to achieve the employment and poverty targets of Europe 2020 strategy, i.e. those of raising the employment rate to 75% for people aged 20-64 and of reducing the number of people exposed to poverty or social exclusions by 20 million by 2020.

Every year the cycle of implementation in Europe 2020, the EU's growth strategy for the coming decade, starts with publication by the Commission of the Annual Growth Survey, which sets the priority policy objectives to be pursued in the year. The **2011 Annual Growth Survey**[5] and the **Euro Plus Pact**[6] made recommendations relating to a better balance between time in work and time in retirement. The Pact emphasised the need to raise *effective* retirement ages and noted the importance of adequacy of pensions. The 2011 **European Semester** process culminated in the Country-Specific Recommendations[7] which are based on the Commission services' analysis[8] of the National Reform Programmes and the specific budget, growth and employment situation of each Member State. Recommendations on pensions, based on employment guidelines, were addressed to a majority of Member States and focused on[9]:

- increasing the pensionable age and linking it to longevity growth (9)
- increasing the effective retirement age and older workers employment (12)
- reducing early retirement (5)
- developing supplementary private savings (2)
- balancing sustainability and adequacy concerns (3)
- addressing adequacy problems (1)

The **2012 Annual Growth Survey**[10] continues to put emphasis on reforming pension systems. In the part on fiscal consolidation, the document suggests that " *Member States should give particular attention to (...) pursuing the reform and modernisation of pension systems, respecting national traditions of social dialogue to ensure the financial sustainability and adequacy of pensions, by aligning the retirement age with increasing life expectancy, restricting access to early retirement schemes, supporting longer working lives, equalising the pensionable age between men and women and supporting the development of complementary private savings to enhance retirement incomes*".

In the part on tackling unemployment and the social consequences of the crisis, the document considers that "*to create jobs and ensure a job-rich recovery, (...) Member States should give particular priority to (...) restricting access to early retirement schemes and other early exit pathways while supporting longer working lives by providing better access to life-long learning, adapting work places to a more diverse workforce and developing employment opportunities for older workers, including through incentives*".

There is also a short reference about protecting the vulnerable, as "*people with no or limited links to the labour market – such as pensioners or vulnerable people dependent on social benefits, for instance single parents – are also exposed to changes affecting the calculation and eligibility of their source of income*".

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[5] http://ec.europa.eu/europe2020/tools/monitoring/annual_growth_survey_2011/index_en.htm

[6] EUROPEAN COUNCIL CONCLUSIONS 24/25 MARCH 2011, Annex I, EUCO 10/1/11 REV 1[6] Reference as agreed/adopted at 11March extraordinary European Council.

[7] As adopted by European Council 24-25 June 2011: http://www.consilium.europa.eu/uedocs/cms_Data/docs/pressdata/en/ecofin/123611.pdf

[8] http://ec.europa.eu/europe2020/tools/monitoring/recommendations_2011/index_en.htm

[9] Figures in brackets relate to how many Member States had such a recommendation; Member States may have received recommendations relating to more than one of the above topics.

[10] http://ec.europa.eu/europe2020/pdf/ags2012_en.pdf

These developments have **raised the profile of pension reforms still further**, albeit so far primarily from a public finance perspective. Meanwhile, Member States have agreed that reducing the number of people affected by risk of poverty by 20 million should be one of the major ***Europe 2020 targets***. Thus the contribution of pensions to the reduction of poverty in old age over the next decade is emphasised as central issue in the monitoring of pension adequacy. This is also reflected in the **European Platform against Poverty and Social Exclusion**[11].

With this Pensions Adequacy Report (PAR) the **Social Protection Committee (SPC) will strengthen the capacity of the EU to assess the current and future adequacy of pension systems** and to identify policy strategies that can lead to the most cost-effective delivery of adequate pensions and social benefits in ageing societies.

This Pensions Adequacy Report has been developed as complement to the analysis of pension sustainability in the **2012 Ageing Report** produced by Economic Policy Committee (EPC) with input from the Ageing Working Group (AWG). The Ageing Report primarily deals with the long-term development of public pension expenditure in Member States. It aims to understand the relative financial impact of each of the main drivers of public pension expenditure, including demographic factors, labour market related factors, eligibility conditions and contribution/benefit formulas in public schemes. The latter covers dimensions of pension adequacy by analysing the long-term developments in such indicators as the "benefit ratio", the "gross average replacement rate" and - in 2012 for the first time - the level of earnings-related public pension at retirement for new old-age pensioners with an average contributory career.

This Pensions Adequacy Report widens the pension adequacy analysis by looking at it from a broader and more multi-dimensional perspective. Thus it focuses on the current and future capacity of pension systems to provide a decent standard of living for the elderly and to reduce poverty in old age (i.e. income replacement and poverty avoidance as the two key objectives of pension systems). Furthermore, the report pays special attention to the gender dimension of pension policies (i.e. the distinctive outcomes for women and men from the same cohorts). Also, whilst in the Ageing Report adequacy is mainly analysed in the context of public pension benefits, this PAR looks at wider areas that influence old-age income adequacy, such as private pensions and other benefits and subsidies. It also takes a first look at how pension policy interacts with other policy domains in the generation of living conditions for people after retirement. Here it has to be acknowledged from the outset that the comparison of wider concepts of adequacy across Member States is difficult. Given the broad range of pensions, health, long-term care and general welfare provisions for the elderly that exist as well as differences in the cost of living, tax systems, etc. this PAR will often have to restrict itself to tentative and incomplete excursions into these newer territories marked by data and conceptual difficulties.

As adequacy and sustainability are two sides of the same coin, in the sense that you cannot have one without a certain modicum of the other, the discussion in this Report about current and future adequacy measurements also seeks to analyse how adequate pensions can be provided in a sustainable manner and without over-burdening the working population. The report looks at options to provide adequate pensions in a cost-effective way as the population ages, such as by increasing incentives for work longer and for supplementary pension saving.

The PAR also starts the dialogue towards more similar methodological approaches to the measurement of sustainability and adequacy. Thus it seeks to better align the respective EPC and SPC pension indicators by using common assumptions in its pension projections. However, in the future it is envisaged that closer co-operation between the EPC and the SPC (and their

[11] http://ec.europa.eu/social/main.jsp?langId=en&catId=961&newsId=959&furtherNews=yes

respective subgroups) should contribute to real alignments in the measurement of the sustainability and adequacy dimensions.

The Pensions Adequacy Report is highlighted as one of the initiatives to deepen the monitoring of adequacy aspects in the Commission's White Paper on pensions.[12] Coinciding with the European Year 2012 for Active Ageing and Solidarity between Generations, the White Paper builds on the results of a wide consultation, launched in July 2010. It cuts across different policy areas and is fully in line with the Commission's 2012 Annual Growth Survey. While respecting national competences in the domain of pensions, the White Paper proposes, in particular, to adapt work places and labour market practices to bring older workers into work, to develop complementary private retirement schemes, to enhance the safety of supplementary pension schemes, to make supplementary pensions compatible with mobility, to encourage Member States to promote longer working lives, and to monitor the adequacy, sustainability and safety of pensions and support pension reforms in the Member States. The White Paper foresees that in cooperation with the Social Protection Committee the Commission will prepare the Pensions Adequacy Report to help Member States assessing the adequacy of their pension systems for women and men.

Structure of the Report

The Pensions Adequacy Report is structured as follows: it assesses challenges for pension adequacy in the short and the long-term following a chronological approach. Chapter 2 provides a more detailed definition of pension adequacy and its two main dimensions: income replacement and poverty reduction. It also presents the pension objectives agreed within the context of the open method of coordination (OMC).

Chapter 3 looks at current adequacy of pension systems in the EU. As the adequacy of pensions has to do both with providing life-cycle income smoothing and with avoiding poverty, the chapter develops the analysis of these two dimensions in 3.1 and 3.2 respectively.

The section on income smoothing (3.1) starts with a look at the current relative income situation of the population 65+ and then considers the role of pension systems in income maintenance of the elderly. The available OMC indicators of relative income are primarily used for this purpose (i.e. the aggregate replacement ratio, current theoretical replacement rates).

In contrast, the section on poverty avoidance (3.2) develops its analysis on the basis of indicators used within the EU2020 process, namely the at-risk-of-poverty rate (which measures relative income poverty), severe material deprivation and the composite EU2020 indicator of risk of poverty or social exclusion. A section on the income guarantees for older people intends to give a qualitative presentation of mechanisms in Member States to tackle old age poverty.

The remaining sections of Chapter 3 are intended to broaden the picture with brief considerations of how pensionable earnings are valorised and pensions in payments indexed (3.3), of adequate standards of living in old-age (the role of other economic resources available for the elderly – 3.4) and of the gender gap in pension entitlements (3.5).

Chapter 4 considers future challenges for the provision of adequate pensions. Section 4.1 looks at the longer-term adequacy of future pensions (for people who start working today) and with the help of the theoretical replacement rates tries to answer the questions: (a) what are the long-term adequacy risks for people with different career profiles given recent pension reforms, and (b) what kind of pension schemes will be the main sources of future income of pensioners

[12] The White Paper can be downloaded at: http://ec.europa.eu/social/pension

(4.1.1). The section also presents indicators of future adequacy calculated for the Ageing Report (4.1.2). Due to lack of available tools, no assessment of income replacement in the medium term (2020) and poverty in the long-term is provided.

Section 4.2 considers the link between pensions and labour market, and in particular how pension rules encourage longer working. It tries to see to what extent improvements in future adequacy can be obtained by working longer. Section 4.3 discusses adequacy risks inherent in different pension schemes, and concludes with a call to provide people with better information about the reformed pension systems (4.4).

Chapter 5 presents knowledge gaps in measuring adequacy and suggests areas for further research, for the attention of policy-makers.

The report focuses on the adequacy of pensions for older people. The majority of indicators used in the report reflect the situation of the population aged 65 and over and this is not equivalent to the situation of retired population. The terms "older people" or "the elderly" should be understood as referring to the population 65+.

2. Defining Pensions Adequacy and its Challenges

This chapter presents income replacement and poverty reduction as the two dimensions of pension adequacy. In this context the three European pension objectives of adequacy, sustainability and modernisation are sketched. These policy objectives have served for development of indicators, which are used for analysis in the chapters 3 and 4 of the report. The chapter also highlights how achieving pension policy objectives becomes even more challenging in the context of changing demographics and labour market patterns. Finally, some trends in recent pension reforms are presented.

The chapter finds that the combination of rising longevity and lower fertility will lead to a steep increase in the old age dependency ratio. However, the ageing challenge is even better illustrated with the economic old-age dependency ratio, which depends both on the changing age structure and on the employment situation. A well-functioning labour market is necessary to sustain pension promises. As a consequence of the reforms, pension systems have become far more complex than they used to be. Reformed pension systems should better suit ageing societies, but often reforms introduce new challenges and risks. These can have an impact on pension adequacy now and in the future.

2.1. Pensions Adequacy

For the purposes of this report the notion of pension adequacy is directly linked to the main public policy objectives of pension systems, which are:

1. Income replacement – Public pension systems in the EU Member States include social security schemes which aim at providing adequate pensions that would secure, to the greatest possible extent, the maintenance of standards of living at retirement. In some Member States supplementary pension schemes play an important role in achieving this goal.
2. Poverty reduction – Most public pension systems in the EU Member States provide minimum income provisions which mainly aim at preventing old-age poverty by securing a minimum, basic level of standard of living at retirement. Such minimum income provisions can come from earnings-related schemes, means-tested benefits, universal flat-rate pension or contributory flat-rate pension, or combinations of these.

Furthermore, the notion of adequacy needs to be assessed both today and in the future as most pension reforms have long transitional periods and often do not affect current pensioners or those cohorts soon to become pensioners. The inherent long-term generational nature of the pension promise is why this dimension is important in the analysis.

The report also pays attention to the gender dimension in pension policy, other benefits affecting the overall adequacy and poverty situation and the employment incentives of pension schemes.

2.2. Obtaining adequacy: objectives and challenges

The commonly agreed objectives in the pensions strand of the Open Method of Coordination

In order to encompass a multi-faceted analysis, this report looks at adequacy in the context of the three **commonly agreed objectives in the pensions strand of the Open Method of Coordination** (OMC)[13] (the common objectives for pensions are listed in the *Box: Common objectives for pensions*, using the form in which they were confirmed in 2006). It will be key to address the question of how adequate pensions can be made sustainable and safe as demography and economic dependency ratios change.

Box: Common objectives for pensions

Member States are committed to providing adequate and sustainable pensions by ensuring:

(1) adequate retirement incomes for all and access to pensions which allow people to maintain, to a reasonable degree, their living standard after retirement, in the spirit of solidarity and fairness between and within generations;

(2) the financial sustainability of public and private pension schemes, bearing in mind pressures on public finances and the ageing of populations, and in the context of the three-pronged strategy for tackling the budgetary implications of ageing, notably by: supporting longer working lives and active ageing; by balancing contributions and benefits in an appropriate and socially fair manner; and by promoting the affordability and the security of funded and private schemes;

(3) that pension systems are transparent, well adapted to the needs and aspirations of women and men and the requirements of modern societies, demographic ageing and structural change; that people receive the information they need to plan their retirement and that reforms are conducted on the basis of the broadest possible consensus.

The OMC framework allows an analysis of pension outcomes in Member States on the basis of some commonly agreed indicators linked to the commonly agreed objectives of adequacy, sustainability and modernisation of pension systems. The analysis draws mainly on indicators of current and prospective pension that have been developed for the pension strand of the Social OMC. Detailed presentations of these indicators are given in the Methodological Annexes.

In the corresponding chapters the analysis tries to clarify to what extent the indicators reflect reality, and to assess their strengths and limitations - including their usefulness for drawing policy conclusions.

Challenges that countries are facing in achieving pension objectives

Changing demographics and labour market patterns add to the need to closely monitor both the current and future adequacy and sustainability of pensions. The demographic perspectives challenge the attainment of pension objectives and difficulties have been aggravated by the economic and financial crisis. The following outlines such challenges by looking at the demographic context as well as recent labour market trends (in particular, employment rates of older workers).

[13] In 2001 Member States agreed a set of objectives for their pension systems which since have guided reform efforts and their assessment at EU level. Member States and the Commission assess progress towards the common objectives within the Open Method of Coordination (OMC) on social protection and social inclusion which has the Social Protection Committee as its pivot. The Social OMC works through common setting of objectives by the Commission and the Council, developing common indicators that measure progress towards objectives, reporting by the Member States on the basis of those objectives, and summarising of the findings by the Commission in reports subsequently endorsed by the Council.

Over the last decades, life expectancy has steadily been rising, with an increase of up to two and a half years per decade. If the reduction in mortality continues at this pace, most people in the EU will live substantially longer lives than their predecessors. This could mean life expectancy at 65 would increase by 5.2 years for men and by 4.9 years for women over the next fifty years[14]. In 2060, it is expected that life expectancy at age 65 will reach 22.4 years for males and 25.6 for females. Fertility rates have decreased in almost all Member States and in some they have remained very low.

Table 1. Old-age dependency ratio, economic old-age dependency ratio and their projected evolution for Member States (2010 – 2020 – 2040 – 2060)

a) Demographic (old age) and economic dependency ratios and their projected evolution for EU Member States (2010 – 2020 – 2040 – 2060) (age group: 15-64 years)

Old-age dependency ratio					Economic old-age dependency ratio				
	Old-age dependency ratio: 2010	Projected change in old-age dependency ratio between 2010 and 2020	Projected change in old-age dependency ratio between 2020 and 2040	Projected change in old-age dependency ratio between 2040 and 2060		Economic old-age dependency ratio: 2010	Projected change in economic dependency ratio between 2010 and 2020	Projected change in economic dependency ratio between 2020 and 2040	Projected change in economic dependency ratio between 2040 and 2060
EU-27	**25.92**	5.45	14.15	7.03	**EU-27**	**39**	6	18	9
BE	**26.03**	4.22	10.70	2.88	**BE**	**41**	6	16	5
BG	**25.44**	7.02	13.50	14.36	**BG**	**42**	6	20	20
CZ	**21.57**	8.80	9.70	14.93	**CZ**	**32**	10	13	19
DK	**24.87**	6.55	10.49	1.61	**DK**	**32**	8	11	1
DE	**31.26**	4.52	20.66	3.45	**DE**	**42**	4	25	4
EE	**25.18**	4.89	10.41	15.06	**EE**	**38**	4	11	20
IE	**16.82**	5.97	10.28	3.58	**IE**	**26**	8	13	7
EL	**28.41**	4.16	15.26	8.82	**EL**	**46**	4	21	11
ES	**24.69**	4.25	17.76	9.67	**ES**	**42**	2	16	14
FR	**25.66**	7.05	11.66	2.21	**FR**	**40**	8	14	3
IT	**30.78**	3.98	16.97	4.92	**IT**	**53**	4	25	7
CY	**18.64**	6.24	8.44	14.25	**CY**	**25**	6	10	18
LV	**25.19**	3.65	14.43	24.72	**LV**	**40**	2	14	32
LT	**23.28**	3.30	15.21	14.86	**LT**	**39**	3	17	21
LU	**20.43**	2.69	13.96	7.97	**LU**	**31**	4	22	12
HU	**24.20**	5.78	9.54	18.29	**HU**	**43**	7	12	28
MT	**21.26**	10.49	8.45	15.36	**MT**	**37**	14	9	23
NL	**22.82**	7.97	16.50	0.18	**NL**	**29**	8	20	1
AT	**26.10**	3.68	17.05	3.90	**AT**	**35**	4	20	5
PL	**18.96**	7.98	12.95	24.70	**PL**	**31**	10	21	37
PT	**26.70**	4.62	15.40	10.48	**PT**	**36**	6	16	14
RO	**21.37**	4.31	14.97	24.12	**RO**	**31**	9	27	41
SI	**23.8**	6.61	15.73	11.47	**SI**	**34**	9	19	15
SK	**16.93**	6.66	14.40	23.81	**SK**	**28**	10	23	36
FI	**25.63**	10.55	7.28	3.97	**FI**	**37**	11	10	5
SE	**27.72**	5.75	6.98	5.76	**SE**	**36**	5	8	7
UK	**24.86**	4.77	9.23	3.21	**UK**	**33**	6	10	4

Old-age dependency ratio: Number of persons aged 65 and over as % of the number of persons aged between 15 and 64.

Economic old-age dependency ratio (15-64): inactive population 65+ as % of employed 15-64.

Sources: Old-age dependency ratio: EUROPOP 2010 population projections; Economic old-age dependency ratio: *The 2012 Ageing Report: Underlying Assumptions and Projection Methodologies*.

[14] *The 2012 Ageing Report: Underlying Assumptions and Projection Methodologies*

Note: The impact of the very latest pension reforms in Member States is not included in the calculations (see Box 2, The 2012 Ageing Report).

b) Demographic (old age) and economic dependency ratios and their projected evolution for EU Member States (2010 – 2020 – 2040 – 2060) (age group: 20-64 years)[15]

	Old-age dependency ratio (20-64)					Economic old-age dependency ratio (20-64)				
	Old-age dependency ratio: 2010	Projected change in old-age dependency ratio between 2010 and 2020	Projected change in old-age dependency ratio between 2020 and 2040	Projected change in old-age dependency ratio between 2040 and 2060		Economic old-age dependency ratio: 2010	Projected change in economic dependency ratio between 2010 and 2020	Projected change in economic dependency ratio between 2020 and 2040	Projected change in economic dependency ratio between 2040 and 2060
EU-27	**28.4**	**6.0**	**15.6**	**7.7**	**EU-27**	**39.8**	**5.7**	**17.9**	**9.6**
BE	28.7	4.7	11.9	3.2	BE	41.8	5.1	16.8	4.5
BG	27.8	7.6	15.0	15.5	BG	41.7	6.6	20.2	20.2
CZ	23.8	9.3	11.1	16.0	CZ	32.3	10.2	13.1	18.4
DK	28,0	6.9	11.7	1.6	DK	34.6	7.7	12.2	1.4
DE	33.9	5.0	22.4	3.8	DE	43.7	3.1	25.8	4.7
EE	27.5	5.4	11.6	16.6	EE	37.7	4.6	11.1	20.3
IE	18.8	7.0	11.0	4.1	IE	26.9	8.3	12.5	8.4
EL	31.0	4.5	17.0	9.5	EL	46.7	4.0	21.1	11.3
ES	26.8	4.8	19.5	10.3	ES	42.1	2.2	16.6	13.9
FR	28.5	8.1	12.7	2.4	FR	40.5	8.6	14.1	3.3
IT	33.3	4.5	18.7	5.1	IT	53.1	2.5	21.9	6.2
CY	21.0	6.2	9.3	15.9	CY	25.3	5.6	10.5	18.1
LV	27.6	3.7	15.8	27.0	LV	40.0	1.9	14.7	32.0
LT	26.1	2.8	17.0	16.5	LT	38.7	3.0	17.9	20.9
LU	22.3	3.1	15.5	8.6	LU	31.0	4.7	22.0	12.3
HU	26.6	6.3	10.6	19.6	HU	43.2	6.5	12.6	28.4
MT	24.1	10.8	9.1	16.9	MT	38.6	13.7	9.4	23.6
NL	25.3	9.0	18.0	0.0	NL	31.2	8.9	21.1	0.7
AT	28.6	3.9	18.6	4.3	AT	36.6	4.0	21.0	5.5
PL	20.9	8.7	14.0	27.1	PL	31.0	10.4	21.0	37.4
PT	29.3	5.1	16.7	11.0	PT	36.7	5.7	15.8	14.8
RO	23.2	5.0	16.3	26.0	RO	31.9	8.3	27.2	41.4
SI	25.6	7.6	17.3	12.7	SI	34.3	9.1	19.8	15.5
SK	18.7	7.2	15.8	25.9	SK	28.5	9.7	22.7	36.4
FI	28.8	11.3	8.0	4.5	FI	37.8	11.6	10.7	5.1
SE	31.3	5.6	8.1	6.3	SE	37.2	4.6	9.0	6.8
UK	27.7	4.9	10.5	3.6	UK	34.8	5.5	11.1	3.8

Old-age dependency ratio: Number of persons aged 65 and over as % of the number of persons aged between 20 and 64.

Economic old-age dependency ratio (20-64): inactive population 65+ as % of employed 20-64.

Note: The impact of the very latest pension reforms in Member States is not included in the calculations (see Box 2, The 2012 Ageing Report).

The combination of rising longevity and lower fertility will lead to a steep increase in the **old age dependency ratios** of Member States (Table 1a). According to projections[16], the EU-27 will face a substantial increase in its demographic old-age dependency ratio, which is set to increase from around 26% in 2010 to around 32% in 2020 (by 5.5 percentage points between 2010 and 2020), to around 46% in 2040 and around 53% in 2060. There are different dynamics across Member States both in the intensity of old-age dependency and the pace at which population ageing is taking place. In 2010 the demographic dependency ratio varied from around 17% in IE and SE to more than 30% in IT and DE and in 2060 it will range from 37%

[15] Data source: The 2012 Ageing Report

[16] Europop 2010 population projections; The 2012 Ageing Report: Underlying Assumptions and Projection Methodologies

in IE to more than 60% in LV, RO, PL, SK and BG. The ageing of the population takes place sooner in some countries than in others, as illustrated by Table 1a, which shows how the ratio is projected to change for each country between the years 2010-20, 2020-2040 and 2040-2060. FI and MT are the countries where the old-age dependency ratio is set to increase already in the coming decade from 2010-2020 at a faster pace than in the years beyond 2020.

In some countries, e.g. BE, DK, DE, IE, FR, NL, AT, FI and UK the old age dependency ratio is projected to reach its peak in 2040 and remain somewhat stable thereafter. By contrast, BG, CZ, CY, LV, HU, PL, RO and SK are expected to experience further increases in the old age dependency ratio after 2040, higher than those expected to incur before 2040.

The ageing challenge is even better illustrated with the **economic old-age dependency ratio**, which can be defined in various ways, but in general it measures how the old-age/ inactive population is supported by those who, in principle, are active/employed and are contributing to the system financially. According to the 2012 Ageing Report, the economic old-age dependency ratio of the EU-27 (defined as inactive population 65+ as percentage of employed 15-64) will, similarly to the old age dependency ratios, almost double between 2010 and 2060, going up from 39% in 2010 to 45% in 2020, 63% in 2040 and 72% in 2060. Again attention should be paid to the fact that the situation in single Member States may differ significantly from the EU-27 average. We have both widely differing current economic dependency ratios and widely differing predictions of the evolution in the coming decades. In 2010 the ratio varied from around 25% in CY to 53% in IT and in 2060 it will range from 52% in DK to more than 90% in RO, PL, SK and HU, with different changes over the decades (Table 1a). The size of the working-age population is projected to shrink and this will reduce potential labour supply and have far-reaching consequences for economic, budgetary and social developments.

The Table 1b) provides the changes of the old age dependency ratio (as population aged 65 and over as a percentage of the population aged 20-64) and economic old-age dependency ratio (20-64) (as inactive population aged 65+ as percentage of employed population 20-64).

The old-age dependency ratio[17] (population aged 65 and over as a percentage of the population aged 20-64) in the EU-27 is projected to increase from 28.4% in 2010 to 55.0% in 2050 and 57.7% in 2060.

There are several factors which determine the evolution of the economic dependency ratio. The changing of the age structure is one of these factors. Another key factor is the **employment rates**: the higher the employment rates the smaller the economic dependency ratio. A less pronounced increase in the economic dependency ratio is therefore possible if Member States tap the potential of labour markets and increase the employment rates of the working age population (this is discussed in more detail in Chapter 4.2). Recent studies[18] show how different labour market scenarios impact on the evolution of economic dependency ratios in the context of given demographic change. If higher rates of employment for the working age population are reached the increase in economic dependency ratios can be substantially limited despite the enormous change in the age structure.

Meeting the pension promise is a long-term undertaking. For those in or close to retirement pension entitlements will tend to reflect labour market situations of the past, where conditions may have been very different from the situation today which only will be reflected in future adequacy attainments. **To sustain pension promises** and ensure a fair distribution of risks and burdens within the population, it is essential to have both a **well-functioning labour market and a high activity rate among the population**. One vital challenge will therefore be to

[17] The 2012 Ageing Report

[18] AK-Wien Dependency Ratio calculator.

increase employment among all groups that are under-represented in the labour market, such as women, immigrants and **older workers** (further analysis in section 4.2).

During the present economic crisis the employment rates for older workers have so far held up much better than in earlier downturns. Generally Member States have not encouraged early withdrawal from the labour market, as was often the case in previous recessions. While the employment rate in the 20-24 age group declined from 54.9% in 2008 to 50.3% in 2010, the employment rate of workers aged 55-64 withstood the test of the crisis and even saw a slight increase in the EU-27 average from 45.6% in 2008 to 46.3% in 2010. Since older worker employment rates in most Member States still are far too low it remains to be seen if the increase can be continued despite the adverse economic conditions.

Yet, avoiding a steep rise in the economic old-age dependency ratio will not just depend on the extent to which we manage to employ people after age 55. It will very much require **all people of working age** to **work more and longer**. The **labour market entry age and the total number of contributory years** (seniority) **are as important** for the economic dependency ratio **as the exit age.** The average duration of working life (Figure 29 in section 3.5) is determined by any periods of non-employment due to inactivity, incapacity or unemployment as well as by the entry and the exit age, whereas data on entry ages are scarce. LFS data document that between 2001 and 2009 the average exit age from the labour market in the EU-27 increased by 1.5 years to reach 61.4 years[19]. According to the 2012 Ageing Report, the average effective exit age from the labour force in the EU-27 in 2010 was 62.1 (62.5 – for men, 61.7 – for women). On average men exit 1 year later than women and this difference has been rather stable over the time period. Later exit ages clearly lead to more pension contributions and limit the growth in retirement periods. Thus they improve both the adequacy and sustainability of pensions systems.

Table 2 in section 3.1.2 provides some information on (contributory/work) seniority at retirement of new flows of retirees. While on average men work longer years than women and in many Member States the average number of contributory years is below what is needed to receive a full pension.

Pension reforms that countries have carried out in view of these challenges

In response to the demographic and labour market challenges outlined above as well as in response to the financial crisis many countries are adapting their pension systems. Reforms are aimed at achieving financial sustainability by better balancing revenues and liabilities while ensuring the adequacy of pension entitlements including through longer working lives and supplementary pension schemes. The 2010 EPC-SPC Joint Report on Pensions[20] took stock of the **major trends in pension reforms** in the EU over the last decade, and provided assessments of the adequacy and sustainability outcomes of the reforms. These are briefly recalled here.

Tightening the link between contributions paid into the system and benefits paid out has been a key feature of reform efforts. This often took form of moving from final pay or best years to lifetime earnings as the basis for benefit calculation, thus requesting a number of contribution years instead of solely on reaching a pensionable age and increasing the number of years required to receive a full pension.

Many reforms have also aimed at increasing the pensionable age and/or equalising it where there were gender differences. In most countries, the higher eligibility ages for a statutory pension are phased in over long periods, as this approach allows individuals to adjust their

[19] Eurostat data.
[20] http://ec.europa.eu/economy_finance/publications/occasional_paper/2010/pdf/ocp71_en.pdf

retirement planning. Reforms have aimed to close or reduce access to early retirement schemes and other early exit pathways in unemployment, sickness and disability schemes.

A number of countries have introduced mechanisms for automatic adjustment or periodic review of pension schemes as demographic and economic conditions change. To a varying degree such mechanisms adjust: (1) pension eligibility ages and/or pension benefits in line with gains in life expectancy, (2) the valorisation of entitlements and/or the indexation of benefits in line with the economic performance in terms of GDP growth and/or labour market performance, (3) contribution rates in line with the indexation of benefits (4) the valorisation of entitlements and indexation of benefits to ensure the financial balance of the pension system after external shocks.

Greater pre-funding, in one form or another, has been a widespread policy response to the demographic challenge (Chapters 4.1 and 4.3 describe in more detail the greater weight of funded schemes and its consequences). In macro-economic terms, pre-funding means bringing forward some of the costs of the demographic shift to distribute them over a longer period and over different generations. Pre-funding has been enhanced in four ways: (1) introduction of new defined-contribution (DC) schemes (either mandatory, with automatic enrolment or voluntary with tax incentives); (2) expansion of existing occupational schemes; (3) setting up of pension reserve funds; or (4) paying down of national debt.

Many Member States have also reformed their minimum income provision for older people in significant ways. Improvements to benefits levels and access, and changes to up-rating and indexing mechanisms or ad-hoc increases were particularly frequent.

As a consequence of the reforms pension systems have become far more complex than they used to be. Pension provision is now based on contributions from more pillars and new incentive structures have been introduced. Pension reforms have also meant a transfer of risk from pension scheme sponsors to the beneficiaries. As maturing of the reformed pension systems takes time, the results will be visible primarily in the future pension benefits of the current working age population.

The financial and economic crisis has aggravated sustainability and adequacy concerns for all types of pension schemes by lower growth prospects and increasing public deficits and public debt levels have affected sustainability. Regarding adequacy, today's pensioners have generally been well-protected against the crisis, but future pensioners, as described in the chapter 4, may be further affected by prolonged unemployment periods, lower contributions, poorer returns in financial markets (in case of funded schemes), and pension reforms introducing more demanding qualifying conditions.

As demonstrated by consecutive Ageing Reports including th**e 2012 edition pension reforms have substantially improved the medium and long-term sustainability of public pension expenditure.** Thus public pension schemes have become much more able to withstand the pressures of population ageing and their future contribution to pension incomes is better assured. **The consequences for the adequacy of the overall systems of pension provision emerging from reform efforts are less certain.** Generally, adequacy outcomes have become more conditional on longer and less interrupted working lives and on supplementary pension schemes that depend on returns in financial markets. **In that sense the higher sustainability of public pension expenditure in view of population ageing has been achieved in a partial trade off with the security of adequacy.** Individuals will have to shoulder a larger share of the particular and systemic risks of their future pensions. This report takes a closer look at how the adequacy of public pensions has been affected and at the extent to which people can recoup the decline in adequacy by working longer and by building additional entitlements in complementary retirement saving schemes.

3. Current Adequacy of Pension Systems

This chapter looks at the current adequacy of pension systems in the EU. As the adequacy of pensions has to do both with providing *life-cycle income smoothing* and with *avoiding poverty*, the chapter develops an analysis of these two dimensions in sections 3.1 and 3.2 respectively, together with reflections on how pension policies currently address them. To this end quantitative (based on available indicators) and qualitative assessment is provided, taking into account also to which extent reducing risk of poverty and social exclusion rates of older people could contribute to *achievement of the EU2020 poverty reduction* target.

Where pensions are earnings-related valorisation of past salaries or contributions influence how pensions replace income from work at the moment of retirement, while *indexation* of pensions is crucial for maintaining living standards after retirement. Both are discussed under section 3.3. Adequate standards of living in old-age are not only about pensions, so chapter 3.4 tries to assess the impact of *in-kind benefits* on living standards of older people. *Gender* dimension is discussed all over the chapter 3, but closer focus is presented in section 3.5.

The findings presented in the chapter demonstrate that pensions allow retired Europeans to enjoy living standards which are, on average, close to those of the rest of the population and in some countries higher than for other groups in society. Pension incomes presently derive primarily from public schemes financed mainly on a pay-as-you-go basis. Presently it is only in a few Member States (e.g. IE, NL, DK, SE, UK) that privately managed funded pension schemes have a significant complementary role in adequate pension provision – and then mostly as an element that raises the aggregate replacement rate of the pension package.

Thanks to pension systems, older people in most countries are currently less exposed to the risk of poverty and severe material deprivation than the rest of the population. Yet some pensioners, in particular women 75+ living alone, tend to be exposed to rather high risks of poverty. Inequality among people 65+ is also lower than for the general population.

The downward trend in severe material deprivation for people 65+ suggests that the absolute living standards of older people were being improved prior to the crisis, even if in some countries the development in living standards of the elderly lagged behind those of working age population. Moreover, during the crisis the bulk of pensioners have so far been better protected than the working age population. In most present pension systems dominant public pay-as-you-go schemes with elements of solidarity, and redistribution and with indexation of benefits in payments offer good protection against poverty risks and economic volatility.

Therefore, the ability of the EU to achieve its goal of reducing the number of people affected by poverty or social exclusion by 20 million by 2020 will also depend on the extent to which reformed pension systems will continue contributing to prevent poverty and social exclusion for older people.

Member States are reforming their rules on valorisation and indexation, and these can have an important redistributive effect and impact on the balance between the adequacy and sustainability of pensions. Economic well-being is to a large extent determined by the disposable cash income of households, but free or subsidised services in-kind provided by governments can influence the consumption possibilities of households in major ways.

The chapter also finds that pension incomes are usually higher for men than for women, who represent the majority of older people. The gender pension gap originates from differences in the employment rates and employment conditions of women and men during their working

lives (e.g. the gender pay gap) and an unequal distribution of roles between the genders, but it can also result from the design of pension schemes and trends in pension reforms.

3.1. Pensions and maintaining living standards in old age

Pension systems play a fundamental role in allowing retirees to maintain living standards comparable to those achieved during their working lives. This section first looks at the current income situation of the elderly and then looks at the role of pension systems in income maintenance of the elderly. The OMC indicators of the median relative income ratio of elderly people (65+), the aggregate replacement ratio (excluding other social benefits) and the current theoretical replacement rates are used as the first basis for quantitative assessment. The role of supplementary pensions in current adequacy is also examined.

Careful interpretation of the median relative income ratio and the aggregate replacement ratio is needed, as these indicators are based on the EU Survey on Income and Living Conditions which is reported with a significant time lag. 2010 (t) data refer to income and employment for 2009 (t-1) while only the information on living conditions and material deprivation refer to 2010 (t).[21]

The *relative median income ratio* is relevant to measure the overall income situation of older people (those aged 65 and more) relative to the younger age group (population aged 0-64). It is important to note that the standard of living of elderly people as measured by the current level of income at a large extent depends on the performance of national pension system in the past. The indicator covers income from pensions and other sources. Being a relative indicator, it is important to understand that this indicator is reactive to changes in the earnings of the working age population and that a change in the relative income of older people can result from increase or decrease in the incomes of workers. The wealth of pensioners, particularly house ownership and private savings, which could potentially have a positive effect on the relative standard of living of elderly people, is not included in this measure.

The *aggregate replacement ratio* is a measure of the median individual gross pension (including old-age and other pension benefits of people aged 65-74) relative to the median individual gross earnings (of people aged 50-59). It should be noted that the aggregate replacement ratio indicator is based on individual gross income figures and that several factors besides aggregate replacement rates (such as differences in household composition and size and the overall design of social protection and taxation systems) can have a strong influence on the overall living standards of individuals.

Theoretical Replacement Rates (TRR) are defined as the level of pension income the first year after retirement as a percentage of individual earnings at the moment of retirement. Thus they provide a proxy for the standard of living that people can achieve in retirement compared to their situation when working. Current[22] TRRs describe the situation of people who retire today (in the most recent exercise carried out by the Indicators Subgroup, people who retired in 2010 in the base case), following certain hypothesis. It is therefore important to understand that these individuals primarily have earned their pensions in pre-reformed systems and thus the calculations often reflect old and transitional legislation rather than the current legislation.

[21] In IE the reference period refers to the 12 months prior to the interview, while in the UK it is centred on the interview date.

[22] Future and trends in theoretical replacement rates are analysed in Section 5.2.1.

TRRs are calculated for an assumed hypothetical worker, who in the base-case has a given earnings and career profile (male, earnings of average wage constant over his fulltime 40 years career and retiring at 65). The TRR calculations include for each country only the schemes that are mandatory, typical or have a wide reaching coverage (Annex 5). In the variant cases the key assumptions of the base-case are changed, one at a time (for example assumptions about earnings profiles, the sex of the worker or the length of contributory periods, etc.). The *gross* TRR is defined in relation to the pre-taxed income (excluding employer contributions, but including employee contributions). The *net* TRR is calculated as net of income taxes and employee contributions.

The choice of specific common assumptions about the hypothetical worker inevitably implies that only a share of individuals is actually represented by a career scenario and that comparability between Member States of replacement rate levels depends on the degree to which the commonly defined individual case is representative in different Member States. For instance, the levels of theoretical replacement rates may be overstated for countries where the coverage of systems or the pensionable age is lower than the one assumed in the calculations (for information on pension ages and on coverage of the different pension systems see Table 2 and Table 3) and understated for countries where the contributory conditions for full pension rights exceed the simulated career length. Information on contribution rates assumed in the calculations is also important to interpret the representativeness of the TRR calculations (**Table 4** and Annex 5 provide information on contribution rates for current and prospective calculations).

Table 2. Actual legislated pensionable age, actual retirement age and seniority

	Type of Statutory Scheme (DB, NDC or DC)	Actual legislated pension eligibility age				Average age at retirement of new flows of retirees retrieving a statutory pension	Seniority (including non contributory periods) at retirement of new flows of retirees total (men/women)
		Males		Females (where different from males)		Total (men/women)	Total (men/women)
	2050	2010	2050	2010	2050	2010	2010
BE	DB	65	65	65	65	63,7	40
BG	DB and DC	63	65	60	63	60.5 (60.5 / 60.4)	35.1 (35.2 / 34.9)
CZ	DB	62y 2m	67y 10m	58y 8m*	67y 10m	60,2 (61,7/58,6)	42,6 (44,3/40,8)
DK	DB	65	67*			65,1	30
DE	DB	65	67			63,5 (63,9/63,6)	
EE	DB and DC	63	65	61,5	65	61,0	44 *
EL	DB						
ES	DB	65	67			63,43 (63,41/63,49) *	37,61 (39,89/31,25) *
FR	DB	60	62	60	62	60,6 / 61,4 *	39,6 / 37,7 **
IE	DB	66	68	66	68	63.5/64.7	
IT	DB and NDC	65	70	60	65	60(60,1/59,9)	30,7(33,9/27,1)
CY	DB	65	65			63,4	42.8
LV	NDC and DC	62	62	62	62	60,93(61,07/60,83)	
LT	DB and DC	63	65	60	65	60.5(59.6/61.7)	35.9(35/37.3)
LU	DB	65	65			60 (61/59) *	40 (42/36) *
HU	DB and DC	62	65	62	65	62,0	65
MT	DB	61	65	60	65	59.70 (59.89/58.93)*	40 (40/40)
NL	DB	65	65	65	65	65,0	50 *
AT	DB	65	65	60	65	58,1 (59,1 / 57,1)	*
PL	NDC and DC						
PT	DB	65	65			63,4	30,8
RO	DB and DC	64	65	59	65	60,7/58,3	39,1/31,7
SI	DB	63	63	61	61	60(62/58)	35(38/33)
SK	DB and DC	62	62	60*	62	59.26 (61.74/57.94)	37.91 (41.22/36.13)
FI	DB	65	65			63,5 (63,4/63,6)	35,4 (36,6/34)*
SE	NDC and DC	61/65	61/65			64,7	
UK	DB	65	68	60		65 (M) / 60 (W)	42 (M) / 26 (W)

* CZ: with 2 children

* FI: 2009. Earnings-related pension without actuarial reductions or increments can be taken between ages 63 and 68.

* SK: For women without children

* ES: Only employees

* MT: Source: LFS, NSO

* LU: old age pensions / general scheme / residents

* FR: Retirees of the 1942's generation; Source: DREES, Les retraités et les retraites en 2010.

** FR: Duration of activity; all schemes, except disability and incapacity pensions. Source: CNAV (2010)

* AT: 15 years: qualifying condition for a pension entitlement of someone's own; 37,5 years: for corridor-pension (kind of early retirement pension with deductions); 45 (m) / 40 (f) years: for early retirement due to long insurance period without deductions

* NL: public pensions are build up by residency between age 15 and 65

* EE: It includes some favourable pension years for some groups of people, where one service year is counted as three (also parents used to get additional service years per child in the past)

Source: Indicators Subgroup of the SPC, 2010 – 2050 Theoretical Replacement Rates exercise

Table 3. Membership and Coverage information

	Membership and Coverage information, 2010				
	Number of workers contributing to statutory pensions (% of persons enrolled in the labour force)	Active membership of occupational (or private in general) pension schemes (as % of the labour force)	Number of pensioners retrieving statutory pensions (as % of population in employment and of population above retirement age)	Number of pensioners retrieving occupational pensions (as % of population in employment and of population above retirement age)	Means-tested benefits (such as housing) (number of beneficiaries as % of population 65+)
BE	100	70	100	35	
BG	100		68 and 126		
CZ	100	-			
DK	100	75,1	32/100	73	46,8
DE	84				
EE	100 (1)	62 (2)	98 (3)	3 (4)	
EL	100	na	56.6 / 128.3	na	
ES	88,02 (1)	9,4 (2)	43,23 / 103,34 (3)		20
FR	100	ND			5,5
IE	47	38	28/99		
IT	100		61/116		6,7
CY	106,0	*			
LV	79,6 *	...	50,7/104,3**	0	...
LT	76	61	70 and 119	0 and 0	
LU	100%	na	16% *	na	3%
HU	88	72,7	77,7; 146,3		
MT	92.19%*	n. appl.	32.52%**	n.appl.	53,96% ***
NL	100%	90%	100%	?	82%
AT	100				
PL					
PT	84%		42% of population in employment 90% of population above 65		
RO	5.696.136		5.479.817		
SI	54,9	-	39,3	-	13,8*
SK	79,2	53,3	40,8/90,0	0	3,2
FI	100	7,8 %	37,9 % / 98,6 %	6,5 % / 17 %	10,2 %
SE	1	0,9	(1) 41% and (2) 108%	(3) 35% of population in employment and 87% men 80% women % of population above retirement age	(4) 14.65%
UK	100	51	27.2/100	19/61	26%

ES:
(1) Social Security System
(2) Participants in employment programmes (it does not include individual pension plans)
(3) All beneficiaires of contributory pensions of the Social Security system, regardless of age
Civil servants have different coverage; in total 100% of employed contribute to pensions

MT:
* Based on the number of all persons with NI contributions.
** The figure obtained as a ratio between total number of contributory and non-contributory pensioners in 2011 and total labour force plus population 60/61+. Data LFS 2010 and Demographic Review 2010, mid-year population.
*** Sum of all energy benefit, sickness assistance, supplementary allowance and rent subsidy beneficiaries.

LU:
*: resident population

SI:
* Estimation - the number of beneficiaries contains only data on minimum pension support beneficiaries

EE:
(1) State pensions: I pillar
(2) II pillar: statutory DC
(3): I pillar
(4): II pillar

HU:
Membership of private pension fund (31 Dec. 2010) : 3093786
Average number of pensioners in 2010: 2937100
(LFS) number of economically active people: 4256000
(LFS) number of people in empl.: 3781200
Population above 62 (mid-year): 2007083

LV:
* Number of contributors (employees and selfself-employed persons) % of employment (average)
** Total number of old age pensioners as % of population employment (2010 average) and as % of population above retirement age (end of 2010)

SE:
(1) Source: Pensionsmyndigheten 2010, Eurostat =1882329/4545800
(2) Source: Swedish Pensions Agency and Statistics Sweden (65+)=1882329/1737246
(3) Percentage of persons 66+ retrieving occupational pensions
(4) Source: Pensions Agency, Statistics Sweden

CY:
*: 45%, but the cell is empty because only statutory pensions are included in the calculations.

Source: Indicators Subgroup of the SPC, 2010 – 2050 Theoretical Replacement Rates exercise

Table 4. Contribution rates used in TRR calculations

	2010		2050			
	Statutory pensions (or in some cases Social Security): Estimate of current	**Occupational and voluntary pensions: Estimate of current**	**Statutory pensions (or in some cases Social Security)**	**Legislated or ad-hoc assumption?**	**Occupational and voluntary pensions**	**Legislated or ad-hoc assumption?**
BE	*[23]	4,25	*[24]	Legislated	4,25	Ad-hoc
BG	16,00[25]		19,80[26]			
CZ	28,00[27]	Approximately 1.4% of average wage (private contributions), 0.3% of average wage (state subsidy)	28,00	Legislated	Approximately 1.4% of average wage (private contributions), 0.3% of average wage (state subsidy)	Ad-hoc
DK		10,80			10,80	Ad hoc
DE	19,90		18,00		4,00	
EE	20,00 and 16,00[28]	4,00 and 2,00[29]	20,00 and 16,00	Legislated	4,00 and 2,00	Legislated
EL	*[30]	Legislated	23,00	Legislated		
ES	26,60					
FR	* [31]		6 or 16	Ad hoc		
IE	40,00				10,00	Ad hoc
IT			33,00		6,91	
CY	17,90		25,70	Legislated		
LV	18,00	2,00	14,00		6,00	
LT	24,30[32]	2,00	24,30	Legislated	2,00[33]	Legislated
LU	24,00[34]	Legislated	24,00	Legislated		

[23] The contribution rate for pensions in BE does not influence the amount of the pension entitlement. However, a global social contribution is levied on wages for the financing of social security. In this global rate, the pension contribution is of 16.36% of the gross wages (8.86% employers contribution – 7.5% personal contribution)

[24] Idem to the footnote 17.

[25] Earnings related PAYG, DB, administrated by National Social Security Institute: 17,8 % for persons born before 01.01.1960 (EE - 7,9%; ER - 9,9%); 12,8% for persons born after 31.12.1959 (EE - 5,7%; ER - 7,1%); 12% State. Universal Pension Funds (UPF): 5% for persons born after 31.12.1959 (EE - 2,2%, ER - 2,8%). Professional Pension Funds (PPF): 12%/7% for first/second labour category, paid by ER.

[26] The contribution rate of the Statutory pensions (PAYG + Statutory funded DC) will be 19,8% in 2050, respectively 12,8% for PAYG and 7% for DC.

[27] 28% total (21.5% employers, 6.5% employees).

[28] 20%, who has not joined II pillar; 16%-has joined II pillar – employer.

[29] 4% employer + 2% employee.

[30] Public pensions: IKA: employers– 13,33%, employees– 6,67%; ETEAM: employers – 3%, employees – 3%.

[31] *Private pensions scheme (CNAV):* Employer: 8.30% up to the SSC (3), plus 1.60% on the full wage; Employee: 8.30% up to the SSC (3), plus 1.60% on the full wage. *Complementary Pension Scheme (AGIRC)*: Employer: (2) 5.70% up to the SSC (3), plus 13.90% between one and four SSC, plus 12.60% between four and eight SSC, plus 0.22% up to eight SSC; Employee: (2) 3.80% up to the SSC (3), plus 8.60% between one and four SSC, plus 7.70% between four and eight SSC, plus 0.13% up to eight SSC. *Complementary pension scheme (ARRCO)*: Employer: (2) 5.70% up to the SSC (3), plus 13.30% between one and three SSC; Employee: (2) 3.80% up to the SSC (3), plus 8.90% between one and three SSC.

[32] Employers: 23.3%; Employees: 3% (1% for participant in the second pillar).

[33] Employees - 2% (Quasi-mandatory private scheme). Legislated for 2010 and 2011. In 2012 contribution rate has been reduced to 1.5%. This reduction will be compensated by raising the rate to 2.5% in 2013.

[34] 8% - employee, 8% - employer and 8% - state budget.

	2010		2050			
	Statutory pensions (or in some cases Social Security): Estimate of current	**Occupational and voluntary pensions: Estimate of current**	**Statutory pensions (or in some cases Social Security)**	**Legislated or ad-hoc assumption?**	**Occupational and voluntary pensions**	**Legislated or ad-hoc assumption?**
HU	*[35]		18,50		8,00	
MT	30,00[36]		30,00	Legislated		
NL	17,90	13,30 and 6,70[37]	17,90	Legislated	13,30 and 6,70	Ad hoc
AT	22,80[38]		22,80	Legislated		
PL			12,22		7,30	
PT	34,75[39]	50,00; 11,00; 4.87[40]	34.75	Legislated	25.48; 10.20; 5.37	Ad hoc
RO	31,30[41]		31,30	Legislated	6,00	
SI	8,85 and 15.50[42]		8,85 and 15.50	Legislated		
SK	28,75		19,75[43]	Legislated		
FI	21,60[44]		28,00			
SE	16,00	2,50 - 30,00	16,00	Legislated	2,50 - 30,00	Collective agreement
UK	23,80[45]	8,00	23,80	Legislated	8,00	Ad hoc

Source: Indicators Subgroup of the Social Protection Committee (the assumptions used are those set by the OECD which is responsible for the calculations pertaining to 2050)

Annex 2 and Annex 5 give all the background and context information to fully understand how representative these calculations are for different Member States.

Since the representativeness of the TRR cases varies considerably among Member States **the direct comparability of the results is limited of**. However, when the variant cases are compared to the base-case, TRRs can be very useful tools to show how changes in career length, earning profiles and career breaks (e.g. due to childcare or unemployment) can affect pension levels within each country. Table 2 presents some information about the pensionable age, the retirement age and the seniority that are used in the calculations for the different countries.

[35] PAYG DB: mandatory social insurance pension scheme: Employers: 24%; Employees: 1,5%; (in 2010 total: 9,5% - 8% to private pension system, 1,5% to Pension Insurance Fund; in 2011 and 2012: 10%). Mandatory DC private pension system: 8% (of total 9,5%).

[36] 10% employee; 10% employer; 10% the state Subject to ceiling.

[37] Employers: 13,3%; Employees: 6,7%

[38] Employers: 12,55%; Employees: 10,25%

[39] Employers: 23.75%; Employees: 11%

[40] First pillar DB plans; Other DB plans; DC plans.

[41] a) 31,3% for normal working conditions, of which 10,5% for the employee and 20,8% for the employer;
b) 36,3% for difficult working conditions, of which 10,5% for the employee and 25,8% for the employer;
c) 41,3% for special working conditions, of which 10,5% for the employee and 30,8% for the employer.

[42] 8,85% employer; 15,50% employee.

[43] SK belongs to Member States with statutory funded DC pillar.

[44] Employers: 16.9%; Employees: 4.5(18-52) /5.7 (53-68).

[45] The contribution to the statutory scheme stands at 23.8 (12.8% from employers and 11% from employees) in 2010/11. However income below the primary/secondary threshold is exempt and different rates would apply to any income above the Upper Earnings Limit. The contribution covers some social benefits other than pensions such as the National Health Service.

3.1.1. The current relative income situation of the elderly

The relative income of older people has been rather stable at the EU-27 level over the period 2005-2010. The relative median income ratio reached **88% for the EU-27** in 2010. There are however substantial differences across countries, both in the levels and in the trends.

In CY the relative median income ratio is 64% (in 2010), while in DK, EE, BE and BG it lies between 70% and 75% (in 2010). This can be due to low pension entitlements relative to the disposable income of the active age group or high disposable income (perhaps due to low tax) relative to pension entitlements. At the other end of the spectrum, FR, LU and HU in 2010 recorded a relative median equivalised income for people over 65 that was greater than that for younger cohorts.

Between 2005 and 2007 the ratio for EU-27 dropped slightly from 86% to 84%[46]. In 2008 the trend was reversed as the ratio increased back to 86% and reached 88% in 2010. These overall developments at EU level hide more dynamic situation between Member States (see Figure 1).

In eight countries (BG, CZ, DE, NL, AT, PL, SK and SE) the ratio was lower in 2010 than in 2005. The decline was particularly visible in PL and BG before 2009, as the incomes of older people did not follow the rapid increase in the incomes of the working age population. In PL the decline might also reflect the fact that the newly granted pensions have been relatively reduced after the 1999 reform. In SE the drop in relative living standards of the elderly is due to the in-work tax credit that was introduced in order to encourage labour market participation of the working age population.

In twelve Member States (IE, EL, ES, FR, IT, LT, LU, PT, RO, CY, MT and UK) the ratio increased by at least 5 p.p. between 2005 and 2010, reflecting that the median income of the elderly has been relatively improved. In seven countries (BE, DK, EE, LV, HU, SI and FI) the ratio was stable or increased by less than 5 p.p. This hides the fact that EE, LV, and LT witnessed considerable fluctuations: a relative worsening of the median income situation of the elderly in the boom years followed by improvements as the crisis struck and wages were lowered.

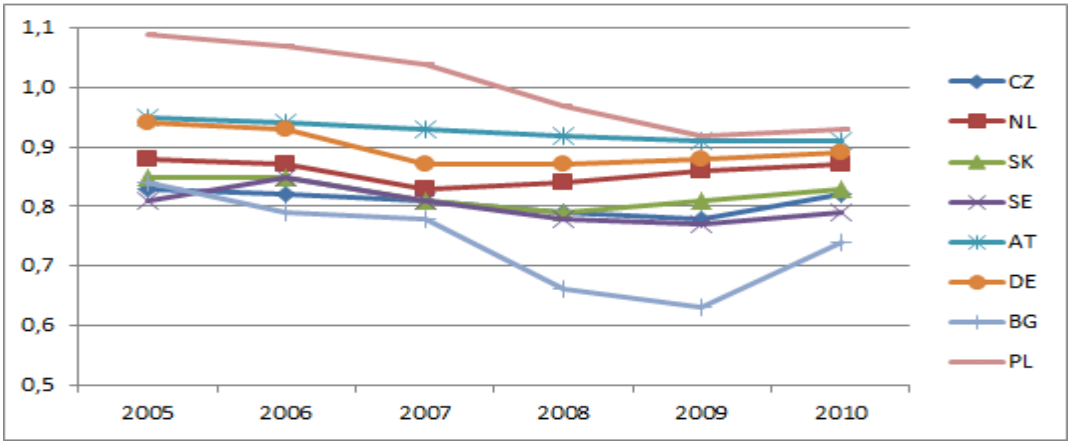
When analysing fluctuations of the indicator, one has to take account of the fact that it is a relative measure and its value is influenced by changes in the income of both the elderly (numerator) and the working age population (denominator). A decrease in the income of the working age population when the income position of people age 65+ remains stable might give the impression that the position of the older cohort had improved. The indicator thus needs to be assessed together with some absolute variables, e.g. the evolution in the per capita incomes.

[46] The data are based on surveys and refer to the previous year (e.g. the 2010 data reflect income situation in 2009).

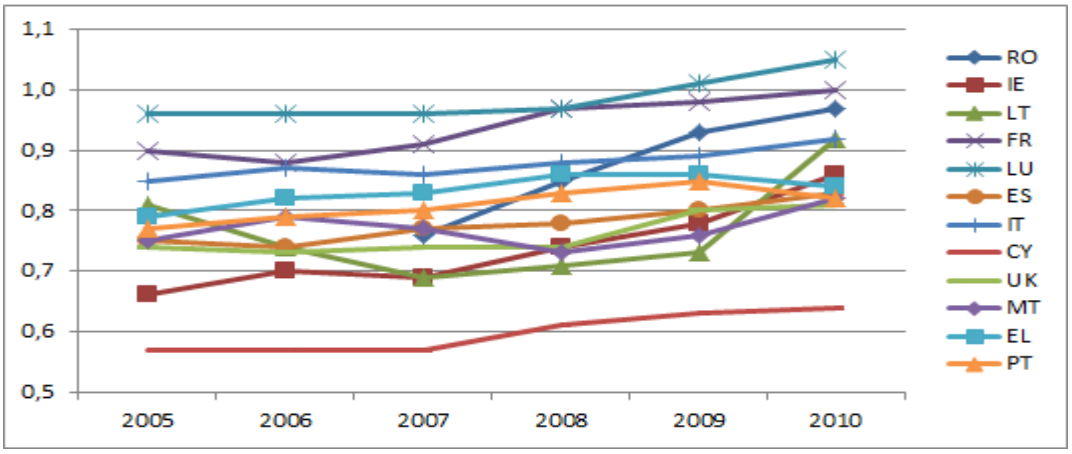
Figure 1. Changes in median relative income ratio of elderly people over time: 2005 – 2010

Definition: The relative median income ratio is the ratio of median equivalised disposable income of persons aged 65 and above to the median equivalised disposable income of persons in the complementary age group (0-64).

a) Countries where the ratio dropped between 2005 and 2010

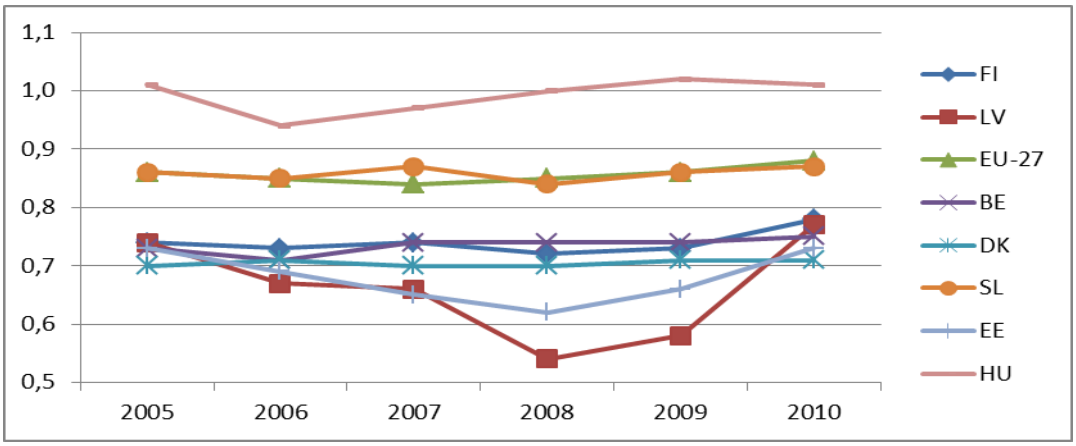


b) Countries where the ratio increased by at least 5 p.p. between 2005 and 2010



Note: RO: data available for 2007-2010, Source: Eurostat, EU-SILC, [ilc_pnp2]

c) Countries where the ratio was stable or recorded a small increase of less than 5 p.p. between 2005 and 2010

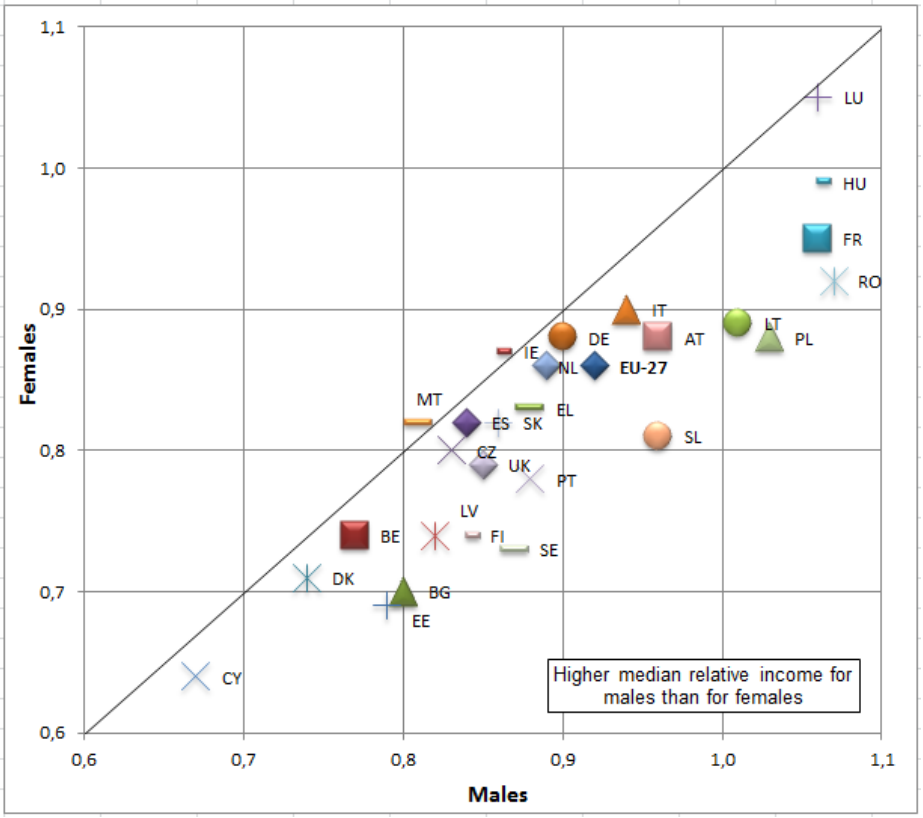


Source: Eurostat, EU-SILC, [ilc_pnp2]

Note: The EU Survey on Income and Living Conditions (EU-SILC) has a significant time lag. 2010 (t) data refer to income and employment for 2009 (t-1) while only the information on living conditions and material deprivation refer to 2010 (t). In IE the reference period refers to the 12 months prior to the interview, while in the UK it is centred on the interview date.

As the median relative income ratio is based on equivalised household income[47], differences between men and women fundamentally reflect income differences between people living in single households. The overall tendency is for **men to have a higher relative median income ratio than women** have (Figure 2).

Figure 2. Relative median income ratio for individuals aged 65+, by gender, 2010



Source: Eurostat, EU-SILC, [ilc_pnp2]

Note: The EU Survey on Income and Living Conditions (EU-SILC) has a significant time lag. 2010 (t) data refer to income and employment for 2009 (t-1) while only the information on living conditions and material deprivation refer to 2010 (t). In IE the reference period refers to the 12 months prior to the interview, while in the UK it is centred on the interview date.

3.1.2. The current role of pensions in income replacement

According to ESSPROS data, pension expenditure in the EU-27 was 13.1% of GDP in 2009.[48] Public pension expenditures make up a big part of public expenditure (EU-27: 11.3% of GDP

[47] See **Annex 1** for explanations on indicators.

[48] Categories of pension benefits in ESSPROS: old-age, anticipated old-age, partial retirement, early retirement due to labour market reasons, early retirement due to reduced capacity to work, disability, survivors'.

in 2010[49], variance 6%-15%) and are a major factor in the present and medium to longer term public budget position. According to the 2012 Ageing Report, public pension expenditure in the EU-27 is projected to increase by 1.5 p.p. of GDP over the period 2010-2060 to a level of 12.9% of GDP. Pensions constitute by far the main source of income of older Europeans[50], who represent a large and growing share of the EU population. Over 120 million or around 24% of Europeans are pensioners[51]. Almost 2/3 of these are women. **The number of pensioners in Europe exceeds the number of people aged 65+ by more than 30 million since many people start receiving a pension before they reach the age of 65**.

Aggregate replacement ratio

To assess how pensions play their role of replacing income, it is important to understand how many people are covered by pension systems and how large proportion of their income is derived from pensions. The aggregate replacement ratio measures the median individual gross pension (including old-age and other pension benefits of people aged 65-74) relative to median individual gross earnings (of people aged 50-59).

The ratio reached **53% for the EU-27** in 2010, although there are substantial variations across countries, both in the levels and in the trends. In general, the aggregate replacement ratios show that current median pension levels are very low compared to current median earnings in CY (36% in 2010) and to some extent in EL, BG and DK (less than 45% in 2010). This can be due to low income replacement from statutory pension schemes (e.g. BG), but it can also reflect the immaturity of supplementary pension schemes (e.g. CY), low past labour force participation rates and incomplete careers or under-declaration of earnings in the past.

As for its **evolution** (see Figure 3), the value of the ratio for the EU-27 decreased from 51% in 2005 and 2006 to 49% in 2007. Then it bounced back slightly in 2008, and the increasing trend was amplified during the crisis years reaching up to 53% at EU-27 level in 2010. This is primarily the result of the crisis-related decline in the wage incomes of people aged 50-59.

In 2010 compared to 2005, the ratio was more than 5 p.p. lower in five Member States (BG, EL, IT, LV and PT). The initial 2005 value of the ratio for all these countries was higher than the EU-27 average and the largest drops took place during the years 2006-07. The decrease may still be fully recovered as the crisis continues.

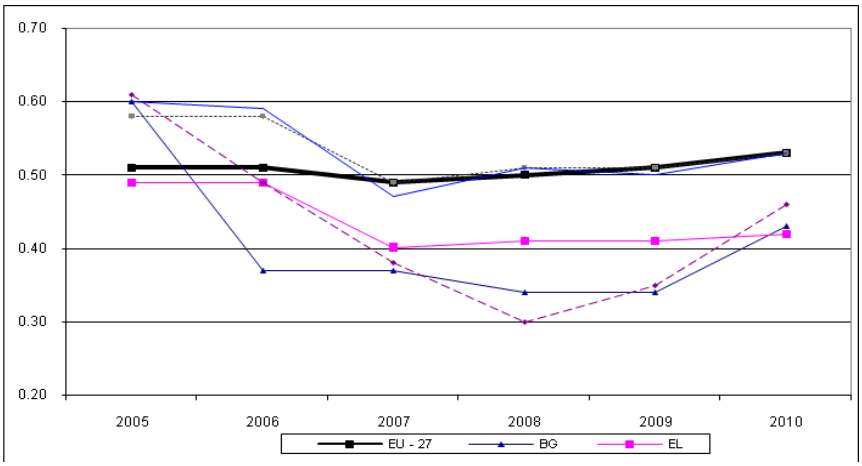
In the same period the ratio increased by more than 5 p.p. in eight countries (DK, EE, FR, CY, LT, RO, SK and UK). Changes in 2010 were the result of crisis-related decline in wage incomes. Increases in the ratio in IE in 2007 or LV in 2008 (extension of supplementary payments for pensioners) were probably the result of deliberate policy leading to increases in pensions in payment. For CY continued increases in the ratio reflect at a large extent the maturing pension system.

[49] The 2012 Ageing Report, Public pensions, gross as % of GDP
[50] Especially those over the age of 65, but also people aged 55-64, and sometimes younger.
[51] The 2012 Ageing Report

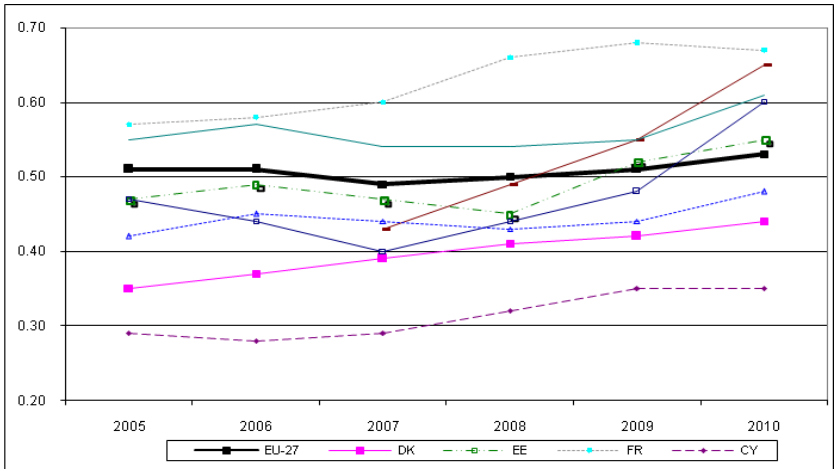
Figure 3. Changes in aggregate replacement ratio over time: 2005 – 2010

Definition: the aggregate replacement ratio is the ratio of median personal (non-equivalised) income from pensions of persons aged 65-74 relative to median personal (non-equivalised) income from earnings of persons aged 50-59.

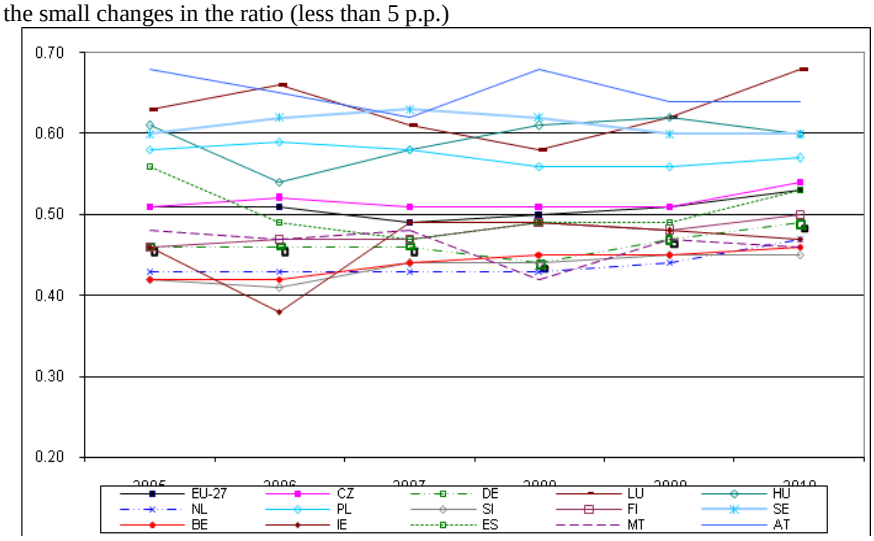
a) Countries where the ratio dropped by at least 5 pp.



b) Countries where the ratio increased by at least 5 p.p.



c) Countries with the small changes in the ratio (less than 5 p.p.)

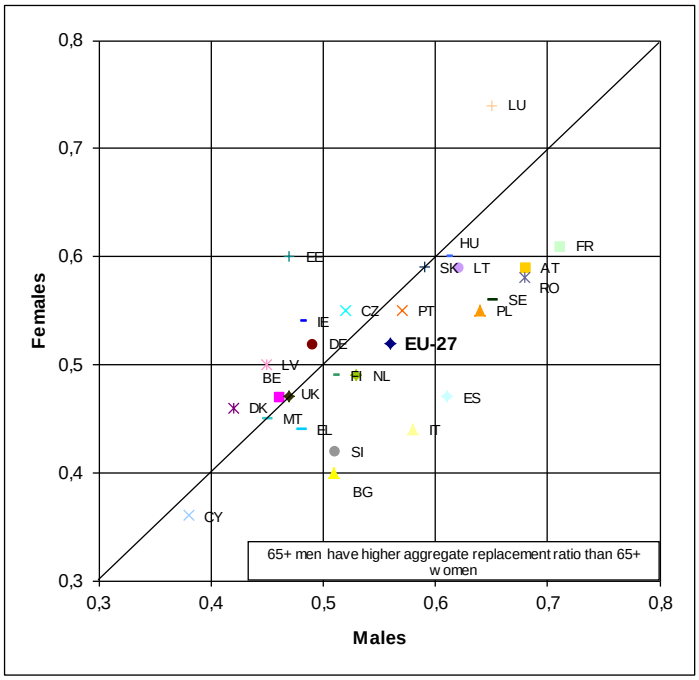


Source: Eurostat, EU-SILC

Note: The EU Survey on Income and Living Conditions (EU-SILC) has a significant time lag. 2010 (t) data refer to income and employment for 2009 (t-1) while only the information on living conditions and material deprivation refer to 2010 (t). In IE the reference period refers to the 12 months prior to the interview, while in the UK it is centred on the interview date.

Some Member States display strong differences between men and women in the aggregate replacement ratio (Figure 4)[52]. Unlike the relative median income ratio, these results are based on personal (non-equivalised) income and reflect actual gender differences in relative levels of pensions and earnings with some of gender differences having to due with the higher proportion of older women that live alone[53].

Figure 4. Aggregate replacement ratio for individuals aged 65+, by gender, 2010



Source: Eurostat, EU-SILC

Note: The EU Survey on Income and Living Conditions (EU-SILC) has a significant time lag. 2010 (t) data refer to income and employment for 2009 (t-1) while only the information on living conditions and material deprivation refer to 2010 (t). In IE the reference period refers to the 12 months prior to the interview, while in the UK it is centred on the interview date.

On average in the EU-27, the median gross pension income of women aged 65-74 relative to gross earnings of women aged 50-59 is lower than that of men (52% for female *versus* 56% for male). Lower relative pension entitlements might reflect shorter formal working careers of women in the past and higher incomes of women of working age today. In ES, IT, BG, FR, RO and to a lesser extent AT, PL, SI and SE, aggregate replacement ratios for men are significantly higher than for women (with a 14 p.p. difference for ES and IT). By contrast aggregate replacement rates appear to be higher for women in EE, LU and to a lesser extent IE. This might be due to lower relative increments in survivor pensions, but also to a historical gender pay gap. It is important to note that the increasing labour market participation of women will result in better pensions for women in the future.

[52] In principle - as we are dealing with a relative measure - aggregate replacement ratios could be better for women even though the absolute values of women's pensions were much below those for men.

[53] *Social protection and social inclusion 2008: EU indicators*, European Commission.

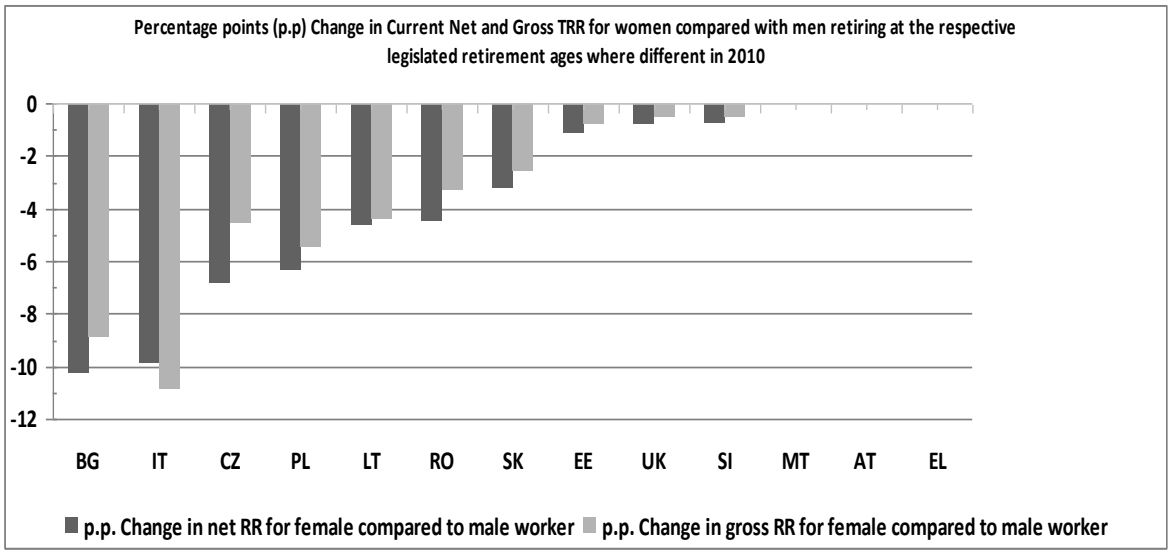
Current theoretical replacement rates

- Current differences in replacement rates for men and women

In 2010 the pensionable age was different for men and women in 13 Member States (BG, CZ, EE, EL, IT, LT, MT, AT, PL, RO, SI, SK, UK). This means that women have shorter periods in which to build pension entitlements than men. In the TRR calculations that look at gender differences retirement is therefore assumed to take place at the gender specific pensionable age and not the assumed retirement age used in the base case calculations. While gender differences in the duration of working lives as defined by the pensionable age thus are taken into consideration this is not the case for the differences in average earnings that may exist between men and women.

Figure 5 shows that the gross and net replacement rate are lower for women than for men in almost all these Member States as a result of women retiring earlier than men. This is particularly pronounced in BG, IT, CZ and PL where net rates for women are as much as 5 percentage points (p.p.) lower than for men. With pension benefits increasingly linked to the length of contributory periods **lower pensionable ages is no longer an advantage for women**. CZ, EE, EL, LT, MT, AT, SK and UK have recently legislated equalisation of pensionable ages for women and men.

Figure 5. Percentage points (p.p.) changes in net and gross TRR for women compared with men average earners retiring at the respective legislated retirement age (where different) in 2010



Source: Indicators Subgroup of the SPC, 2010 - 2050 Theoretical Replacement Rates exercise. In these calculations retirement is assumed at the legislated retirement age for both men and women and not the assumed retirement age of 65 used in the base case calculations. Probable differences in average earnings that may exist between men and women are not considered. The schemes covered are as in the base case.

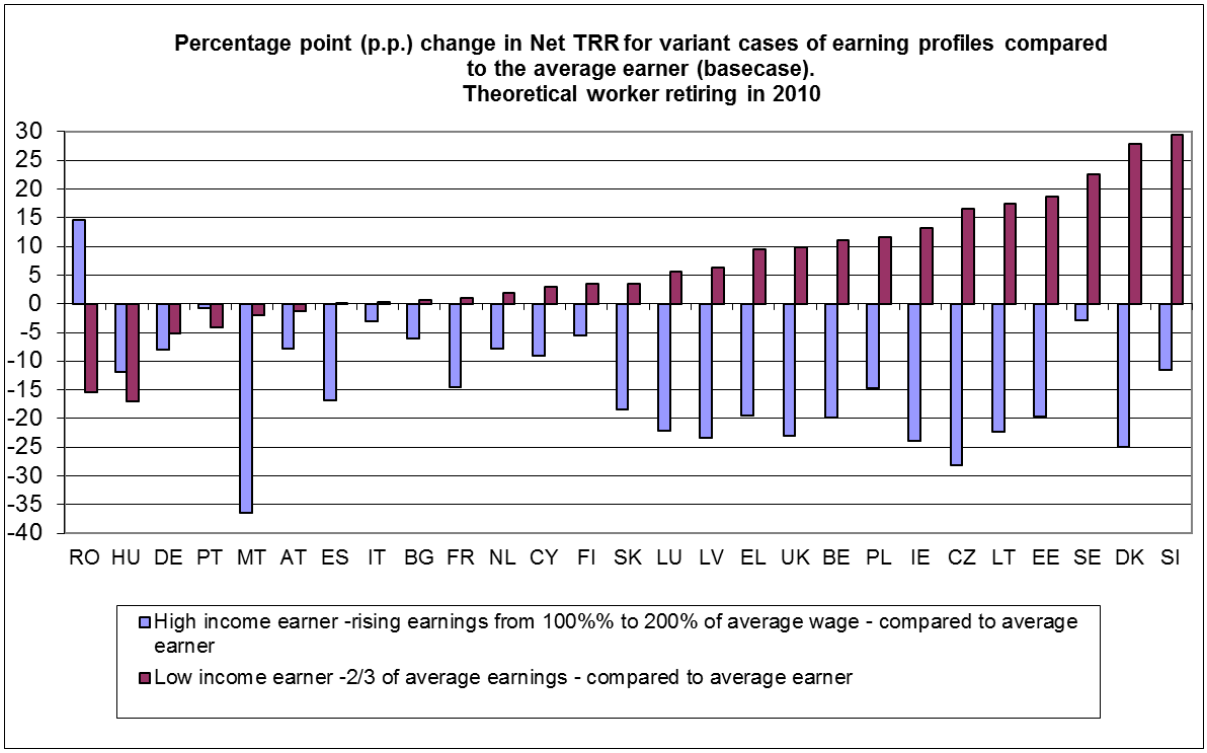
- Differences in replacement rates between individuals with different earning profiles (average / low / high income earners) retiring today

Figure 6 shows the **effects on the current net TRR of different earning profiles**: a low income earner (2/3 average wage) and a high wage earner (with a linearly increasing earnings profile beginning at 100% of the average, ending at 200% of the average) compared with an average earner (all retiring in 2010).

For workers with low earnings, statutory public schemes tend to have a more significant role in the replacement of income. Net replacement rates are significantly higher (at least 10 p.p.) for low income workers than for average earners in many Member States (EL, UK, BE, PL, IE, CZ, LT, EE, SE, DK and SI). This reflects the fact that many countries attempt to protect low income workers in the statutory pension schemes.

For the remaining Member States the difference is smaller. A few Member States even have lower net replacement rates for low earners than for average earners (RO, HU, DE, PT, MT and AT). The reason may be that taxes and social security contributions have a higher effect on the net replacement rates for low earners than for workers with average or high incomes. Low-income workers typically pay less in taxes and contributions than those on average earnings. However, in many cases, retirement incomes for those with lower earnings are at a level that does not allow them to benefit from income-tax reliefs (allowances, credits, etc.). This means that in some cases low income earners may pay a larger portion of their gross pension in taxes as compared with an average earner.

Figure 6. Percentage points (p.p.) change in net theoretical replacement rates for variant cases of earning profiles compared to the average earner (base case), theoretical workers retiring in 2010



Source: Indicators Subgroup of the SPC, 2010 - 2050 Theoretical Replacement Rates exercise

At the other extreme, the case of a higher than average wage earner demonstrates how the earnings ceilings that often exist in statutory pension schemes restrict replacement rates. High wage earners, however, often receive a higher proportion of their pension income from supplementary schemes.

In Member States those with a higher earnings profile display significantly lower future replacement rates than average earners, with 20 p.p. or lower TRRs in MT, LU, LV, UK, BE, IE, CZ, LT and DK. This less favourable situation for high wage earners in Member States reflects the progressive redistribution often embedded in the contribution/benefit formulas of

pre-reform public pension schemes. Other reasons for this result are the linear growth of the high earner variant (from 100% to 200% of the average wage) and the methodology of the Theoretical replacement rates calculations[54].

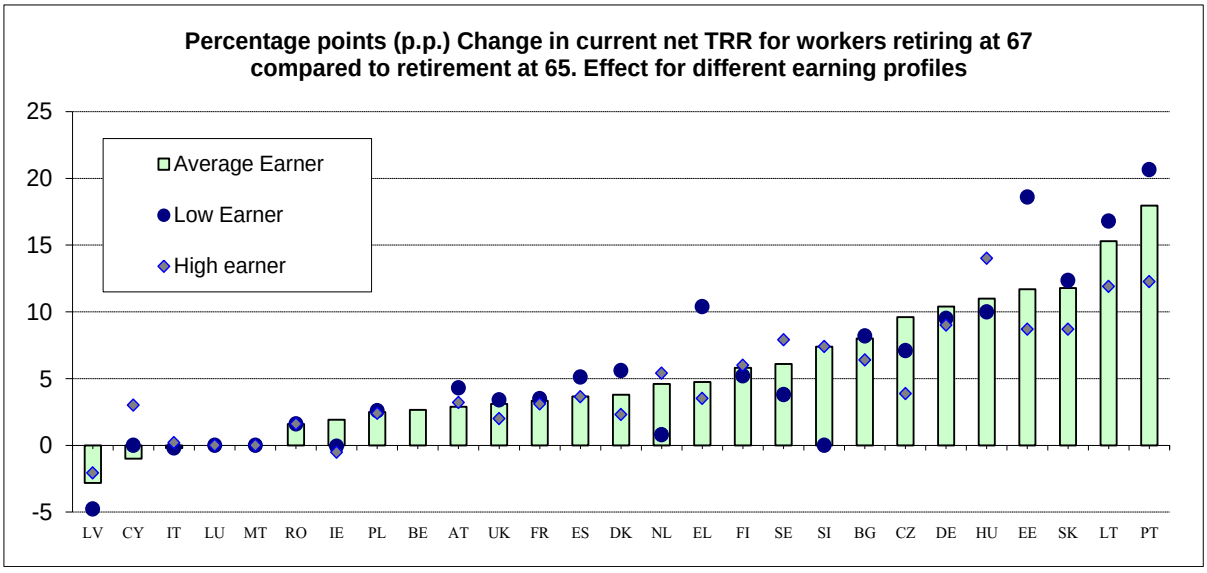
- *How do longer / shorter careers affect replacement rates currently?*

In these variant cases the incentives to longer careers and disincentives to shorter careers embedded in the pension systems in place over the last 4 decades, are studied by comparing a worker who retires at 65 with one that retires at 67 or at 63[55], i.e. by comparing the effect on pension benefits of increasing and decreasing the seniority or number of contributory years of the worker. Figure 7a) and Figure 7b) illustrate the economic consequences on *current* net replacement rates of longer and shorter careers for workers at different wage levels. It is important to note that some of the effects shown are a result of the assumptions used in the calculations: for example, in reality, a DB system with a fixed retirement age lower than age 65 may not include the work incentives or the options for prolonging the member's career which are assumed in the calculations.

Calculations show that in almost all Member States **delaying retirement results in higher net TRRs (increases of more than 10 p.p.** for the average earner with respect to retirement at 65 occur in DE, EE, SK, LT, PL and HU), while shorter careers result in lower replacement rates (drops of more than 10 p.p. for the average earner occur only in LV, ES, FR, SK and CZ). It is interesting to note that the bonus/malus **incentives embedded in pension systems are not symmetrical**: in all but a few Member States the increments in rates for prolonging working lives (and postponing pension take up) by two years are bigger than the falls in replacement rates for shortening careers by two years.

Figure 7. Different carrers for different earning profiles

Figure 7a. Longer careers for different earning profiles (42 contributory years and retirement at 67 compared to 40 contributory years and retirement at 65)

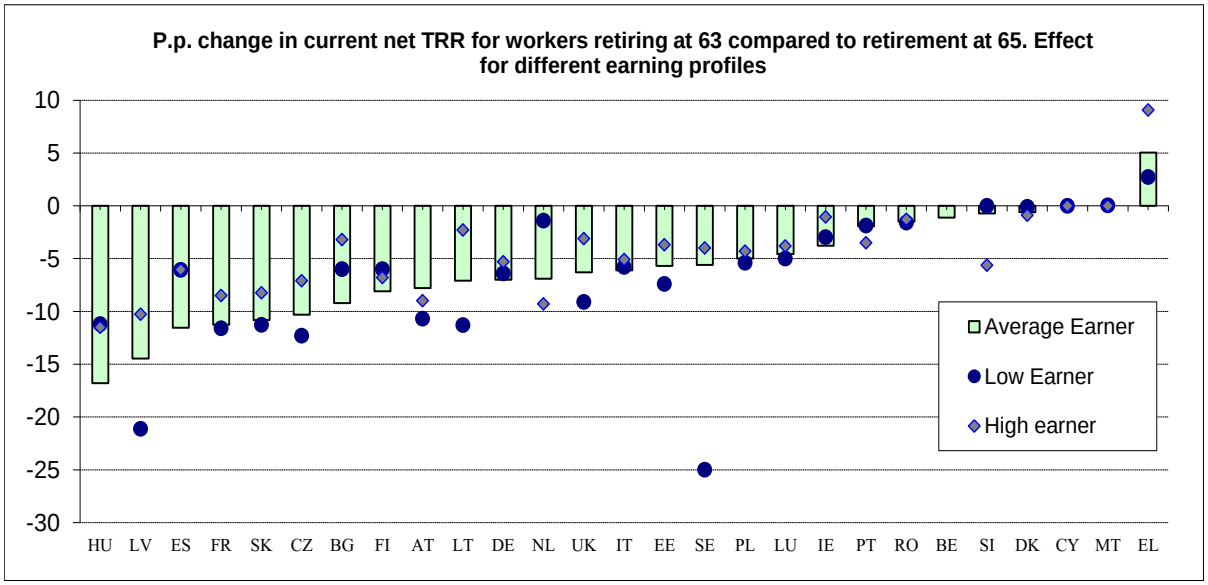


Source: Indicators Subgroup of the SPC, 2010 - 2050 Theoretical Replacement Rates exercise

[54] The resulting pension calculated from career earnings at 1.5 times average wage are compared to the final salary at 2 times the average wage.

[55] In CY working longer does not refer to retirement at 67, but retirement at 65 with 42 years of work. In BE the results reflect retirement at 65 after a career of 38 or 42 years (full career condition: 45 years).

Figure 7b Shorter careers for different earning profiles (38 contributory years and retirement at 63 compared to 40 contributory years and retirement at 65)



Source: Indicators Subgroup of the SPC, 2010 - 2050 Theoretical Replacement Rates exercise

Figure 7a) and Figure 7b also demonstrate that the **incentives to work longer and disincentives to early retirement are broadly preserved across the different income groups** for many Member States[56]: thus, the percentage point change in current net TRR after 38 / 42 years career compared to 40 years career is similar for all income groups (low / average / high income earners). In a few Member States the incentives for longer working are stronger for high income earners (CY, NL, SE) while in EL, EE, LT and PT low income earners have better incentives to work longer than average or high earners. On the other hand, disincentives to shorter careers are stronger for high income earners in SI and NL. Low income earners have stronger disincentives to shorter careers than their counterparts with average or high incomes in LV, CZ, LT, UK and especially in SE, this raises the question as to whether there is sufficient balance between work incentives and poverty protections in minimum income benefits for older people. In SE the results can have different explanations. Firstly, minimum income pensions have an eligibility age which is higher than in the calculations of the case retiring at 63 (a person is not eligible to receive the guarantee pension before age 65).

- *Effect on current replacement rates of career breaks (due to childcare or unemployment)*

To what extent are the build-up of pension entitlements in contributory systems protected in the case of career breaks due to care responsibilities or unemployment? TRRs that simulate the effects on final pension benefits of variant cases with career breaks due to childcare or unemployment can help answer the question.

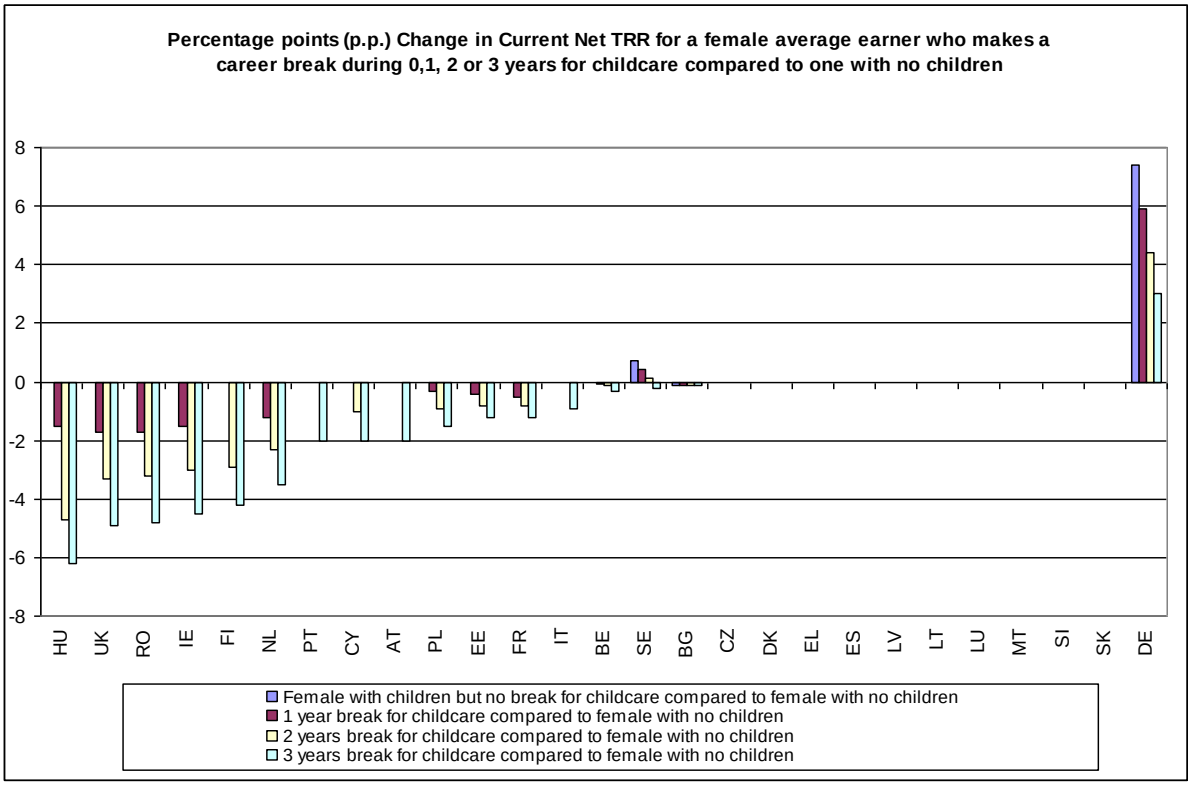
In many Member States, absences from the labour market due to parental duties linked to childbirths and childcare are typically protected to a certain extent for the first years of absence. In the variant cases simulating absences from the labour market due to childcare years, replacement rates are calculated for women. Figure 8 shows the effects on current net TRR for a female average earner with career breaks for childcare of 0, 1, 2 or 3 years (compared to a woman with no children).

[56] For example, in MT working longer does not affect the Theoretical Replacement Rares (TRRs).

In most Member States, maternity and childcare do not give or reduce pension credits if there are no years of absence from the labour market. But DE and SE have systems which provide **extra pension entitlements following the birth of a child**, which means that even if no actual period of childcare leave is taken the pension is still greater than for women with no children. Furthermore, in SE these entitlements are gender neutral and go automatically to the parent with the lowest income until the child is aged four.

In a few Member States, pension rights **are** so **well protected** that calculations show no drop in current replacement rates as effect of a career break of up to three years (e.g. CZ, ES, LV, LT, LU, MT, SI, SK). In other Member States, **childcare years result in a drop in replacement rates compared with a woman with no children from the first year of absence**, and the drop is often sharper the longer the absence from the labour market. This can be due to the features of the pension system linking the contributory periods to the pension benefits, where non-contributory years for childcare are not taken up entirely.

Figure 8. Percentage points change in current net theoretical replacement rates for a female average earner who makes a career break during 1, 2 or 3 years for childcare compared to one with no children

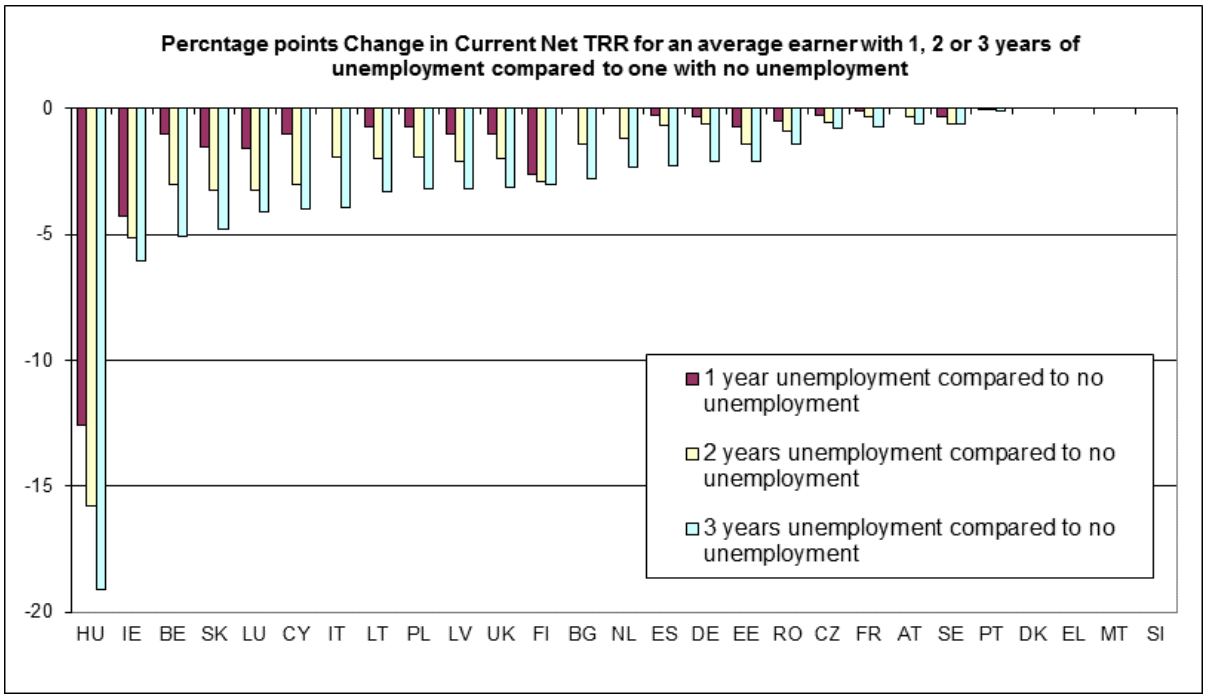


Source: Indicators Subgroup of the SPC, 2010 - 2050 Theoretical Replacement Rates exercise

Regarding the effects on current replacement rates of career breaks due to **unemployment**, Figure 9 shows the percentage points differences for a man who enters the labour market at 25 and leaves at the pensionable age for men and a man with the same profile but with career breaks of 1, 2, 3 years due to unemployment. In most Member States unemployment breaks result in a loss of pension entitlements and lead to drops in replacement rates, showing bigger drops the longer the break. In most Member States, the duration of entitlement for unemployment breaks is less than three years, resulting in a bigger drop in replacement rates during the second or third year of unemployment. In extreme cases these become non-income and non-contributory years.

The results show a **decrease of less than 3 p.p. in most Member States for three years of unemployment**. This implies a **considerable protection of pension entitlements in the unemployment benefit system in most Member States**. Given that these are current replacement rates, it is important to note that this can be due to the fact that pre-reformed systems did not have as strong a link between contributions and benefits. In some Member States the drop in replacement rates can amount to more than 3 p.p. (e.g. IE, BE, SE, LU, CY, IT, LT, PL, LV, UK) and in HU there is 19.1 p.p. drop. This brings the adequacy of protection of pension entitlements during unemployment into question. On the other hand, the protection of pension entitlements during unemployment spans has **to be balanced with the financial incentives for individuals to return to the labour market**.

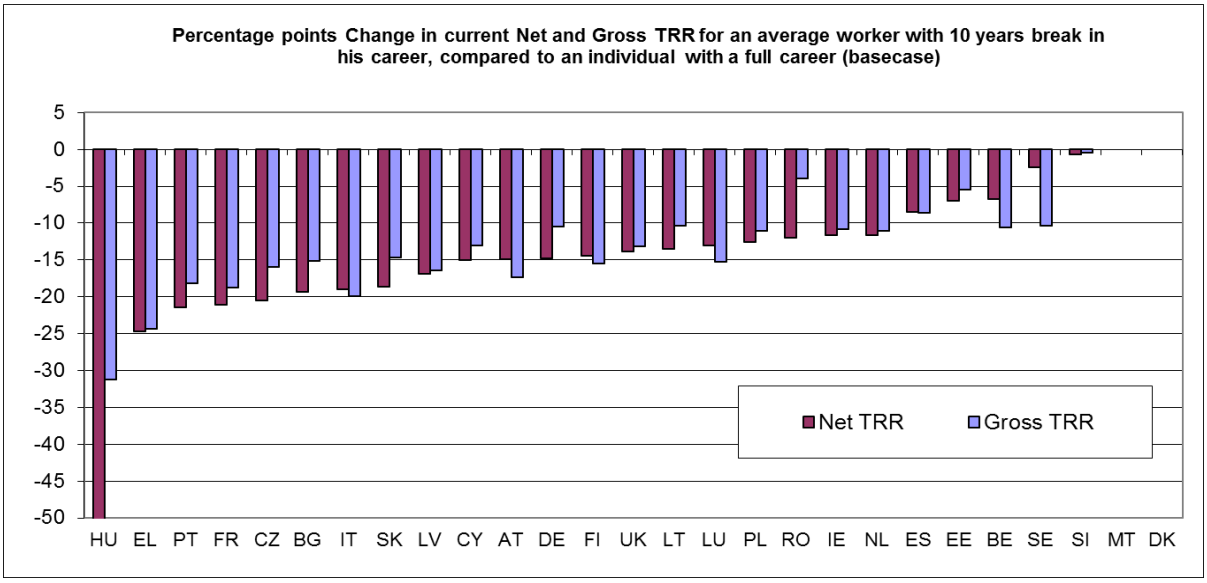
Figure 9. Percentage change in current net theoretical replacement rates for an average earner with 1, 2 or 3 years of unemployment compared to one with no unemployment



Source: Indicators Subgroup of the SPC, 2010 - 2050 Theoretical Replacement Rates exercise

Further to this, it is useful to study the effect on replacement rates of **long-term career breaks (10 years)**. In this variant case the worker is assumed to not contribute to the pension system at all and not receive any social benefit during the 10 year break. Figure 10 shows that in this case the **fall in replacement rates are quite sharp, reaching more than 10 p.p.** in most Member States compared to a full career and cutting replacement rates by half in HU.

Figure 10. Percentage points change in current net and gross theoretical replacement rates for an average worker retiring with 10 years break in his career, compared to the same individual with a full career (DK and MT: not applicable)



Source: Indicators Subgroup of the SPC, 2010 - 2050 Theoretical Replacement Rates exercise

The role of private pensions in current pension adequacy

For a full picture of the composition of pension income of today's pensioners, it is also necessary to look at the role of private pensions (i.e. occupational and individual pensions) in the adequacy of current income replacement.

Occupational pension schemes based either on collective agreements or on the employer sponsorship have gained wide coverage in a number of countries and as they are maturing they are gaining an increasingly important role in providing supplementary retirement income. Individual third pillar pension schemes are less widespread and income from these is currently primarily important for the self-employed and high income groups.

The composition of the pension package today[57] can be illustrated with the use of current **Theoretical Replacement Rates** (i.e. by the base case replacement rate of a male who started working in 1970 and retired in 2010 at the age of 65 after a 40 years contributory career[58]). Figure 11 presents the percentage share in gross TRRs in 2010 of three main types of pension schemes[59]: 1) Statutory pay-as-you-go (whether of defined-benefit (DB) or notionally defined-contribution (NDC) character), 2) Statutory funded (usually defined-contribution (DC) schemes) and 3) Occupational and other supplementary schemes. This breakdown of the gross replacement rates is presented for workers at different wage levels (low, average and high

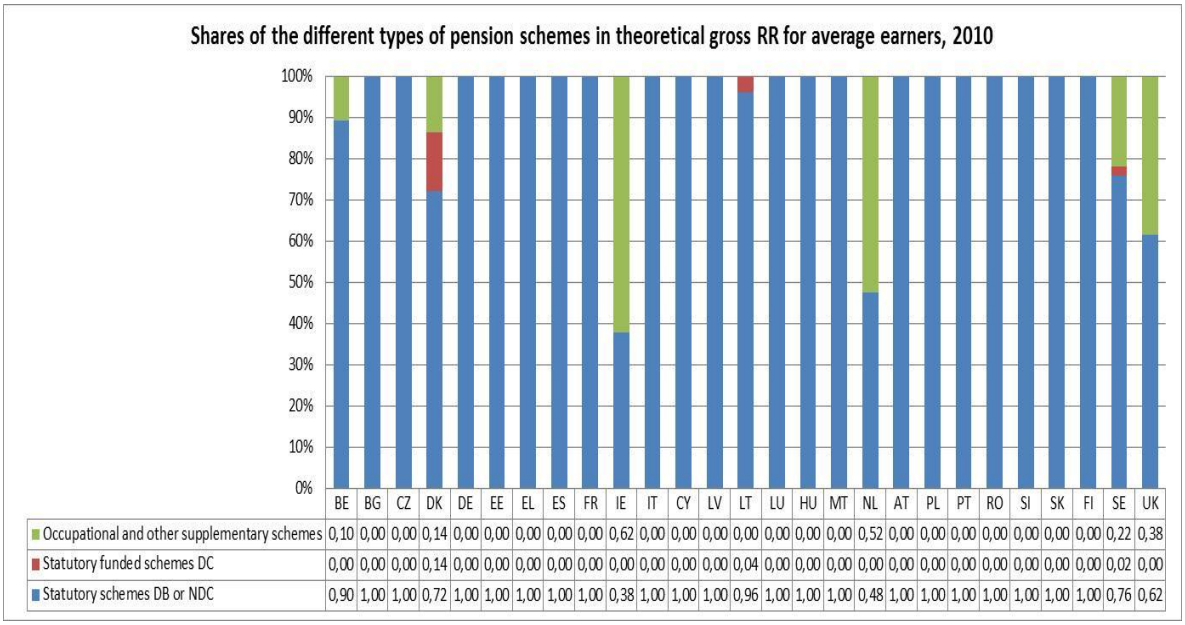
[57] For the same split of gross replacement rates in the future see Section 5.2.1.

[58] As always the representativeness of the reference individuals and the detailed assumptions used in the calculations need to be considered when theoretical replacement rates are analysed (see Annex *2*).

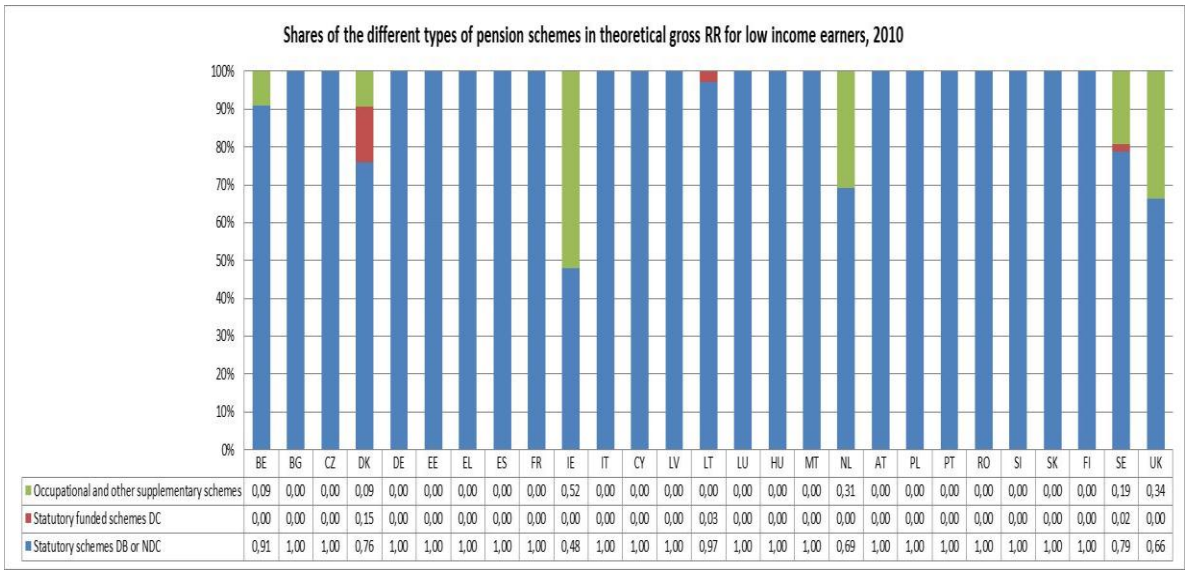
[59] Note that this is not a decomposition between the traditional "three pillars" typology (meaning: 1) statutory schemes; 2) occupational schemes and 3) individual schemes). Theoretical replacement rates in general do not include individual schemes such as individual pension savings' contracts (unless they are part of official pension provisions and of substantial significance (e.g. Riester in DE)). TRR calculations include only the mandatory, typical or wide-reaching pension schemes in each country.

income earners[60]). It gives an indication of the composition of current pension income for a hypothetical pensioner at different income levels.

Figure 11. Shares of different pension schemes in gross theoretical replacement rates, 2010

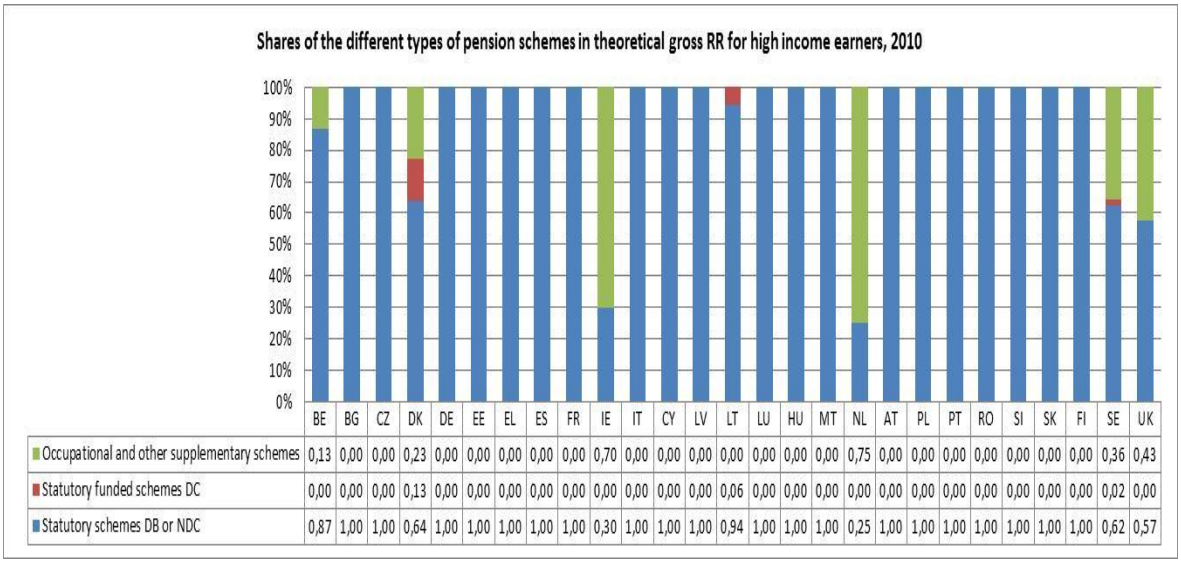


	BE	BG	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK
Occupational and other supplementary schemes	0,10	0,00	0,00	0,14	0,00	0,00	0,00	0,00	0,00	0,62	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,52	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,22	0,38
Statutory funded schemes DC	0,00	0,00	0,00	0,14	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,04	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,02	0,00
Statutory schemes DB or NDC	0,90	1,00	1,00	0,72	1,00	1,00	1,00	1,00	1,00	0,38	1,00	1,00	1,00	0,96	1,00	1,00	1,00	0,48	1,00	1,00	1,00	1,00	1,00	1,00	1,00	0,76	0,62



	BE	BG	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK
Occupational and other supplementary schemes	0,09	0,00	0,00	0,09	0,00	0,00	0,00	0,00	0,00	0,52	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,31	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,19	0,34
Statutory funded schemes DC	0,00	0,00	0,00	0,15	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,03	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,02	0,00
Statutory schemes DB or NDC	0,91	1,00	1,00	0,76	1,00	1,00	1,00	1,00	1,00	0,48	1,00	1,00	1,00	0,97	1,00	1,00	1,00	0,69	1,00	1,00	1,00	1,00	1,00	1,00	1,00	0,79	0,66

[60] Low income earner is assumed to earn 66% of the average wage in the economy over his whole career. The average income earner earns the average over the whole career. The high income earner starts with average earnings which grow constantly to reach a double of the economy average at the end of his career.



	BE	BG	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK
Occupational and other supplementary schemes	0,13	0,00	0,00	0,23	0,00	0,00	0,00	0,00	0,00	0,70	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,75	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,36	0,43
Statutory funded schemes DC	0,00	0,00	0,00	0,13	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,06	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,02	0,00
Statutory schemes DB or NDC	0,87	1,00	1,00	0,64	1,00	1,00	1,00	1,00	1,00	0,30	1,00	1,00	1,00	0,94	1,00	1,00	1,00	0,25	1,00	1,00	1,00	1,00	1,00	1,00	1,00	0,62	0,57

Source: Indicators Subgroup of the SPC, 2010 - 2050 Theoretical Replacement Rates exercise

The public **PAYG pension system (DB or NDC) is the main provider of pensions** everywhere in Europe. But in some countries occupational funded schemes and newly introduced statutory funded schemes already contribute substantially to the incomes of current pensioners' incomes[61].

Statutory funded DC pensions are in the payout phase only in DK, LT and SE. Occupational pensions contribute more than 20% of the theoretical individual's income in IE, NL, SE and UK. In the countries where the role of these types of pension schemes are significant, **the proportion of income coming from occupational or statutory funded pensions is lower for low-wage earners and higher for high-wage earners**. This is because benefits usually are earnings-related and statutory PAYG schemes with their redistributive features play a more significant role for people with lower earnings.

- *Coverage, contributions and benefits of private pensions in selected countries*

More information on the role currently played by private pension schemes in some EU Member States can be found in a recent study by the OECD commissioned by the European Commission[62]. The study assesses the coverage of privately managed funded pensions[63], as well as the contributions to and the benefits from these plans based on available data sources in six EU Member States (IT, ES, IE, UK, DE and NL – the study also covers two non EU countries, US and Australia). It should be considered, however, that in general it is difficult to gather reliable individual information from surveys in the field of private pension systems, therefore the validity of results based on surveys can only be limited.

The Annex 3 shows that, **the current role of private pension schemes differs widely across Member States**, not only regarding their contribution to the total income of retired people but also in terms of levels of coverage of active members, maturity of schemes and size of accumulated funds.

[61] The role of funded pensions in future pensioner incomes is analysed in Section 4.2.1

[62] OECD report on indicators of coverage, contributions and benefits in private pensions in selected OECD countries, 2011.

[63] For the purposes of the report, "privately managed funded pensions" refer to pension plans for both public and private sector workers that are funded or run on a book reserve basis. Thus they typically cover occupational and personal/individual plans, whilst pension plans that are financed on a PAYG basis are excluded.

Regarding **coverage**, in NL occupational pensions are quasi-mandatory given the pervasiveness of collective agreements that include such schemes and they cover more than 90% of the labour force. By contrast, work place based private pension plans cover just above 20% of the labour force in IT and ES. In between, there are countries with longstanding private pension systems, covering a relatively large part of the labour force. Between 41% and 53% of the labour force is enrolled in a private work place pension plan in IE, DE or UK.

With the exception of the CZ occupational pension plans cover a larger share of the labour force than (third pillar) personal pension plans in all countries. Though in DE the so-called Riester pensions – a type of voluntary personal pension plan which was established in 2002 to allow people to compensate for declining replacement rates in the public scheme through complementary retirement savings - have been rapidly growing.

The share of the labour force enrolled in the privately managed funded schemes (both occupational and personal) increases with age, reaching generally a peak at prime working ages (i.e. ages from 35 to 44 or 45 to 54), and falling afterwards (DE, IE, IT, UK). In contrast, the fall in coverage rates at old ages does not occur in NL and ES, where the coverage rate continues to increase for older workers (those aged 55-64).

Similarly, coverage increases with income, especially in voluntary systems, reaching a plateau after the 7th or 8th deciles. In NL, where the system covers the bulk of the work force, the plateau is reached already, after the 3rd decile and the coverage among the poorest income groups is above 65%. In systems less supported by encompassing industrial relations, however, the coverage among the poorest income groups is quite low, at around 15% (e.g. ES and UK). But these groups may already have a relatively high level of income replacement from public pensions.

In IE, IT, NL and ES coverage rates are higher for men than for women. The difference between the two genders is negligible in DE and UK (with a slightly larger coverage of women in the latter). It is also noteworthy that full-time workers are more often enrolled in private pension plans than part-time workers.

The average amount of annual **contributions** of people enrolled in the privately managed schemes (both occupational and personal) represents a larger share of the average national earnings in UK (around 16%), IT and ES (around 12%) than in IE (8%) and DE (3%). The average level of contributions of people enrolled in private pension plans is always higher in occupational pension plans than in personal pension plans. This maybe because employers contribute to occupational pension plans, but not to personal pension plans. Moreover, for all countries considered except NL, the average contribution levels increase with the income of the individual or of the household (with an important gap between relative high income individuals and medium to low income individuals). Finally, for all countries considered, the analysis shows that average contribution levels increase with age and are higher for men and full-time workers than for women and part-time workers.

Regarding the numbers of **individuals receiving private pension benefits and amount of benefits** paid to them, the analysis shows substantial differences across countries in the role of private pensions. The percentage of old age individuals (65 and older) receiving pension benefits from private pension plans ranges from less than 2% in ES and IT to more than 60% in NL and UK. For countries for which this information is available, occupational pension plans cover more pensioners than personal pension plans. At the same time ES and IT are the countries where the average level of benefits paid by private pension plans to pensioners is the highest, as a share of average national earnings, at more than 71%. In these countries indeed, individuals currently receiving benefits from private pension plans are more likely to be high income individuals, rather than mid to low income individuals, who rely more on the PAYG-

financed public pension systems. In the other EU countries, average benefits paid by private plans range from 26.4% in DE to 57.7% in IE of the average national earnings.

3.2. Pensions and poverty alleviation

Besides allowing people to maintain, to a reasonable degree, the living standard they achieved during their working lives, another fundamental objective of European pension systems, and social protection systems in general, is ensuring that older people are not placed at risk of poverty. This chapter looks at how Member States are tackling the risk of poverty in old age, including *via* their pension systems. It first describes what part of the old-age population is at risk of poverty, severe material deprivation or social exclusion. Then it analyses the intensity of the poverty gap and income distribution of the elderly. Finally it looks at the specific role of minimum income guarantees in addressing poverty in old-age.

The quantitative assessment of the risk of poverty or social exclusion for the old-age population can be based on an appraisal of the key EU2020 indicator - people at risk of poverty or exclusion (AROPE) and its two sub-indicators: the at-risk-of-poverty rate of older people and severe material deprivation of older people. For people under the age of 65 the AROPE indicator also takes into account households with very low work intensity, but this is not the case for population 65+.

It must to be stressed that the measures of income poverty used in this chapter are based on different sources of income. The indicator of at-risk-of-poverty of older people does not reflect only income from pensions but also income from other sources. Careful interpretation of the at-risk-of-poverty rate and the income distribution is needed, as these indicators are based on the EU Survey on Income and Living Conditions, and the EU-SILC, which has a significant time lag. Thus 2010 (t) data refer to income and employment for 2009 (t-1) while only the information on living conditions and material deprivation refer to 2010 (t). Moreover the reference may differ between countries: In IE the reference period is the 12 months prior to the interview, while in the UK it is centred on the interview date.

The definition and measurement of poverty has been hotly debated, but there is now agreement that poverty - including among the elderly - is a multidimensional phenomenon and that the use of a multidimensional indicator helps to reflect the multiple facets of poverty and exclusion[64].

The **at-risk-of-poverty rate for people aged 65+** measures the percentage of the population aged 65+ with income after social transfers below the at-risk-of-poverty threshold.[65] The threshold is set at 60% of the median equivalised income in a given country. Thus the indicator treats poverty as a relative and not absolute concept. While this approach has many advantages it is important to spell out what it implies about the character of the indicator and its limitations.

In the first instance it means that the value of the at-risk-of-poverty threshold evolves with the development of incomes in a society, which need not necessarily always rise but can be subject to shocks that cause them to drop, as has happened during the current crisis. Observed increases/decreases in the AROP rate for people 65+ may therefore simply reflect that the incomes of the working population are rising at a higher/lower pace than the incomes of the 65+. The relative character of the indicator which allows for international comparisons implies

[64] *Employment and Social Developments in Europe 2011*, European Commission.

[65] There might be some methodological differences between the national relative income measures and the at-risk-of-poverty rate indicator (e.g. in UK).

that it focuses more on poverty as social and economic exclusion than on poverty as a state of not having a given standard of living.

The indicator measures **(monetary) income inequalities at the bottom of the income scale**. Thus a low risk of poverty rate for the elderly is primarily a reflection of a rather egalitarian income distribution between people above and below 65. It does not necessarily indicate that people 65+ have a decent standard of living.

Furthermore, while the indicator reflects monetary poverty (i.e. monetary income inequalities in a society), it should be kept in mind that this measure does not take the wealth of pensioners into account. This implies some risk distortion since particularly house ownership and private savings may have a strong effect on the income distribution. Nor does the indicator cover the value of non-monetary benefits (free health care, transport, etc.) for the actual living standards experienced by people 65+. Finally, the at-risk-of-poverty rate is measured at household level, thus it may not represent the income distribution for individuals in old age (i.e. the equivalent income concept underlying the indicator relies on the premise of full sharing of resources amongst all household members, which may not be always the case)[66]. For all these reasons, this indicator of the poverty risk of people 65+ while valued for its advantages should be interpreted with some caution and be supplemented by other indicators.

The indicator of **severe material deprivation is an absolute measure of poverty** which provides an important complement to the AROP.[67] This indicator measures the inability to afford some items considered desirable or necessary by most people in order to attain a basic standard of living. Individuals who cannot afford four out of nine items[68] on the list are considered to fall under the scope of the indicator. As a direct measure of poverty (related to consumption or access to resources) the indicator of severe material deprivation complements the indirect and relative approach based on income measures.

The income quintile ratio measures the distribution of income across society. It compares the income of the individuals at the top of the distribution to the income of those at the bottom (the total income received by the 20% of the population with the highest income – top quintile – to the total income received by the 20% with the lowest income – lowest quintile). Income is understood as equivalised disposable income.

3.2.1. Population 65+ at risk of poverty or social exclusion

Risk of monetary poverty and poverty gap for the elderly

As the at-risk-of-poverty rate needs to be contextualised in relation to the poverty thresholds which vary greatly across Member States – from €2122 pps[69] in RO in 2010 to €16 048 in purchasing power standard (PPS) in LU. In fact, the lowest thresholds (RO, BG, LT, LV) are three to four times lower than the highest ones (LU, CY, AT, NL) highlighting the very

[66] See Annex 1 for further explanations on this indicator.

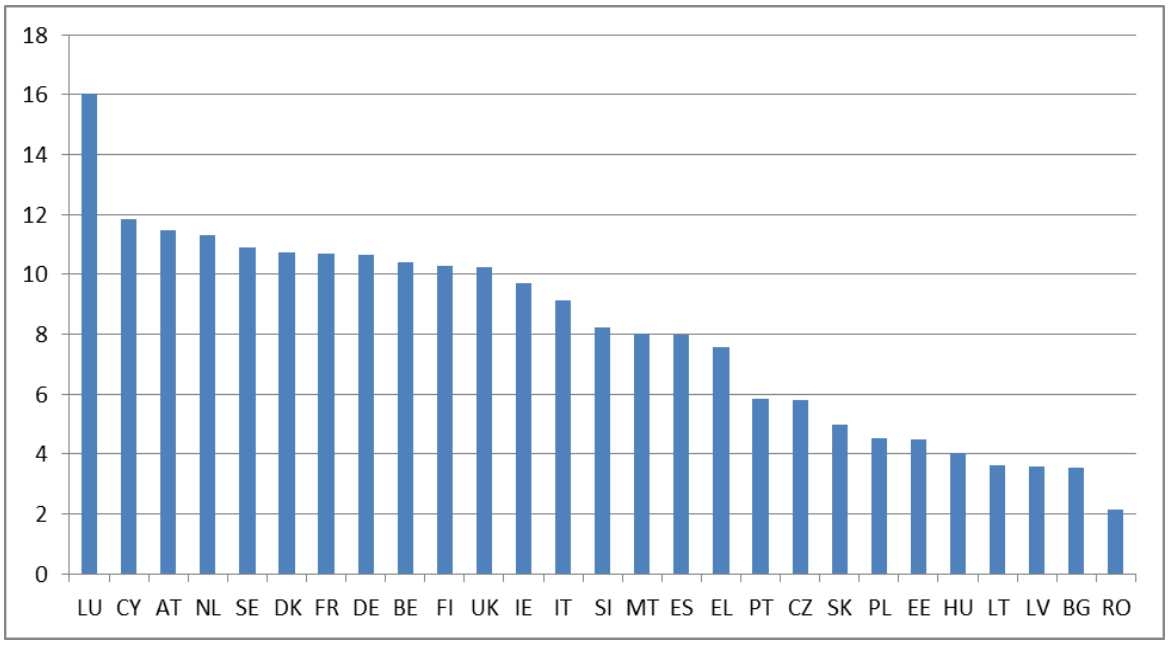
[67] The severe material deprivation rate should not be confused with the absolute measure of income poverty. The EU definition of material deprivation might be different from national definitions.

[68] The list of nine items covers the ability/inability to (1) pay the rent, mortgage or utility bills; (2) keep the home adequately warm; (3) face unexpected expenses; (4) eat meat or protein regularly; (5) go on holiday; (6) afford to buy a television; (7) afford to buy a washing machine; (8) afford to buy a car; (9) afford to buy a telephone.

[69] Purchasing power standard (pps) is a weighted average of the purchasing power of the national currencies of EU Member States. As such it reflects the average price level in the EU 27 or, more precisely, the weighted average of the price levels of Member States.

different income and living conditions in Member States and contextualising the analysis of the at-risk-of-poverty rates (Figure 12). [70]

Figure 12. At-risk-of-poverty thresholds for a single person in thousands of EUR in purchasing power standard, 2010



Source: EU-SILC

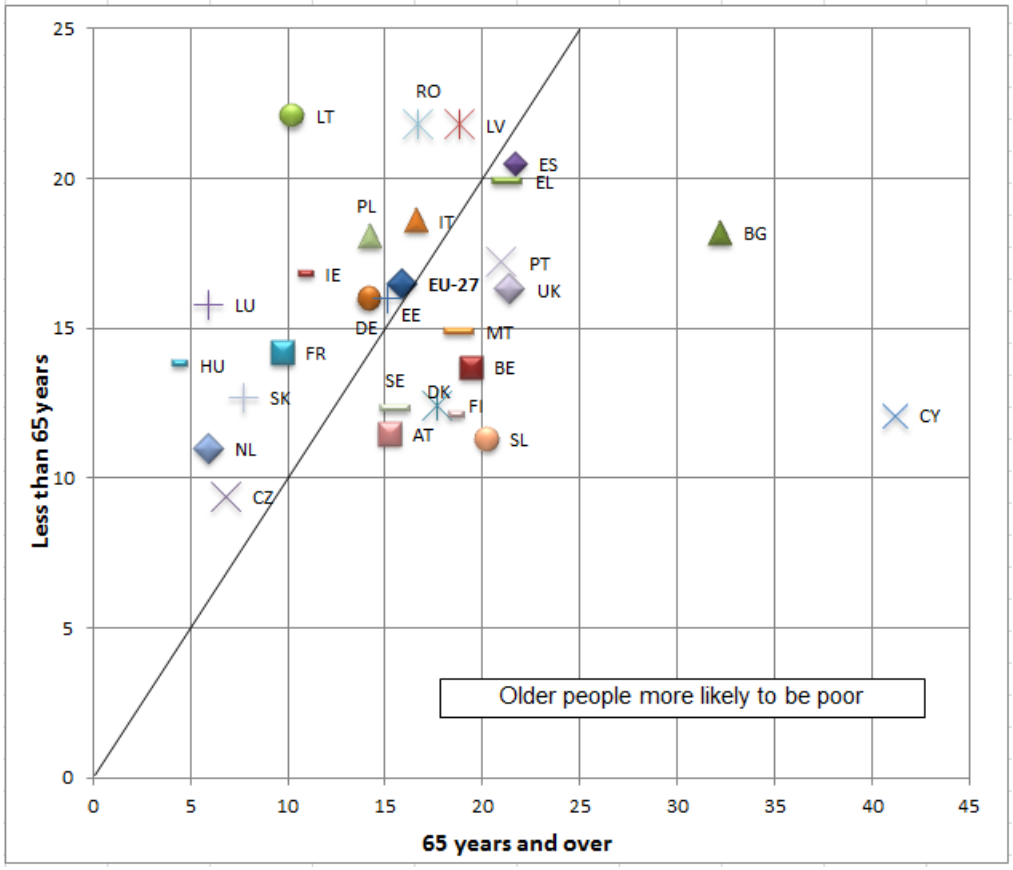
Looking in more detail at the current levels of poverty risk for older people, substantial differences exist between Member States (Figure 13). In 2010 in the EU-27 on average and in 13 Member States (CZ, DE, EE, FR, IT, LV, LT, LU, HU, NL, PL, RO and SK), **the at-risk-of poverty rate for people above 65 has been lower than that for the population aged 0-64**. This reflects the fact that monetary incomes of older people have been better protected than those of working age population in the times of crisis, even if some Member States managed to reduce risk of poverty prior to the crisis. In several Member States (e.g. BE, BG, DK, CY[71], MT, AT, FI, SI and UK[72]) the risk of poverty for older people compared with the poverty risk for the population aged 0-64 is higher and the difference in many instances is significant.

[70] *Third Report on the Social Impact of the Economic Crisis and On-going Fiscal Consolidation*, Social Protection Committee, 2012.

[71] CY in particular, displays an extremely high at-risk-of-poverty rate for older people (41.2%), which is more than free times greater than the corresponding rate for people aged 0-64 (12.1%). The main reason seems to be the fact that the level of social insurance pensions is still influenced by the insurance record under the basic flat scheme which was in force before 1980. Relatively high poverty threshold, which is influenced by the structure of tax system, is another important driver of high poverty rates for older people. Furthermore, informal solidarity between generations, which is a common cultural feature in CY, is not reflected in the statistical data, and should be also taken into account when assessing the situation of the country.

[72] According to the national measure of poverty, older people in the UK are exposed to a lower risk of relative poverty than the working-age population when incomes are measured After Housing Costs.

Figure 13. At-risk-of-poverty rates, aged less than 65 vs. 65+, 2010



Source: Eurostat, EU-SILC, [ilc_li02]

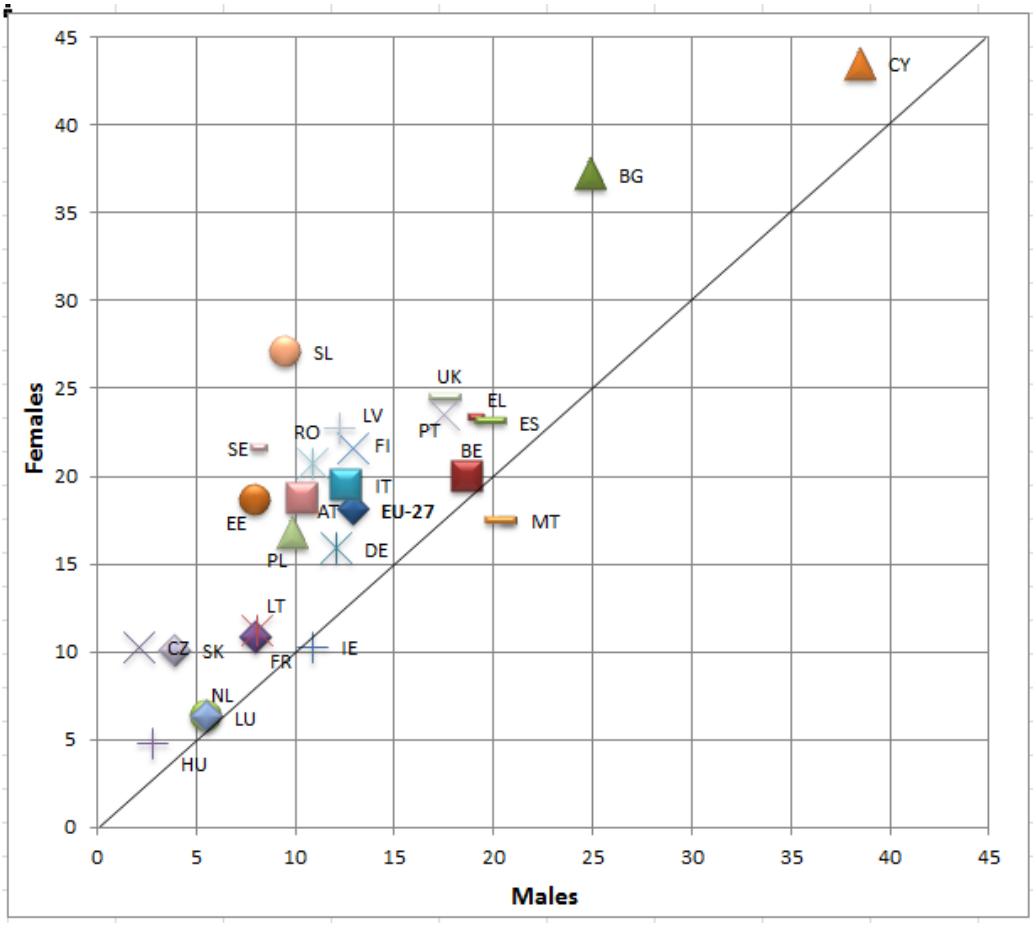
Note: The EU Survey on Income and Living Conditions (EU-SILC) has a significant time lag. 2010 (t) data refer to income and employment for 2009 (t-1) while only the information on living conditions and material deprivation refer to 2010 (t). In IE the reference period refers to the 12 months prior to the interview, while in the UK it is centred on the interview date.

When investigating the gender dimension of the risk of poverty in old age, substantial differences emerge between men and women. As the at-risk-of-poverty rates are based on equivalised household income, differences between men and women fundamentally reflect income differences between people living in single person households. In almost all Member States **single old women in general have a much higher risk of poverty compared to single old men.** This result is even more striking when these figures are compared with the corresponding poverty risk for younger cohorts: for the population aged 0-64, the poverty risk for women is in many cases comparable to or even lower than that for men.

However, this may also reflect changes in the labour market for younger women. Current poverty rates among the 65+ group mirror past accrual of pensions, but future developments are difficult to evaluate as conflicting trends will come into play in the coming decades: the maturation of pension schemes and the increase in female workforce participation will continue, but the effects of past unemployment levels and increasing partial employment and the impact of recent reforms (which often translate into decreased benefit levels or less

redistribution) will begin to emerge. It is important to develop tools to monitor these potential future developments.[73]

Figure 14. At-risk-of-poverty rates 65+, males vs. females, 2010

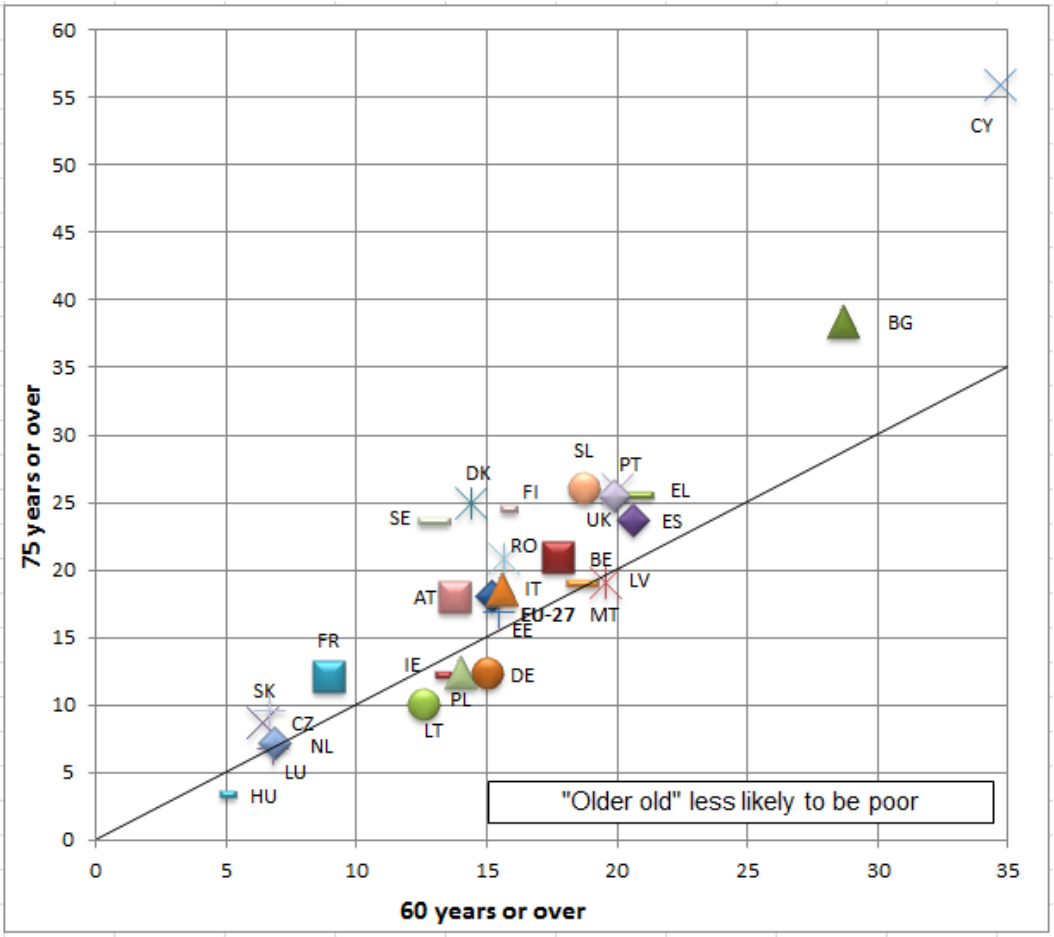


Source: Eurostat, EU-SILC, [ilc_pnp1]

Note: The EU Survey on Income and Living Conditions (EU-SILC) has a significant time lag. 2010 (t) data refer to income and employment for 2009 (t-1) while only the information on living conditions and material deprivation refer to 2010 (t). In IE the reference period refers to the 12 months prior to the interview, while in the UK it is centred on the interview date.

[73] For more details please refer to chapter 5.1 on the gender pension gap.

Figure 15. At-risk-of-poverty rates, 60+ vs. 75+, 2010



Source: Eurostat, EU-SILC, [ilc_pns1]

Note: The EU Survey on Income and Living Conditions (EU-SILC) has a significant time lag. 2010 (t) data refer to income and employment for 2009 (t-1) while only the information on living conditions and material deprivation refer to 2010 (t). In IE the reference period refers to the 12 months prior to the interview, while in the UK it is centred on the interview date.

In the majority of Member States (with the exception of DE, LV, LT, LU, HU and PL) **the oldest cohorts, aged 75 and over, tend to have a higher risk of poverty than those over 60** (Figure 15), reflecting in particular the lower coverage of pension systems in the 1950s and 1960s, the compound effect of inflation indexation of benefits, or the fact that more people aged 75+ live alone compared to other age groups. In other cases, the high poverty risk among the very elderly can be attributed to lower accrued pension entitlements due to incomplete careers (especially among women, who dominate the older age groups) and to social security systems which may have been less generous in the past. However, it is worth mentioning that in many Member States survivors' pensions do give a certain protection from poverty for widows or widowers. A higher risk of poverty for older pensioners in some countries might reflect entry into force of pension reforms which made pension benefits less generous or the price indexation of minimum pensions which leads to lower relative incomes compared with the working age population the longer a person is in retirement.

Regarding the **evolution of the ratio over the last years**, the at-risk of poverty rate of older people (65+) in the EU-27 has been reduced from 18.9% in 2005 and 2008 to 15.9% in 2010. Figure 16 presents levels of at-risk-of-poverty registered in Member States in 2005, 2008, and

2010. Countries are ranked from the one where the at-risk-of-poverty decreased the most (in terms of pp.) between 2005 and 2010 to the one where it increased the most[74].

IE, ES, FR, EL, PT, CY and IT recorded a downward trend in the poverty risk between 2005 and 2010 which resulted in a drop in the value of the indicator of at least 5 p.p. In LT, EE, and LV the at-risk-of-poverty in 2010 was lower than in 2005, but in the meantime it reached higher levels (e.g. 51.2% in LV in 2008), as pensioners did not benefit from the pre-crisis economic boom to the same extent as the working age population[75]. The poverty rates also dropped by around 2 p.p. in HU and LU, but here the drops were observed before 2008. In MT, FI, NL and SK the initial increases in the risk of poverty between 2005 and 2008 were followed by a decrease so that levels in 2010 were similar to the ones in 2005. The at-risk-of-poverty did not change much over the period in SI, DK, DE and AT. In BG, PL and SE it increased, especially between 2005 and 2008. In SE this is due to the in-work tax credit that was introduced to encourage labour market participation.

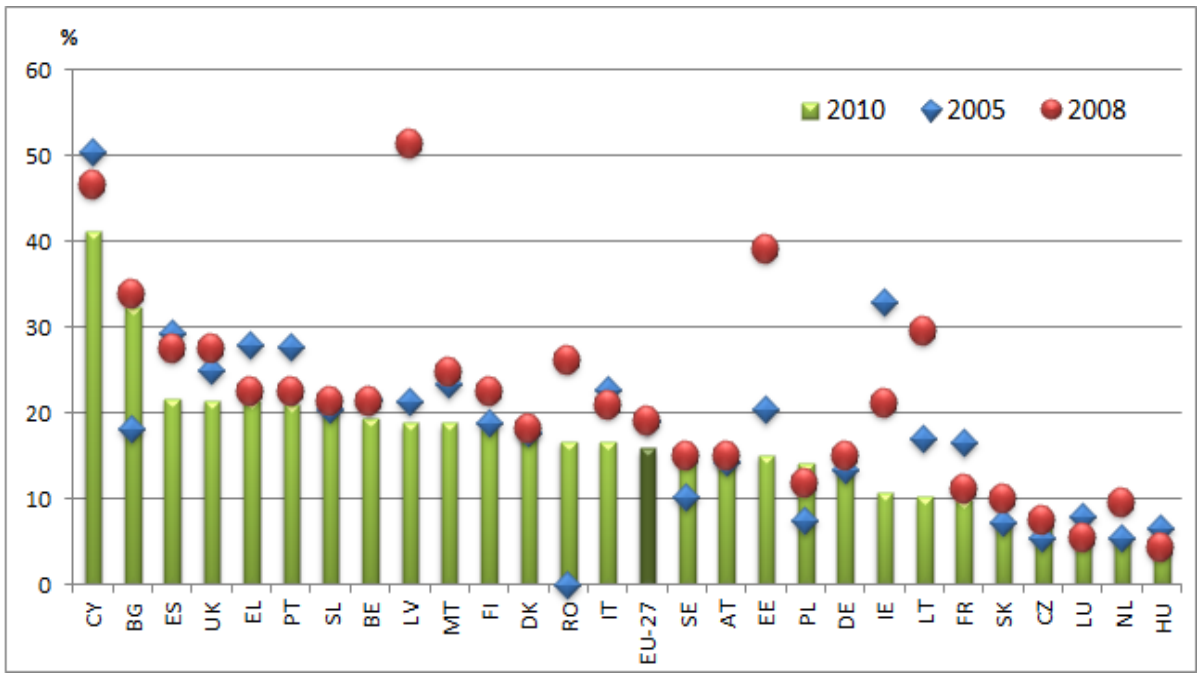
It needs to be underlined that as the economic crisis hits the working population first, this has two immediate effects: rising unemployment and lowering of wages. As a result, the median income may drop, and as pensions tend to remain stable, this **shifts the relative position of beneficiaries**. Between 2009 and 2010, the median income has fallen in all but six Member States - BG, AT, PL, PT, RO and SK. The largest decreases were observed in LT and LV. In the countries where the median income declined, this has also lowered the poverty threshold[76]. But the full effect is not yet clear in the data. In fact as the 2010 SILC data are based on 2009 income levels these results show only the first effects of the crisis on the income levels of the working age population. Moreover, in some Member States the consumption basket of older people might have been more affected by inflation than for the general population (e.g. fuel, medicines).

[74] No data for Romania in 2005.

[75] Still a significant number of pensioners may over the period have been lifted out of poverty by ad hoc increases such as the 5% rise in pension levels in Estonia in 2009.

[76] *Third Report on the Social Impact of the Economic Crisis*, SPC

Figure 16. Level of at-risk-of-poverty rate (65+) in 2005, 2008 and 2010



Source: Eurostat, EU-SILC, [ilc_li02]

Note: At risk of poverty rate (cut-off point: 60% of median equivalised income after social transfers)

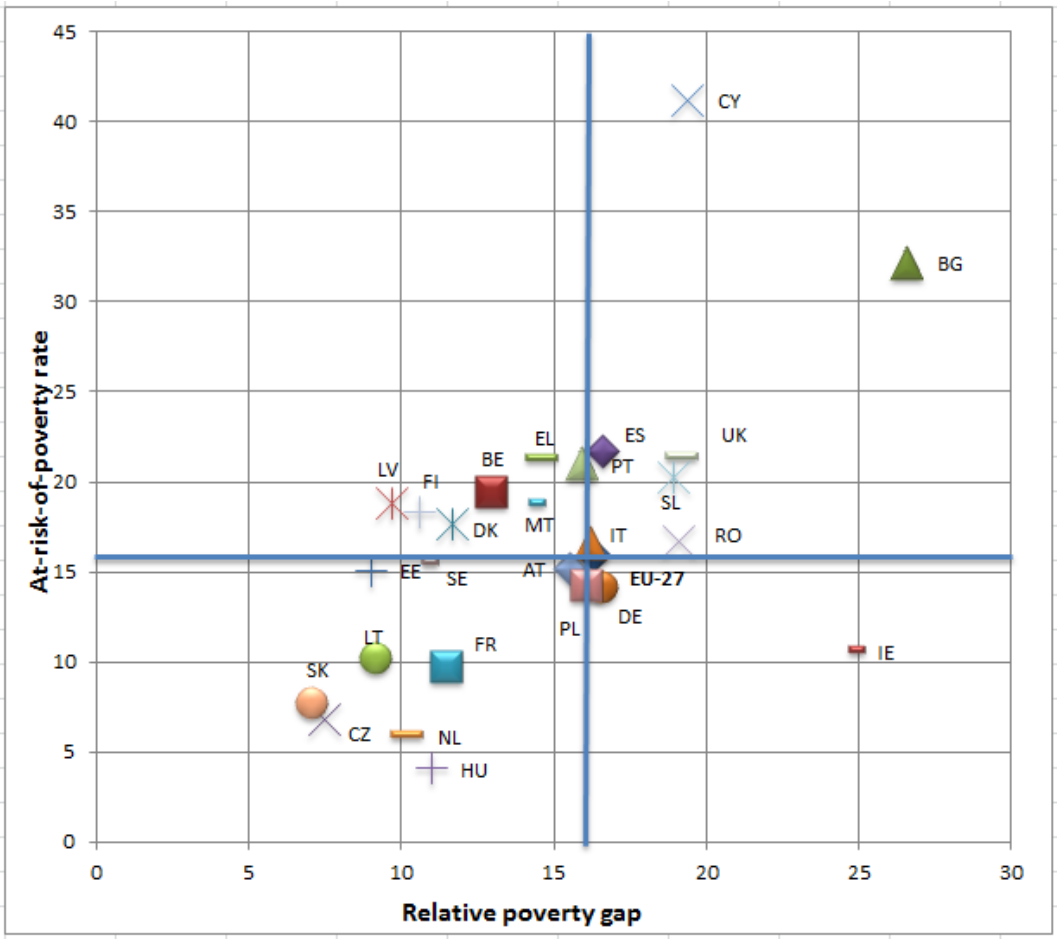
Note: The EU Survey on Income and Living Conditions (EU-SILC) has a significant time lag. 2010 (t) data refer to income and employment for 2009 (t-1) while only the information on living conditions and material deprivation refer to 2010 (t). In IE the reference period refers to the 12 months prior to the interview, while in the UK it is centred on the interview date.

According to the FR national data (Insee-DGFiP-Cnaf-Cnav-CCMSA, enquêtes Revenus fiscaux et sociaux 2006 à 2009) there was an increase in poverty rate between 2006 and 2010. At-risk-of-poverty rate at 60% of the median threshold: 13.1% (2006) 13.4% (2007) 13% (2008) 13.5% (2009). At-risk-of-poverty rate at 50% of the median threshold: 7% (2006), 7.2% (2007), 7.1% (2008) 7.5% (2009).

- *Intensity of poverty: poverty gap of the elderly*

How far below the poverty threshold is the income of older people at risk of poverty? The intensity of poverty measured with the **poverty gap of the elderly** helps to answer this question. The indicator is calculated as the difference between the median equivalised disposable 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. An analysis that combines the at-risk-of-poverty rate together with the poverty gap gives a more complete picture of the situation, and shows the scale of the challenge of lifting older people out of monetary poverty in a given country (Figure 17).

Figure 17. At-risk-of-poverty rate of older people (65+) at 60% median income threshold vs. relative poverty gap, 2010



Source: Eurostat, EU-SILC, [ilc_li02], [ilc_pns5]

Note: The EU Survey on Income and Living Conditions (EU-SILC) has a significant time lag. 2010 (t) data refer to income and employment for 2009 (t-1) while only the information on living conditions and material deprivation refer to 2010 (t). In IE the reference period refers to the 12 months prior to the interview, while in the UK it is centred on the interview date.

The poverty gap for the elderly reached 16.2% at EU-27 average in 2010, but there are large differences across countries. The biggest poverty gap for older people was observed in BG (26.6%). UK, RO, CY and SI recorded poverty gaps of around 19%. The shallowest gaps have been observed in SK, CZ, EE, LT and LV, meaning that most of the individuals recorded as being at risk of poverty have an **income that is actually just below the threshold**.

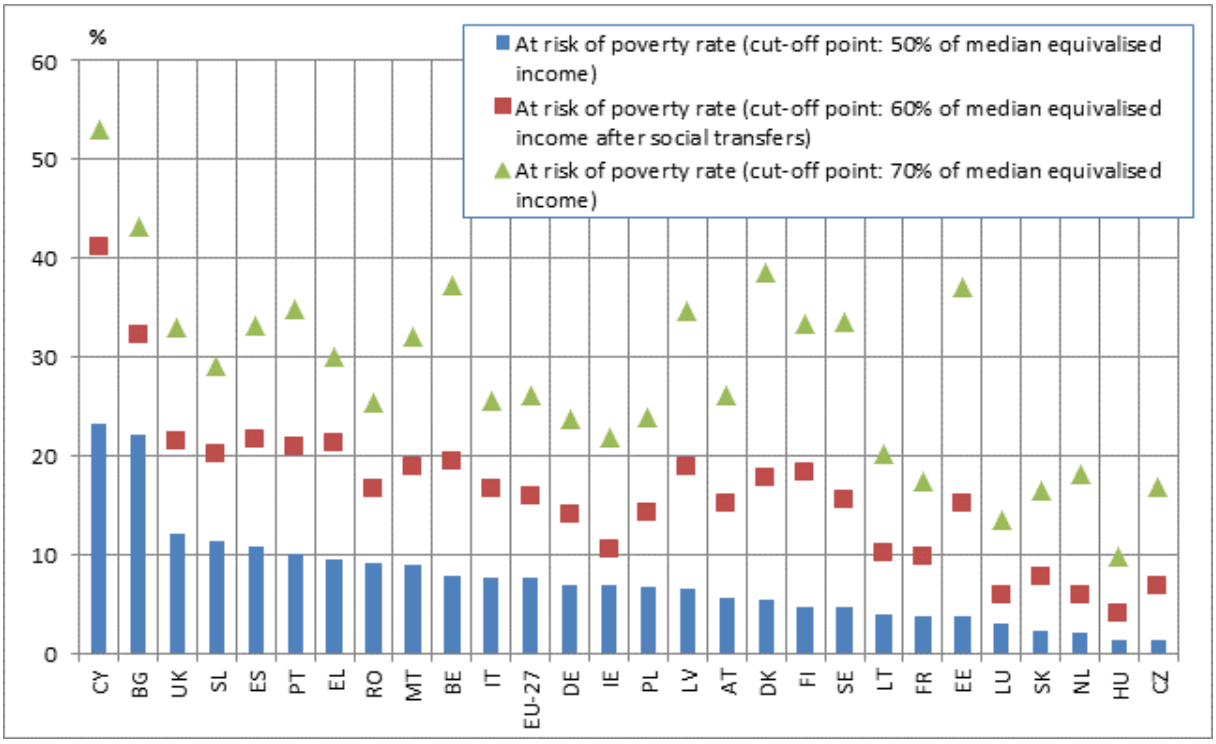
In 2010 six Member States (BG, ES, CY, RO, SI and UK) had both at-risk-of-poverty rates of older people and the poverty gaps higher than the EU-27 average. In ten countries (CZ, EE, FR, LT, HU, NL, AT, PL, SK and SE) both indicators registered values lower than the EU-27 average. In DE and LU the at-risk-of-poverty rates were lower than the average but the poverty gap higher. In the remaining nine Member States (BE, DK, IE, EL, IT, LV, MT, PT and FI) the poverty rates were higher than the EU-27 average, but with a shallower poverty gap.

To analyse the intensity of poverty it is also interesting to look at the proportion of people with incomes below **different thresholds**: this provides a more accurate picture of the dispersion of

the poor around or below the poverty line used in previous paragraphs. Small gaps between different cut-off points mean that more people are in the lowest part of the income distribution.

In the EU-27, 3.2% of people aged 65 and over live on an income below 40% of the median income in their country, 7.6% below 50%, 15,9% below 60% and *contribution to adequacy in retirement*" (Figure 18). This shows that half of the elderly population at-risk-of-poverty (measured at the 60% cut-off point) would need an increase of at least 20% of their equivalised income to lift them up the poverty threshold set at 60% of the median income (as they are now between 50% and 60% of median income), and for a fifth an increase of at least 50% of their income would be necessary (as they are below 40% of median income).

Figure 18. Proportion of people aged 65+ measured with income below 50%, 60% or 70% of median equivalised income, 2010



Source: Eurostat, EU-SILC, [ilc_li02]

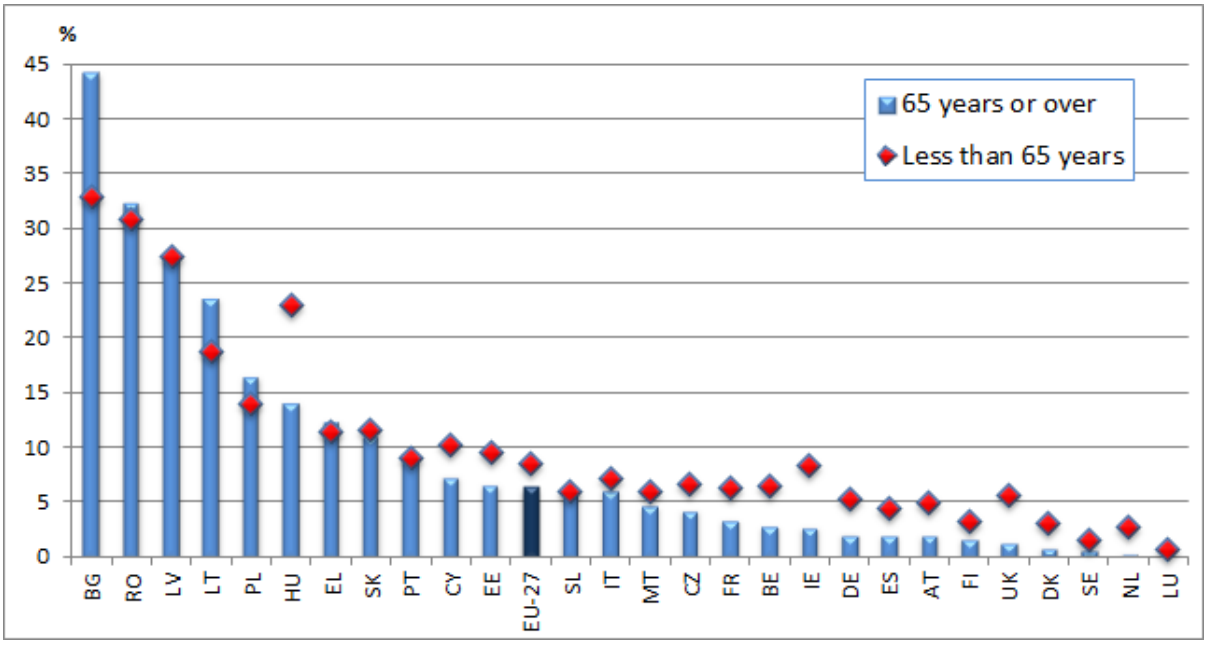
Note: The EU Survey on Income and Living Conditions (EU-SILC) has a significant time lag. 2010 (t) data refer to income and employment for 2009 (t-1) while only the information on living conditions and material deprivation refer to 2010 (t). In IE the reference period refers to the 12 months prior to the interview, while in the UK it is centred on the interview date.

The situation varies across Member States. Countries with similar at-risk-of-poverty rates calculated in relation to the 60% thresholds show significant variations in the number of people who are poor when more severe criteria (lower thresholds) are used. Among the countries with poverty rates above the EU average at 60% cut-off, FI and DK have poverty rates below the EU average at 50%, meaning that there are less "very poor" people. On the other hand, DE and PL have poverty rates of the elderly lower than the EU average at a 60% cut-off, but similar rates of very poor people (below the 50% threshold) to the EU-27.

Severe material deprivation for the elderly[77]

In contrast to the at-risk-of-poverty rates, the severe material deprivations rates reflect the level of the overall living standards in a given country. The severe material deprivation rates are higher in countries with lower GDP per capita while at-risk-of-poverty rates are higher in countries with more unequal income distribution. In 2010, the severe material deprivation rate for population older than 65 exceeded 15% in BG, RO, LV, LT and PL. In HU, EL, SK, PT, CY and EE it was higher than the **EU-27 average at 6.4%** (Figure 19). Interestingly, the **older population is more severely materially deprived than the working age population** in BG, RO, LT, PL, EL, PT and SI. In some of these countries the rapid improvement in living standards due to economic growth before the crisis mainly benefited the younger age groups, while elderly people faced serious material deprivation.

Figure 19. Severe material deprivation rates 65+ vs. 65-, 2010

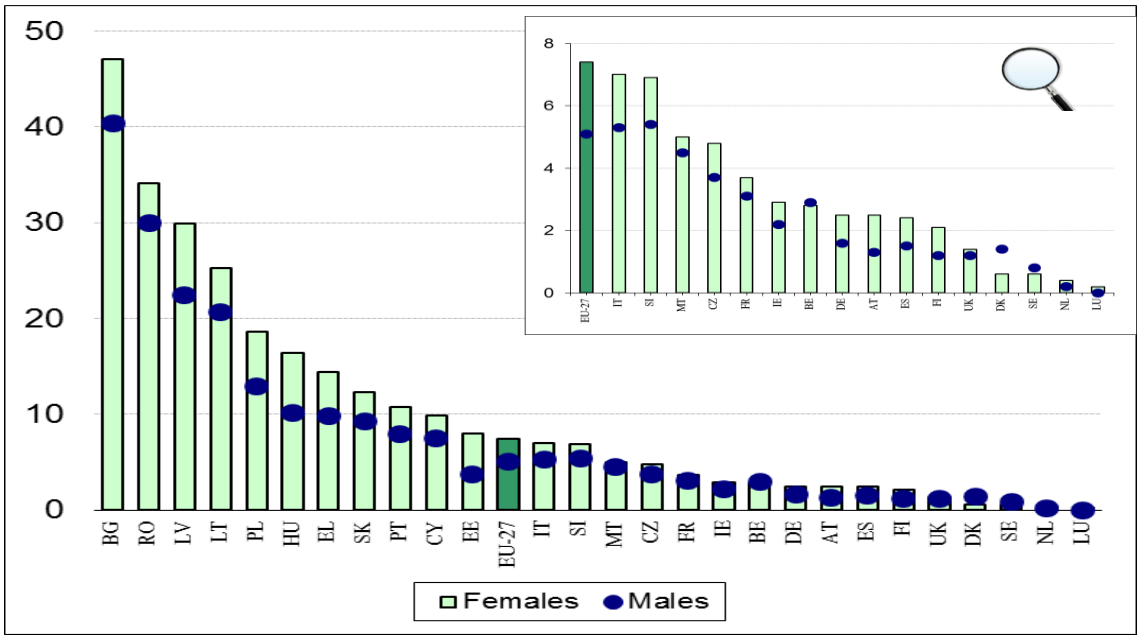


Source: Eurostat, EU-SILC, [ilc_mddd11]

Furthermore **women over age 65 were more likely to be severely materially deprived than men of that age** in 2010 in all Member States except SE, DK and BE (Figure 20). The differences in the rates for men and women are however not very large in general, although BG, LV and HU have more than 6 p.p. difference in favour of men.

[77] Note that this is not one of the commonly agreed indicators of the pension strand. However it is an agreed indicator for measuring poverty.

Figure 20. Severe material deprivation rates 65+, Males vs. Females, 2010



Source: Eurostat, EU-SILC

Regarding the evolution of the ratio since 2005, the **severe material deprivation rate of older people (65+) in the EU-27 has been reduced** from 10% in 2005 to 7.4% in 2008 and 6.4% in 2010.

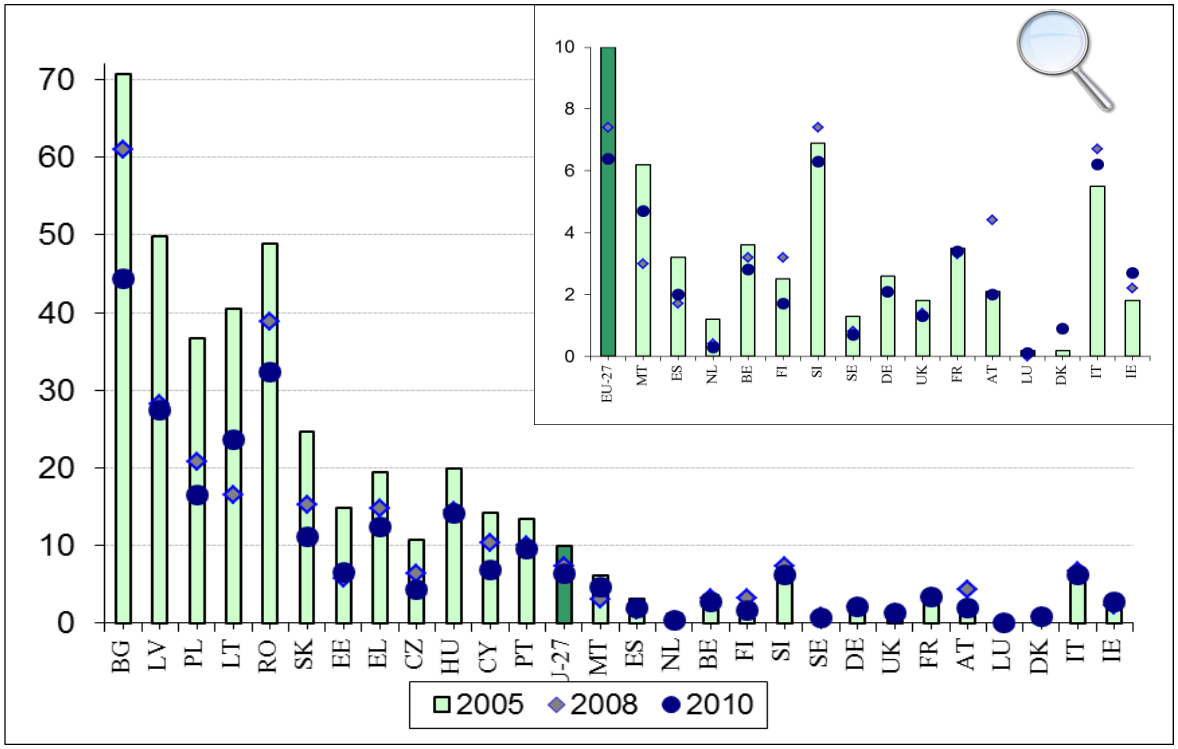
Figure 21 illustrates the levels of severe material deprivation registered in Member States in 2005, 2008 and 2010. Countries are ranked from the one where the rate decreased the most (in terms of p.p.) between 2005 and 2010 to the one where it increased the most and results are presented in two scales (rates up to 70% and up to 10% through the period).

Interestingly, all Member States where the severe material deprivation rate for older people (65+) in 2010 was higher than the EU-27 average, managed to reduce the rate between 2005 and 2010 at a faster pace than the EU average. The most remarkable decreases have been recorded in BG (-26 p.p. between 2006 and 2010), LV (-22 p.p. between 2005 and 2010) and PL (-20 p.p. between 2005 and 2010). LT, RO and SK also managed to reduce the rate by more than 10 p.p., whereas CY and EE managed to reduce it by more than 7 p. p.

In a number of countries the pace of reduction was higher before 2008 and then stalled (e.g. in LV, PL, HU, PT, DE, UK) or the trend was even reversed to higher severe material deprivation levels in 2010 after hitting the lowest levels during the period in 2008 (e.g. in LT, MT, ES). This stands in contrast to changes in the at-risk-of-poverty rates, which are a relative concept, and whose improvement during the crisis has reflected to a great extent declining incomes in the working age population.

Countries with low levels of severe material deprivation have less scope to decrease the rates, but even here progress has been observed. For example between 2005 and 2010 in BE, NL, SE and UK and between 2008 and 2010 in FI, SI and AT. By contrast, severe material deprivation among the elderly increased between 2005 and 2010 in IE, IT and DK.

Figure 21. Level of severe material deprivation rates of people aged 65+, 2005, 2008 and 2010

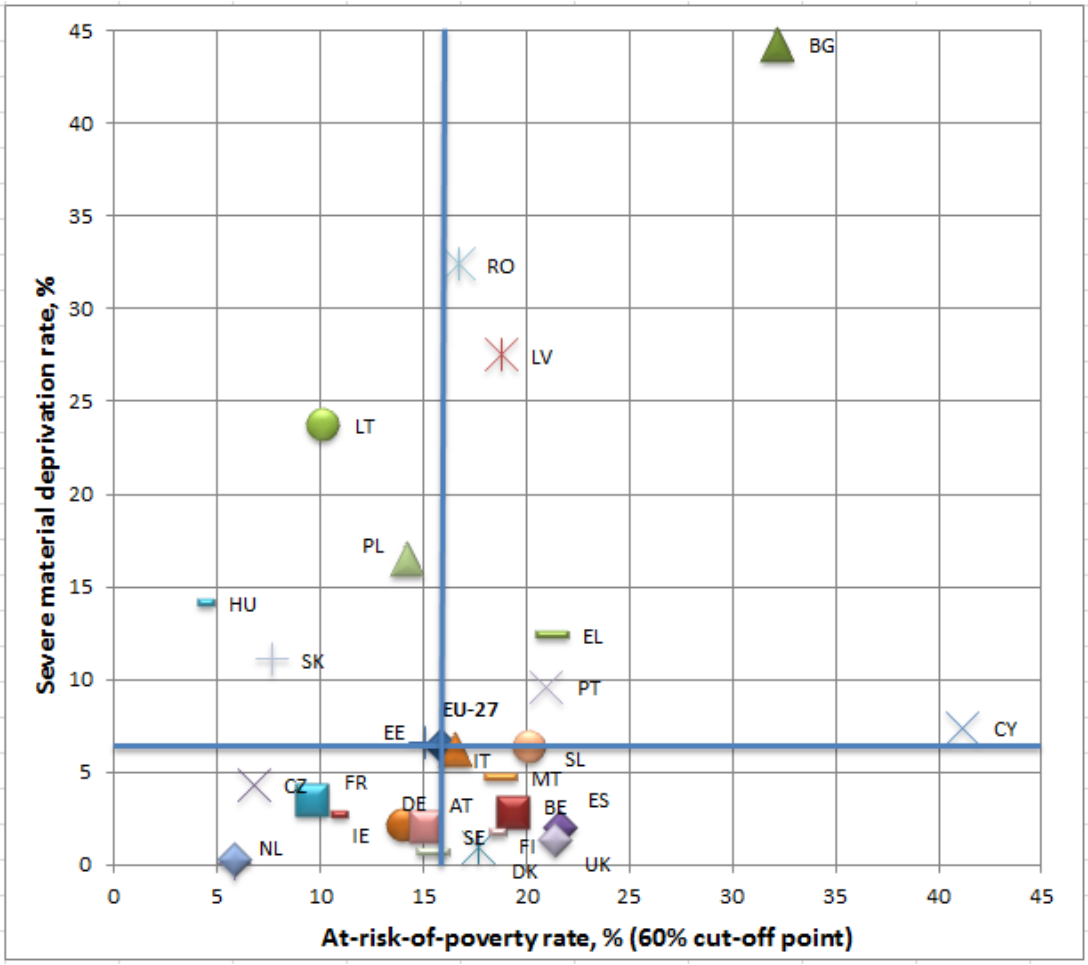


Source: Eurostat, EU-SILC

Monetary poverty and severe material deprivation: risk of poverty or social exclusion for the elderly

It is also important to monitor whether there are divergences between the various indicators for some countries and how these can be explained. **The combination of the relative measure of income poverty of older people and the absolute measure of severe material deprivation brings an interesting pattern**. In 2010 both the at-risk-of-poverty rates and the severe material deprivation rates were higher in BG, EL, LV, PT and RO than in the EU-27 on average. In EE, LT, HU, PL and SK only the severe material deprivation rates were higher, whereas the at-risk-of-poverty rates lower than the EU-27-average (Figure 22). The reverse was the case in BE, DK, IE, ES, IT, MT, SI, FI and UK, which had lower rates of severe material deprivation, but higher at-risk-of-poverty rates. In the remaining Member States (CZ, DE, FR, LU, NL, AT and SE) both indicators were lower than the averages for the EU-27.

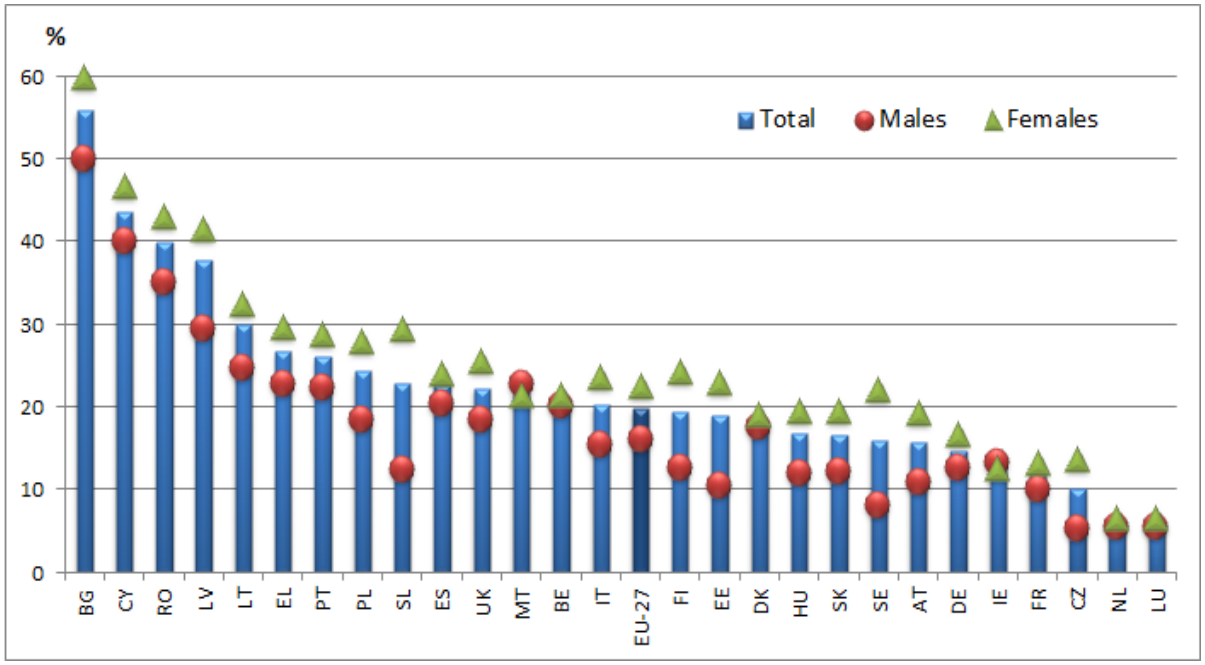
Figure 22. Severe material deprivation rates of people aged 65+ vs. at risk of poverty rates of people 65+ (60% cut-off point), 2010



Source: Eurostat, EU-SILC, [ilc_mddd11], [ilc_li02]

Note: The EU Survey on Income and Living Conditions (EU-SILC) has a significant time lag. 2010 (t) data refer to income and employment for 2009 (t-1) while only the information on living conditions and material deprivation refer to 2010 (t). In IE the reference period refers to the 12 months prior to the interview, while in the UK it is centred on the interview date.

Figure 23. People aged 65+ at risk of poverty or social exclusion, %, 2010



Source: Eurostat, EU-SILC, [ilc_peps01]

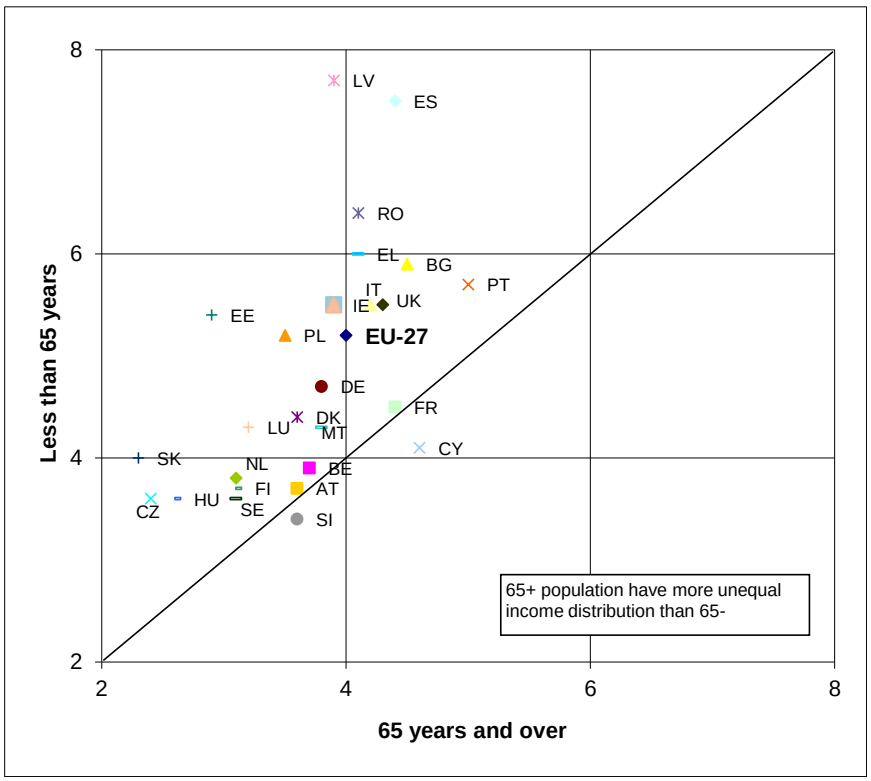
Note: The EU Survey on Income and Living Conditions (EU-SILC) has a significant time lag. 2010 (t) data refer to income and employment for 2009 (t-1) while only the information on living conditions and material deprivation refer to 2010 (t). In IE the reference period refers to the 12 months prior to the interview, while in the UK it is centred on the interview date.

The overall risk of poverty or social exclusion (the EU 2020 indicator which in case of people aged 65+ combines at-risk-of-poverty rate with the severe material deprivation rate) reached 19.8% in the EU-27 in 2010 (16.2% for men and 22.6% for women: see Figure 23).

Income distribution for the elderly

The concept of income inequality/distribution is different from that of monetary poverty or the deprivation rate. Income inequalities depend on a number of factors, such as labour market status, the type of welfare state, or sources of income. On average, **income of the old age population is more equally distributed than that of the rest of the population** (Figure 24). In 2010 on average in the EU-27, the 20% of the older population with the highest income had 4 times more income than the 20% with the lowest income. For those under 65, the equivalent figure was 5.2 times. This is certainly an effect of the redistributive role of pension systems, but as benefits in payment are based on past pension contributions, this can be also a reflection of lower inequalities observed for the working age population in the past, especially in the former centrally planned economies. Only two Member States have higher income inequalities for older people than for the younger population. Between 2005 and 2010 income inequality for older people in the EU-27 was quite stable and the value of the indicator fluctuated around 4. On average in the EU-27 income distribution is more unequal between older men than older women.

Figure 24. Inequality of income distribution (S80/S20), 65+ versus 65-, 2010



Source: Eurostat, EU-SILC

Note: The EU Survey on Income and Living Conditions (EU-SILC) has a significant time lag. 2010 (t) data refer to income and employment for 2009 (t-1) while only the information on living conditions and material deprivation refer to 2010 (t). In IE the reference period refers to the 12 months prior to the interview, while in the UK it is centred on the interview date.

3.2.2. The role of income guarantees in addressing poverty at old age

The former section has given a detailed picture of the poverty or social exclusion situation of the elderly. This section will answer questions relative to the specific contribution of pension schemes in addressing poverty at old age. In the majority of cases, pensions are an important poverty reduction tool, as they are the main income for most of the older people. Depending on how pension systems influence consumption smoothing in old age and what their coverage is, minimum income provisions can be one of the crucial elements of poverty alleviation.

Mechanisms in Member States that aim to tackle poverty in old age

Recent reforms of minimum income guarantee benefits reflect the growing attention given to providing adequate incomes in retirement and reducing poverty amongst older people.[78]

[78] A description of such income guarantees has been undertaken by the SPC in 2011 by means of a **questionnaire** that collected up to date information from Member States. The 2011 questionnaire updates the 2006 SPC Special Pensions Study on "*Minimum income provision for older people and their contribution to adequacy in retirement*".

Member States report **a variety of** different elements in their pension systems, which play the role of **minimum income guarantees** for older people. One can identify four main types of such guarantees, three of social protection nature: (1) universal flat rate pensions usually based on residency and age, (2) contributory flat-rate pensions granted on the basis of the number of contributory years, (3) minimum benefits within earnings-related pensions and (4) separate social assistance resource-tested benefits.

While age and period of residence are the usual **eligibility criteria** in case of universal flat-rate pensions, age and period of insurance are applied for contributory flat-rate and minimum pensions. A few Member States offer universal flat-rate pensions (e.g. FI). Usually the benefit is calculated pro-rata for each year of residency, with a minimum set at three years and the full amount at 40 years. In IE, under the contributory system, the benefits are granted on the basis of the average number of contributory years over the person's working life[79].

Minimum benefits within earnings-related pensions are the most popular minimum income provision among the Member States. Publicly provided earnings-related pensions generally include strong redistribution mechanisms. To become eligible for the minimum benefit, one usually needs to reach the pensionable age and to complete a certain period of years of contribution or residence. These vary from 10 to more than 40 years, and sometimes are shorter for people who retire at the pensionable age.

On top of the pension benefits described above, most Member States provide a safety net for those who were unable to fulfil the contributory requirements or unable to meet the residency test. In some Member States this is a regular allowance granted to any individual or household unable to meet basic needs. In others the allowance is directed to people over the pensionable age or older recipients receive higher benefits than younger ones.

The social assistance allowances are usually **means-tested**. The nature of the means-test varies among Member States. Income tests are more broadly used than asset tests and (potential) income from capital is usually taken into account. Furthermore, in several Member States a fraction of assets or income (e.g. some social benefits) are disregarded in the test (e.g. DE, IE, FR or HU). Means-tests are also applied to some universal flat-rate pensions (e.g. in FI and SE), or earnings-related pensions.[80]

Coverage of minimum income provisions (expressed as number of recipients as a share of population over certain age threshold) varies greatly among Member States and reflects the different nature of these provisions. For instance, the universal flat-rate pensions have nearly 100% coverage in UK and NL. Also in FI the coverage is around 100%, but only 50% of population aged 65 and more are beneficiaries. This is because they are subject to means-test, so for instance only around 8% of beneficiaries in FI receive the full amount of the universal national pension. In contrast, the contributory flat-rate pensions in IE reflect career histories and 62% of those aged 65 and more are in receipt, with men representing a bit less than 2/3 of recipients.

[79] At the moment the level of contributory pension paid in IE (once the minimum paid contribution requirement has been satisfied) is linked to the average number of contributions a person has paid or been credited with over their working life.

[80] For instance in Finland, the income-tested national pension is granted to everyone whose pension income is below a certain threshold. Every EUR from earnings-related pension income, that exceeds the threshold, reduces the value of national pension by 50 eurocents, so that even recipients of small earnings-related pensions receive benefits over the level of minimum pension. National pension is not granted to individuals whose earnings-related pension reaches +/- 1,200 EUR/month (the limit varying according to the marital status of the pensioner). Moreover, from 2011 an additional guarantee pension has been granted to those whose other pension income is below 714 EUR/month.

Earnings-related minimum pensions can also have significant coverage rates up to 50%, but usually only 15-25% of population 65+ is in receipt of earnings-related minimum pensions (e.g. in BG, ES, CY, LV, LU, AT).[81] Low numbers of recipients in some countries probably reflect the low value of the minimum earnings-related pension compared to the average or median pension and to some extent low historical employment rates, especially for women (reflecting historical predominance of male breadwinner households). A higher number of recipients might be an effect of high income inequalities of the working age population in the past, so that many low income earners are entitled to minimum earnings-related pensions today.

Minimum income provisions for older people are very often complemented with **specific benefits** that are to help older people with a variety of expenses. Most of these benefits provide assistance for specific needs which are relevant for older people or because older people are less able to respond to large one-off costs. We can especially distinguish here housing, medical and fuel allowances, or reductions in public transportation fares. Their coverage is usually limited to less than 10% of pensioners or people over the age of 65. There are a few exceptions, where the coverage is higher, e.g. lower transportation fares, free public transportation in CY, housing allowances in DK, IE, FI and SE, fuel allowance in IE, or medical allowance in DK cover around 25% of old-age pensioners. Similarly health care is the area where Member States usually provide some assistance, usually in the form of universal coverage, assistance with co-payments or free access.

Additional benefits and services provided at national level and with wide coverage can play an important role in reducing poverty among older people. The very differing situations and lack of comparable data makes it difficult to draw a comprehensive assessment. Also in some cases coverage is low and the additional benefits are subject to means-testing.

It is important to look not only at the coverage of minimum income provisions and whether they are complemented by additional benefits, but also how they evolve in time. **Indexation** rules in the minimum income provisions for elderly vary between Member States, but also between different schemes within countries.

Social protection minimum income provisions are sometimes indexed on wages (e.g. DK, CY), but more often on prices (e.g. FR, LV, MT, AT, FI, SE). Some Member States apply price indexation with additional increases in times of higher economic growth (e.g. PT), improved budgetary situation (e.g. BE, LU) or on the basis of discretionary decisions (e.g. FI, ES). Other Member States apply a mix of price and wage indexation (e.g. PL), or do not have formal indexing rules (e.g. IE, HU). Social assistance benefits are more often indexed on *ad hoc* basis (e.g. BG, PL, SK).

Future **evolution of numbers of beneficiaries** of minimum income provisions will be shaped by two contradictory forces. On one hand, the steady increase of female participation in the labour market will translate in the future in higher accrued personal pension rights. This will lead to both a decrease in their coverage by minimum income benefits in old age and an average increase in their income situation.

On the other hand, one should also take into account that recent increases in employment rates include an increase of part time work which generally translates into lower accrual of pension rights. Furthermore, low levels of employment result in lower levels of accrued pensions. This relates also to the question of the treatment of non-contributory periods for people who do not have long enough contribution records (in particular as an effect of low employment levels and long-term unemployment) or of undeclared employment.

[81] This means that while all pensioners who meet the criteria are covered by the earnings-related minimum pensions, only certain proportion of them is in receipt of minimum pensions.

Most Member States do not consider that minimum income benefits would provide negative **incentives towards longer working lives or higher savings**, as those benefits generally play a significant role only for people aged 65 or more. In that respect, potential disincentives associated with benefits available for people aged less than 65 should be considered further.

However, in a situation where the link between contributions and benefits has been strengthened in the wake of the pension reforms, it is vital to promote active labour market participation for all groups so that individuals have the possibility to accrue adequate rights to pension benefits which would exceed the level of minimum income provisions.

Member States limit the potential disincentives of minimum income provisions to save more and work longer. Some countries do not provide a pension before pensionable age, if a potential pensioner has not accrued pension rights over certain threshold (e.g. the level of minimum pension provision). Other Member States disregard pensioners' earnings from work or give possibilities to de-retire as potential ways to increase incentives to work longer and savings levels. The disincentives depend on the pension scheme structure in a given country. In Finland, for example, every additional EUR from earnings-related pension reduces the amount of the national pension by 50 eurocents only. Moreover, to maintain incentives for low-wage earners to work longer, the higher pension accrual rate of 4.5 % earned after the age of 63 is added in full on the top of the national pension.

3.2.3. Europe 2020: Contribution of pension systems to the poverty reduction target

Europe 2020 is the EU's growth strategy for the coming decade. The Union has set five targets to be reached by 2020, including one on reducing the number of people in or at risk of poverty and social exclusion by 20 million[82]. Achieving the Europe 2020 poverty reduction target depends crucially on the continued contribution of pension systems to preventing and mitigating poverty in old age and the poverty threshold, which is determined by the evolution of the general level of income in the society.

Poverty rates of people 65+ are to a great extent a function of the poverty avoidance and poverty mitigating capacities of pension systems including instruments of minimum income provision for older people. Pensions represent by far the largest element in social protection systems, affecting the primary incomes of more people than any other part.

In 2010 there were 16.9 million people aged 65 and over in the EU who were at risk of poverty or social exclusion. Around 5.4 million of them were severely materially deprived and 13.4 million were at-risk-of-poverty[83]. In the majority of Member States people aged 65+ who are at risk of poverty or social exclusion represent between 10% and 20% of the total population at risk of poverty or social exclusion. The average for the EU-27 was at almost 15% in 2010[84], while in CY and BG the share of older people in total population at risk of poverty or social exclusion was over 20% (see Figure 25). This demonstrates that achieving the 2020

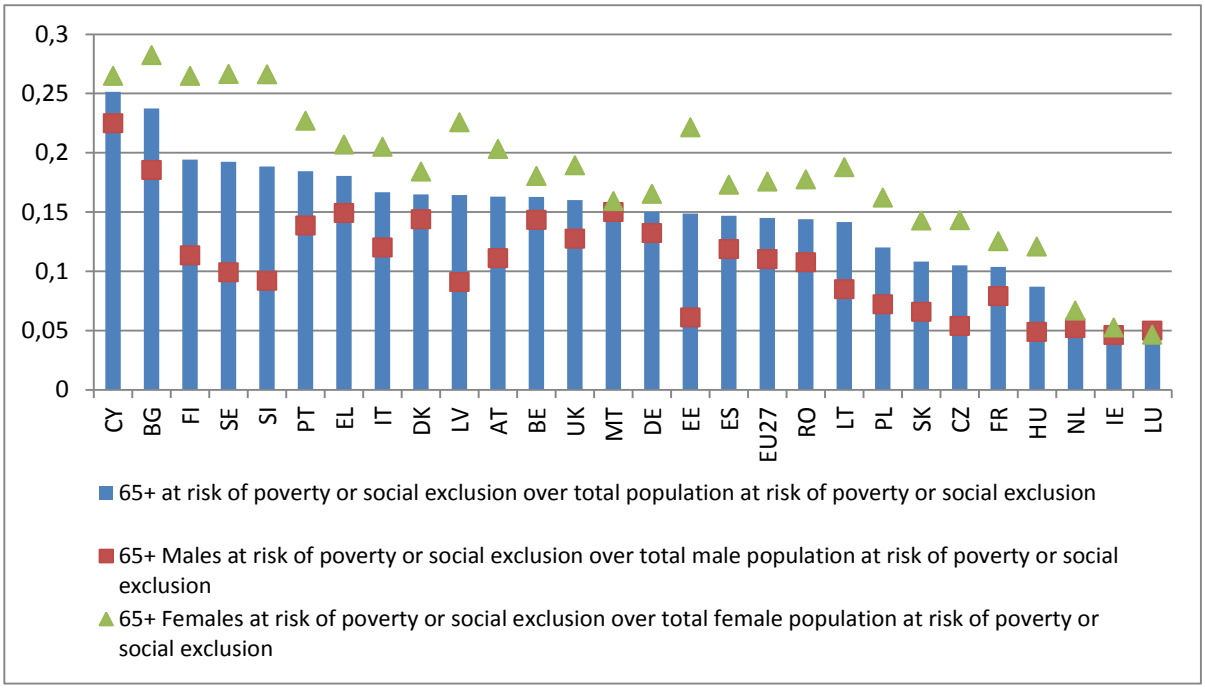
[82] In the case of older people the risk of poverty or social exclusion of the people over 65 is used to measure a progress towards the EU2020 target (see Annex 1 for details).

[83] The severe material deprivation tries to identify the inability to afford some items considered desirable or even necessary by most people to lead an adequate life, while the at-risk-of-poverty is a measure of income poverty. The former is an absolute while the latter is a relative measure. The two numbers do not add up to 16.9 million, as around 2 million older people suffer from both deprivation and poverty as defined by the EU indicators.

[84] People aged 65 and more represented around 17.4% of total population in 2010.

poverty reduction target crucially depends on developments for people aged 65+ and that **the potential ability of pension systems to affect the numbers in poverty and achieve the poverty target is considerable,** especially for Member States where older people represent an important share of people at risk of poverty or social exclusion. Clearly, the challenge would be bigger in Member States with higher proportion of the poor people.

Figure 25. Population 65+ at risk of poverty or social exclusion in relation to total population at risk of poverty or social exclusion, 2010



Source: Eurostat

Note: The EU Survey on Income and Living Conditions (EU-SILC) has a significant time lag. 2010 (t) data refer to income and employment for 2009 (t-1) while only the information on living conditions and material deprivation refer to 2010 (t). In IE the reference period refers to the 12 months prior to the interview, while in the UK it is centred on the interview date.

In the case of older people, successful reduction of poverty will depend on whether the severe material deprivation and at-risk-of-poverty rate are tackled. In the coming decade, when the economic crisis is overcome, one can expect that the catching-up countries will record a decline in the severe material deprivation of older people along the overall increase of living standards.

It is more difficult to project the evolution of the at-risk-of-poverty among the elderly, which is a relative concept and to a large extent depends on the evolution of both future pension benefits (which to a large degree depends on their valorisation and indexation) and future earnings. Given the uncertain economic outlook for the next decade, it is tricky to forecast the evolution of pension benefits and earnings.

On one hand, in the event of protracted low growth Member States will have to continue to adjust social security expenditure to levels that reflect the trend of growth rate of the economy and are affordable in the long run. This could also affect pension expenditure, e.g. through lower indexation. An increase of the poverty rate can result from a slower increase in pensions than of general incomes, in particular for Member States with higher growth of wages and where pensions are indexed on prices.

On the other hand, painful economic adjustment might also affect evolution of wages in some EU Member States. If wages fall behind increases in prices and in consequence the median income stabilises or declines, pensioners on price-indexed benefits might be better protected against the risk of poverty.

As discussed in chapter 3.2.1, not only the scale of at-risk-of-poverty is an important factor, but also the depth of the poverty gap. In the EU-27, 3.2% of people aged 65 or over (2.7 million) live on an income below 40% of the median income in their country, 7.6% below 50% (6.4 million), 15.9% below 60% (13.4 million), and 26.2% below 70% (22.1 million, for reference see Figure 18).

Increasing the relative equivalised income of older people who are at-risk-of-poverty by 20% would help to lift around 7 million persons (those between 50% and 60% of median income), out of poverty (as defined within the EU2020 strategy). Such calculations assume that the value of the poverty thresholds do not change over time so incomes of working age population do not increase. This, of course, is not a desired result for the economic development of the EU.

Similarly, a relative drop in incomes of elderly people by $1/7^{th}$ could add another 8.7 million people to the group at-risk-of-poverty, as those with the income currently between 60% and 70% of median would fall under the 60% at-risk-of-poverty threshold.

The example above shows that **pension systems can achieve large scale contributions to the poverty reduction goal**. The questions are (1) whether the minimum income provision levels for older people can produce benefits that hover above the poverty threshold and help move people out of monetary poverty; and (2) how this can be financed?

3.3. Valorisation and indexation of pensions

Valorisation (pre-retirement indexation of contributions) and indexation (of benefits in payment) are both closely linked. Valorisation (Table 5) of past salaries or contributions has an impact on how pensions replace income from work at the moment of retirement, and indirectly on how much pensioners are exposed to the risk of poverty. Indexation of pensions is crucial for maintaining living standards after retirement.

Table 5. Valorisation of pensionable earnings in Member States

Variable	Member States
Wage growth	CZ, CY, LT, LU, SI, SK and UK
Wage growth and change in pensioner-contributor-relation or in number of contributors	DE, LV
Prices and wages	FR, FI, EE, LU and MT
Prices	BE, ES
Labour productivity and prices	PT
Average income	SE
Ad hoc	HU

Source: Indicators Subgroup of the Social Protection Committee

Note: Luxembourg – after 2020 100% prices and 50% wages

In the earnings-related pension schemes, all countries revalue earnings from earlier years to the time of retirement when calculating benefits. This mechanism adjusts for changes in costs and standards of living between the time pension rights were earned and when they are claimed. Valorisation of past earnings impact on replacement rates and fiscal sustainability in major ways. This is a result of the compound-interest effect.

Table 6. Indexation of income-related pensions in Member States

Variable	Member States
Wage growth	SI, DK and SE
Wage growth and change in pensioner-contributor-relation	DE
Prices and wages	BG, CZ, EE, CY, LU, HU, PL, FI, SK, MT and RO
Prices	BE, ES, FR, IT, LV, AT and UK
Prices and GDP growth (partially)	PT
Discretionary	EL, LT, IE and AT
Progressive	EL, IT and PT

Source: The 2012 Ageing Report, Joint Report on Social Protection and Social Inclusion 2009, Indicators Subgroup of the Social Protection Committee.

Note: Belgium: prices + partial adjustment to living standards. Hungary: prices + partial adjustment to net earnings growth in case of high GDP growth. Luxembourg: after 2020 100% prices and 50% wages. Latvia: no indexation until 2013 and price indexation from 2014.

Many EU countries with earnings-related schemes valorise past earnings in line with economy-wide wage growth. However, several countries have moved away from earnings valorisation in recent years and they valorise earnings to price inflation or a mix of price inflation and earnings growth.

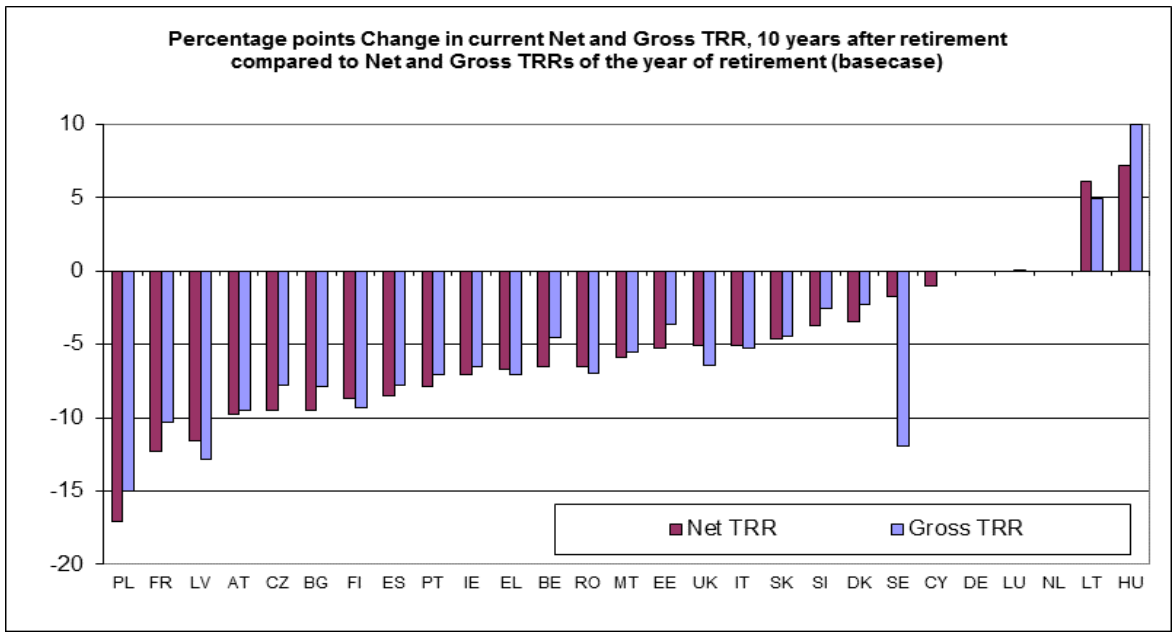
In addition, many countries have amended their indexation rules of pensions in payments granted under their main public pension scheme. See Table 6 for a summary of indexation rules of income-related pensions in Member States.

Indexation is no less important than valorisation to maintain the living standards of pensioners. Unless pensions in payment are protected by indexation, older people's consumption levels and relative standards of living can be disproportionately affected by inflation. Indexation of benefits makes their long-term real value more certain and helps to avoid recurrent political debates. Price indexation maintains the purchasing power of pensions, but is generally less than wage indexation. Therefore, in case of price indexation, replacement rates of the year of retirement explain only partially the adequacy of the pension system because they do not cover the relative decline during the pensioners' life.

The variant case of current Theoretical Replacement Rates that analyses “a worker ten years after retirement” is a useful tool to assess the situation in 2020 of pensioners who are retiring today (in 2010). This variant case calculates the pension 10 years after retirement (i.e. in 2020 for current replacement rates) of the individual who retired in 2010 divided by the income of another worker retiring in 2020 after 40 years career. This helps to provide an assessment of the evolution of the relative position of the individual, typically reflecting pension indexation. The Figure 26 shows, for a pensioner retiring in 2010, the percentage point difference between net and gross replacement rates ten years after retirement (i.e. 2020) compared to those ratios at the

year of retirement (2010). According to the calculations, in all but a few Member States net replacement rates fall significantly (at least 5 p.p. and in some cases more than 10%) in all schemes ten years after retirement. This shows how the living standards of a pensioner will drop over time relative to the rest of the population as pensions in payment most often lag behind the evolution of wages. In case of LT the positive change is possible because pensions have been temporarily cut in 2010 and 2011, and their original value would be restored afterwards. Indexation to wage growth was assumed in the calculation of pensions, so the 2020 value would be higher compared to the value in the base year 2010.

Figure 26. The effect of indexation on replacement rates 10 years after retirement



Source: Indicators Subgroup of the SPC, 2010 - 2050 Theoretical Replacement Rates exercise

For a given expenditure level, the indexation issue can be viewed as a choice between a lower initial pension combined with earnings indexation and a higher starting benefit combined with price indexation. Different criteria could determine the choice[85].

Higher initial pension level may encourage early retirement, since people do not usually make calculations about later indexation. Younger retirees have more opportunities for spending on leisure, but health expenditures may increase with age, especially for long-term care. Indexation policy can have distributional effects, as people with lower incomes have shorter life expectancy. In addition, since women live longer, the choice applied is not gender neutral. Moreover, wage indexation of minimum income benefits may raise their level and strengthen work disincentives for those with lower incomes. Recipients of generously indexed benefits also have fewer gains from anti-inflation policies and thus have fewer incentives to bear the cost of adjustment.

A majority of countries in the EU rely on indexation rules for their earnings-related pensions that do not fully reflect developments in nominal wages. Some countries have introduced 'sustainability factors' and link indexation to demographic developments or financial stability of

[85] E. R. Whitehouse (2009), "Pensions, Purchasing-Power Risk, Inflation and Indexation", *OECD Social, Employment and Migration Working Papers*, No. 77, OECD Publishing. http://dx.doi.org/10.1787/227182142567

the system (e.g. DE, SE, PT), or use above-inflation rises in pension payments only in times of high economic growth (e.g. HU, PT).

Low indexation of pension benefits often leads to a situation where older pensioners are more exposed to monetary poverty. Moreover, the inflation rate for older and younger pensioners might differ. This is why some countries have introduced progressive indexation of their pensions, where the increases granted to smaller pensions are larger. Otherwise, the poorest pensioners often have to rely on minimum income provisions. Some Member States adjust pensions by using indexes which reflect the appropriate basket of goods and services to measure the changes in cost of living faced by retirees.

The crisis has prompted some pension policy measures which are seen as part of the fiscal consolidation strategy. Notably, the need for cost-containment has motivated many Member States to review their methods for the indexing of pension benefits in payment and they have come to reduce the indexation of pensions or temporarily frozen pension benefits levels (e.g. ES, LV, and PT). However, **Member States have often prioritized the full indexing of basic, guarantee and minimum income provisions, so as to mitigate the risk of poverty and material deprivation for low income and vulnerable older people** (e.g. in ES, LT, PT). In CY cash benefit schemes have been addressed to pensioners' households whose total annual income is below the poverty threshold. Thus, in order to avoid increasing precariousness as part of austerity measures, Member States consider it important to concentrate pension benefits where they are most needed and seek savings where they can be more easily absorbed without causing a significant detrimental effect.

3.4. Other available economic resources

Adequate standards of living in old-age are not only about pensions. The discussion of the adequacy (and sustainability) of pensions is influenced by other policy areas such as labour market, health and long term care, and other benefits available to the elderly. Thus the question may arise as to the need for high pensions if all necessary services are available for free for pensioners or what the real value of a high pension is if no age-related services are available. There is a wide range of other specific benefits that are afforded to older people to help with a variety of expenses, such as health care, assistance with housing costs, transport and home care assistance and payments to help with things like heating costs in the winter or with general utility bills, such as gas, electricity and telephone costs. These benefits are another way of ensuring a higher standard of living in old age.

Box: Imputation of in-kind benefits

The monetary value of in-kind benefits

The cost of production is usually used as the basis of the monetary value of in-kind benefits. However, it does not reflect exactly the value of the service to the beneficiary. In fact, it may overestimate the real increase in well-being since some people would rather opt for a smaller monetary transfer than for the free use of public services that does not entail the liberty to consume the money as wished (Smeeding *et al*. 1993, 249; Canberra Group 2001, 15; Garfinkel *et al*. 2006, 24). Furthermore, public expenditure does not always reveal the real quantity and quality of services provided.

We can also employ other ways to assess the benefit's monetary value, such as the price that

individuals would be ready to pay themselves for the services, *the equivalent monetary value or utility value*, and the money 'freed' for other consumption (Smeeding 1977; Smeeding and Moon 1980; Hugounenq 1998, 6). However, the empirical findings with these methods do not differ greatly from the standard method of using the cost of production and may cause additional data problems.

Usually in-kind benefits are considered to be as valuable to the rich as to the poor. However, Smeeding (1977) discovered that as an individual's income grows, the public services substitute the cash transfers better.

Determining beneficiaries

Generally, it is assumed that only those who really use the service in question (or those eligible to do so) will receive the benefit. When the data used do not contain information on the receipt of in-kind benefits, the imputation is based on the probability of being a beneficiary.

For instance, in the case of healthcare or long-term care, data on the public spending by age and gender allow us to use a so-called *insurance approach*. The insurance value, or the benefit allocated to each individual, can be considered as the price of a private insurance and the premium is the same for everyone within the same age group – the higher the age, the higher the premium as the chances of being hospitalized increase. The government provided service is a substitute for a private insurance and this is the benefit a person receives from the system. In comparison, in an approach based on *real use* the value of the service (like medical visit) is allocated to each real user.

It is easier to acquire comparable data for the insurance approach, so this method is usually employed, but there are also some theoretical differences between the two methods. It is not reasonable to allocate a value of €150,000 for surgery to a patient's economic resources, but it makes sense to allocate the value of the insurance that a person would most probably purchase from the private market if there was no public health care system available.

In the assessment of the impact of in-kind benefits on wellbeing it is also important to bear in mind that in-kind benefits may merely compensate e.g. recipients' lower health status rather than increase their living standards. This is especially relevant in the case of recipients of terminal care.

The diverse nature of benefits and delivery mechanisms makes it difficult to quantify their impacts, which, however, should not be underestimated.

Depending on the mix of services provided in a given country, the well-being of different age groups (or household types) is affected in distinct ways. This is studied through a so-called *imputation* method where public spending on in-kind benefits is allocated to actual or potential users. The principal assumptions relate to monetary value of the in-kind benefit in question and determining beneficiaries. The definition of this mix of services would determine the data requirement for factoring in the in-kind benefits, which data collection in some Member States could pose a problem. This is explained in the Box above.

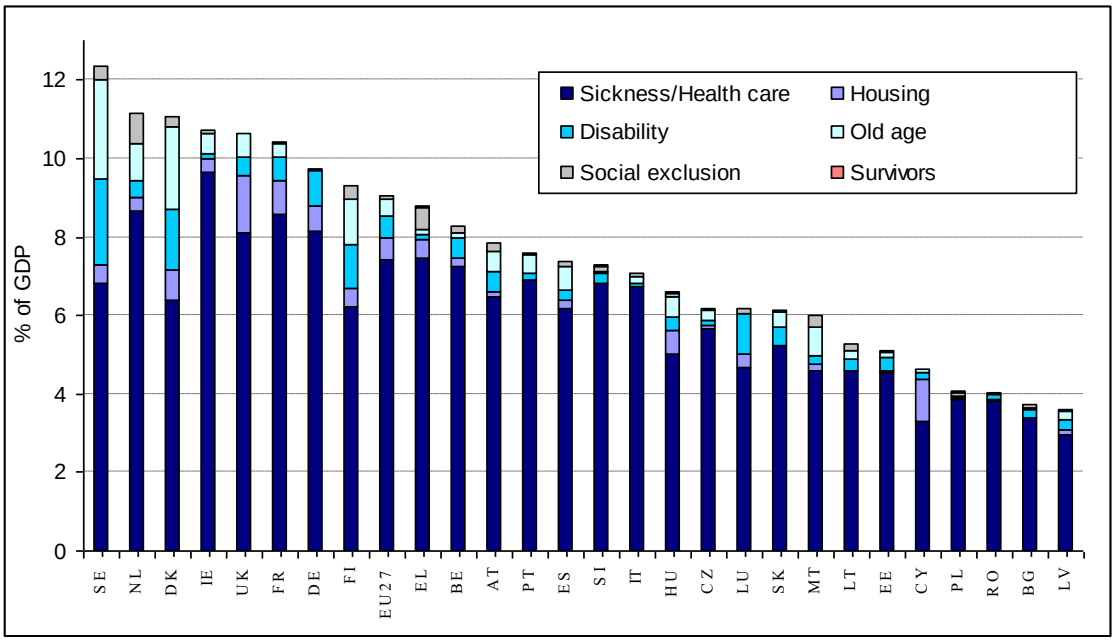
The size of publicly-provided in-kind services varies considerably across countries. Among EU Member States the share of in-kind services in GDP ranges from under 10% to almost 20%[86], but this covers services provided for the whole population and not older people only. There is also a wide variation in expenditure on social protection benefits in-kind which can be related to old age (healthcare/sickness, housing, invalidity, old-age, social exclusion, and survivors: see Figure 27), especially when it comes to benefits other than healthcare. Depending on a mix of

[86] The impact of publicly provided services on the distribution of resources, OECD-European Commission, February 2011 (no data for BG, MT, RO).

in-kind services provided in a given country, well-being of different age groups can be affected to a dissimilar extent.

In 2009 the expenditure on health-care in kind ranged from 3% of GDP in LV to 9.7% in IE, with the EU-27 average of 7.4%. Only UK and CY were spending more than 1% of their GDP on housing (EU-27: 0.6%). Furthermore, old-age in-kind benefits absorbed expenditure of at least 1% of GDP in SE, DK, FI and NL. However, one of the challenges in taking into account in-kind benefits is the lack of reliable harmonised data, and the fact that expenditure is usually not broken down by age group.

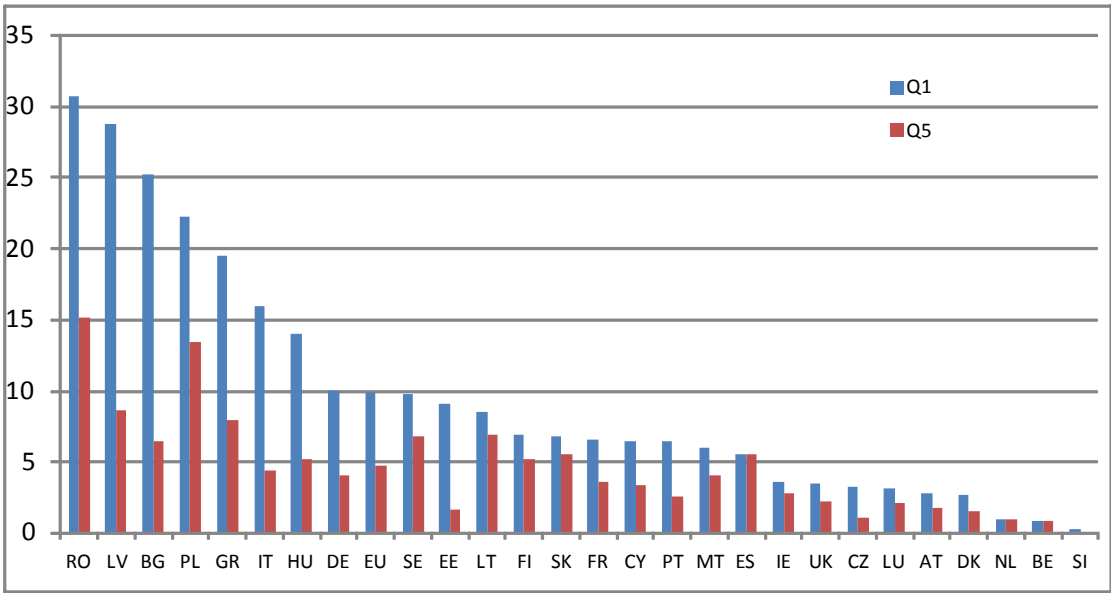
Figure 27. Spending on selected in-kind benefits, % of GDP, 2009



Source: Eurostat, ESSPROS

The level of access to services helps to better assess living standards across countries. Figure 28 is an illustration of the self-reported unmet health care needs of older people. More than a fifth of the poorest respondents replied that their healthcare needs were not met in the previous year in RO, LV, BG, and PL, as well as more than 10% of the richest respondents in RO and PL.

Figure 28. Unmet healthcare needs: % of the poorest and the richest income quintile, people aged 65-74, 2009



Source: Eurostat, EU-SILC

Data on expenditure on in-kind benefits and on the level of unmet care needs experienced show that in a number of countries in-kind benefits play a significant role and the actual wellbeing of older people might be higher than for instance the indicators of relative monetary poverty suggest. It needs to be noted that older people may be more vulnerable to cutbacks in the provision of health or care services, introduced as a part of austerity measures.

Tenure status is another non-monetary factor which influences living standards. Older people are more likely to own their homes, mortgage free, or have rents below market prices, so that their relative disposable income is in fact better than it seems from the cash measures on the indicators for poverty and average income used in previous sections. The imputed rent method takes into account housing tenure, and the results are significant in certain countries. For example in Spain the proportion of people over 65 at risk of poverty drops more than 11 percentage points when imputed rent is considered.

3.5. The gender gap in pensions

Since women are significantly overrepresented among people with adequacy problems in terms of at-risk-of-poverty-rates, low replacement rates and insufficient coverage, a deeper than usual reflection of gender issues is called for in a report on pension adequacy.

Few areas of social protection are as marked by gender differences in outcomes as pensions. One key reason for this is because **women** across the EU27 currently **outlive men by 6 years measured from birth and by 3.5 years measured from age 65**[87]**.** Another key reason is that when interacting with pension systems **key differences between men and women**'s biology,

[87] Gender specific life expectancies seem to be narrowing but for the foreseeable future (and for as long as there has been pensions) the majority of pensioners - usually about two thirds or more – will be women.

life courses and employment will tend to **aggregate into major gender differences in pension adequacy** outcomes. Just as one can speak of a gender pay gap there is **a gender gap in individual pension entitlements**: on average men have significantly higher pensions than women.

Pension system features may be viewed as the **filtering mechanisms** that determine to what extent gender differences in families and labour markets and economic behaviour are mitigated, reproduced or accentuated in old age income streams.

Some Member States have rules that intentionally create ***separate pension systems for men and women***: e.g. different pensionable ages, pension rights derived from husbands' contributions, widows but no survivor's pensions, care crediting only for women.

Yet, in the context of gender specific work patterns and life circumstances general arrangements for social protection entitlement can easily lead to gender inequalities: that is where certain aspects of pension schemes and changes in them fit the circumstances of one gender more than the other.

In fact many Member States primarily have ***general rules with gender specific outcomes*** such as entitlement based on earning-related contributory record – which will benefit men as they have longer working careers with higher pay – or such as residence based basic pensions which primarily benefit people with short contribution records and lower incomes, among which women predominate. Some of these general rules may actually be intended to - and do in fact manage to - generate more gender equality in pension outcomes than one would expect given gender differences in employment and pay.

It should also be noted that since women's roles and their employment and life course behaviour have been changing, ***past, present and future cohorts of working age women*** (as well as women with different income) can be differently affected by the same pension system features.

Moreover, while women on average tend to end of with lower individual benefit entitlements than men they are generally not at a disadvantage in a key aspect of pension systems: social protection against the longevity risk. To the contrary, as almost all pension schemes use uni-sex life tables the insurance sharing in pensions involves a ***significant redistribution from men that die earlier to women that live longer***. This difference is often accentuated because women tend to retire and take up a pension before men. Thus, whereas women tend to have smaller pensions than men they receive these for longer periods. Differences in realised pension wealth between men and women will therefore be smaller than differences in entitlements and monthly benefit levels.

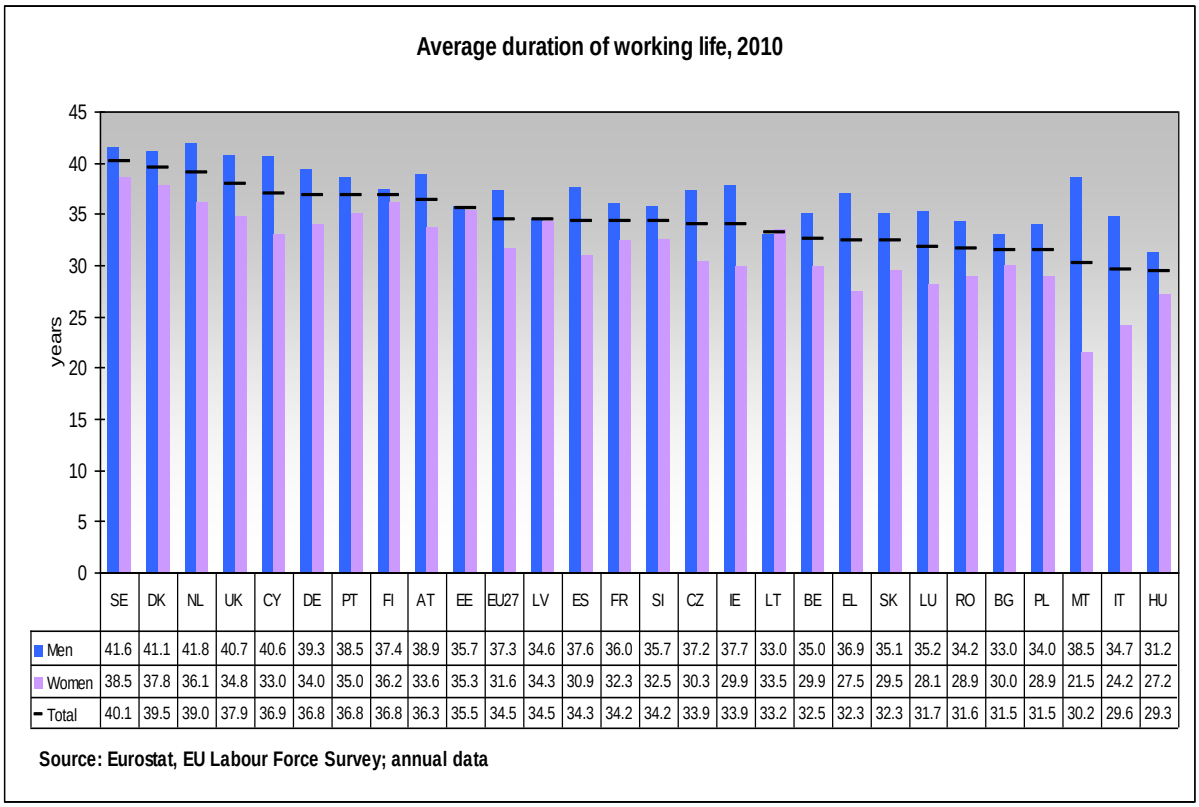
The present higher at-risk-of-poverty for retired women, notably older women 75+, (Figure 23 and Figure 25) is likely to results from a number of factors. With lower pay and significantly less work in the formal sector on average these cohorts of women will through contributory records have earned far lower entitlements than men - if any at all. If they have worked in the formal sector they are likely to have had more and longer career breaks than men of their cohorts as an effect of maternity and informal care work for children and the elderly. In many countries many of them will have retired before their spouses and are now outliving them while drawing on widows or survivors pensions as derived rights if not covered by residence based basic pensions or minimum or guarantee pensions. Some will only have social assistance or minimum income provision for older people to fall back on. With longer periods in retirement than men the relative value of their benefits will also be more exposed to the gradual erosion of the relative value of their pension stemming from the lack of full indexing to wages in most countries (Figure 26).

Differences in gender specific poverty rates for people 65+ and 75+ (Figure 23 and Figure 25) would thus generally relate to a mix of employment related differences and pension scheme specific features - including the lack of elements that fully rewards the informal work record of women.

Gender differences in the employment rates of older workers 55-64 are depicted in figures 41-44. Differences in pensionable age and average exit ages for men and women are discussed in and around Figure 45.

Gender differences in the average duration of working lives are illustrated in Figure 29 below.

Figure 29. Average duration of working life



	SE	DK	NL	UK	CY	DE	PT	FI	AT	EE	EU27	LV	ES	FR	SI	CZ	IE	LT	BE	EL	SK	LU	RO	BG	PL	MT	IT	HU
Men	41.6	41.1	41.8	40.7	40.6	39.3	38.5	37.4	38.9	35.7	37.3	34.6	37.6	36.0	35.7	37.2	37.7	33.0	35.0	36.9	35.1	35.2	34.2	33.0	34.0	38.5	34.7	31.2
Women	38.5	37.8	36.1	34.8	33.0	34.0	35.0	36.2	33.6	35.3	31.6	34.3	30.9	32.3	32.5	30.3	29.9	33.5	29.9	27.5	29.5	28.1	28.9	30.0	28.9	21.5	24.2	27.2
Total	40.1	39.5	39.0	37.9	36.9	36.8	36.8	36.8	36.3	35.5	34.5	34.5	34.3	34.2	34.2	33.9	33.9	33.2	32.5	32.3	32.3	31.7	31.6	31.5	31.5	30.2	29.6	29.3

Source: Eurostat, EU Labour Force Survey; annual data

3.5.1. Gender implications of trends in pension reforms

Men and women are *affected in distinctly different ways by* recent general trends in **pension reforms** towards greater emphasis on contributory entitlements and on 2nd and 3rd pillar pre-funded schemes.

This is part of the shift in the accent in many Member State approaches to pensions: *from social protection towards income smoothing* and from collective insurance towards individualization of responsibility and risks. That is entitlement based less on demonstrable need in old age than on entitlement deserved by ability or willingness (i.e. in contribution record) to shift consumption from active to passive years.

The social protection approach was evident in earlier contribution-benefit formula in contributory earnings-related pensions: by basing the calculation on income in the "best years"

(e.g. best 5, 10 or 15 years) the formula allowed people with extensive periods of unemployment, sickness or low income to end up with good pensions nonetheless. In terms of more frequent career breaks this held some advantages for women but these could be outweighed, since men were far overrepresented in jobs with steep seniority-wage profiles and thereby became the key beneficiaries of best year formulas.

The gender impact of the ***new risks implied by pension reforms***: The Joint EPC-SPC report from 2010 noted that the last decade of pension reforms had made the adequacy and sustainability of pension systems far more contingent on outcomes in the labour market and in financial markets. This does not just imply new risks in general, but risks that weigh particularly to the detriment of pension adequacy for women.

Or more precisely, these new risks will ***accentuate gender differences*** in pension outcomes, because women's coverage in occupational pension schemes (apart from DK & SE) tend to be significantly lower than men's and because women's propensity to save in voluntary third pillar pension schemes is markedly lower everywhere (though less so in DK). Obviously, this is another reflection of those differences in men's and women's working time, remuneration and careers which also show up in the gender pay gap. And consequently it can also change if effective policies to raise the occupational pension coverage or the third pillar savings of women are put in place.

On closer examination a number of trends in the last decade of pension reforms which were intended to be general do in fact affect the genders quite differently or in counter intuitive ways.

The *equalization of pensionable ages* may at first glance look like a major disadvantage for women. However, under the condition of equal access to employment and in the context of schemes which increasingly move towards defined-contribution designs, the loss of a traditional privilege for women does in fact turn out to be a major improvement in women's possibilities for building sufficient pension entitlements. It also shortens the period in which they are exposed to the gradual erosion of the value of benefits and therefore lessens the likelihood that they will be exposed to the risk of poverty in their late years.

The move *from best years to career average* earnings as basis for benefit calculation will tend to benefit women more as the majority will tend to have flatter age-wage profiles, but this can be counter-weighted by the fact that women have lower pay than men.

By contrast where countries have moved from valorization of past earnings in line with economy wide wage growth to *price valorization only*, people with steeper age-earnings profile where men will be over represented will tend to lose less than those with relatively constant real earnings where women will predominate.

The adjustment of pension *in line with gains in life expectancy*, so-called longevity linking or indexing to average lifetime gains, will have ambivalent effects as long at unisex life tables are used. Increases in eligibility ages (i.e. contribution periods) or reductions in benefits will have more negative effects for lower earners where women are overrepresented than for higher earners where men are overrepresented. However, through gender advantages in longevity women may overall be less affected than men: the relative reduction of their remaining life expectancy will be smaller than for men.

Bonus/malus rules will benefit those groups that have a freer choice about whether to continue working that those that have little choice. Men will usually be better placed to benefit.

Changes in indexing rules from wages to mixed or *pure price indexes* will affect those with the longer periods of retirement the most. Women are therefore more at risk. Long periods in

retirement – such as the extra 8-10 years women may have in countries with different pensionable ages for men and women and larger longevity gaps – entail much more exposure to the erosion over time of the relative value of a pension.

3.5.2. Strategies for addressing Gender differences in pensions

Two strategies are possible to fight the gender pension gap: (1) ***Change*** women's labour market participation, i.e. raise their activity rate and lower their part-time rate, while stepping up efforts to secure equal pay for equal work; (2) ***Compensate*** women to some extent within pension regulations for their career breaks and part-time work while also strengthening general design features that cater to people with shorter contribution records and lower pay among whom women presently are overrepresented.

In most Member States a combination of the two would be required if the gender pension gap is to be effectively addressed. By focusing only on compensating for employment related differences through special gender features in the pension system one would run the risk of locking many women into traditional gender roles. If one concentrates only on equalizing employment and work places measures it would take a while before the effects would begin to reduce the gender pension gap and current cohorts marked by lower employment and pay would tend to be left out.

Securing higher (full-time) activity rates for women would beyond changes to labour market and work place practices generally require income taxation of individuals instead of households and an increase in (high quality) childcare facilities and support structures in elderly care.

Pension policy itself holds various instruments which contribute to the reduction of the gender pension gap: minimum pensions, redistributive elements in the pension formula and credits for caring periods.

Minimum pension schemes can enable women to build up an individual pension benefit above the poverty line if the entitlement to the minimum pension is an individual right. Minimum pensions can be **residence-based**. In this case everybody who has lived in the country for a certain amount of time is guaranteed a minimum pension income without the requirement for any paid contributions. Women with a short or no employment record would benefit from such residence-based minimum pensions as is the case e.g. in DK, NL, SE, FI. In contrast to this, contributory minimum pensions require people to have paid contributions and be covered by the pension scheme as is the case e.g. in IT, UK. Usually **contributory minimum pensions** are linked to a certain insurance period; sometimes they are means-tested like e.g. in AT. Again, they are favourable for women with short employment records and low average earnings. DE does not provide any minimum pension, but a means-tested social assistance scheme for old-aged persons.

Statutory public pension schemes are especially important for women's old age income, since their coverage in occupational and private schemes is less favourable compared with men. Persistent gender inequalities in labour market participation and an unequal division of caring roles make it difficult for women to close the gender pension gap.

Redistributive elements in the pension formula aimed at weakening the link between contribution payments and benefits would also work to the benefit of women with low employment records and lower pay e.g. by using a "few best years" rule for benefit calculation, which many countries like e.g. SE had before the pension reforms of the last decade. Thus, periods of low waged employment or short employment records could be compensated.

Another redistributive measure would be to upgrade periods of low income to a certain amount which is the case in BE and is the case in DE for periods until 1992. Such measures benefit especially part-time workers and may have a significant effect.

Credits for childcare vary considerably among Member States. The periods of childcare beyond maternity leave range from only three months in BE to up to three years in DE. Credits are either linked to previous individual earnings like in IT or FI; or they relate to an average reference value like in DE or AT. In many countries credits for childcare are only provided if the carer is not employed during the childcare period. This might impact negatively on the working career of women since longer career interruptions lead to more difficulties in re-entering the labour market and to lower salaries. Thus, credits for childcare either compensate for a gap in contribution periods or also for periods of part-time employment due to childcare responsibilities. Other care credits for the care of dependent adult family members are not yet particularly widespread in Europe. In general those credits are linked to the average wage or the minimum wage or they are considered as contributory periods for a minimum pension guarantee. In DE, credits are granted for the care of adult family members though on a lower scale than for child care.

Since labour market participation continues to be the main predictor of old age security, policies to **foster labour market equality** remain key to greater gender equality in pension outcomes. Expanding services for children (especially for children under three, provide flexible and long hours, provide after school care) and frail elderly (home help & care, relief services for informal carers etc. would be important. But policies to equalise gender conditions in work place and labour market practices would also be needed.

3.5.3. Measuring gender specific pension inadequacies

At the bottom gender inequalities in pension adequacy is measured as the difference in at risk of poverty rates for men and women.

In some Member States these differences are very significant – and this can be read as an inability of the pension system to sufficiently reduce the impact of gender differences in employment and life course. This would be part of a gender risk-profiling. At EU average level gender differences in at-risk-of-poverty-rates are less wide.

The agreed measurement for adequacy in the middle, the Theoretical Replacement Rates, is in its present form where gender differences in pay, hours worked and career durations are ironed out in the assumptions not really suited to depict gender differences in replacement rate adequacy. Only where pensionable ages are different do we have some illustrations (see Figure 5).

There is therefore a need for developing indicators that better catch the gender differences in pension outcomes. Chapter 5 will discuss the possibility of developing a common indicator for the Gender Pension Gap – i.e. the gap between the average individual pension entitlements of women and men.

4. Future adequacy of pension systems

This chapter looks at challenges for the provision of adequate pensions of future pensioners (i.e. people who start working today). Section 4.1 builds on the analysis of the theoretical replacement rates, and tries to answer the question what are the long-term adequacy risks for people with different career profiles given recent pension reforms and what kind of pension schemes will be the main sources of future income of pensioners. The section also presents indicators of future adequacy calculated within the Ageing Report (4.1.2).

The section 4.2 considers the link between pensions and labour market, and in particular how current pension rules encourage longer working. Using the theoretical replacement rates the section looks whether improvements in adequacy can be gained through longer working in the future. The section 4.3 discusses adequacy risks inherent to different pension schemes, and concludes with a call to provide people with better information about the reformed pension systems (4.4).

The chapter finds that reforms to the pension systems in many Member States will result in lower replacement rates in the future for a given retirement age. This is due, **for example,** to higher pensionable ages, longer required contributory periods, introduction of life expectancy factors, and transition into multi-tier pension arrangements. To achieve adequate replacement rates, more people will in many countries have to be given opportunities to build supplementary entitlements through safe complementary retirement savings in public or private pension schemes.

Calculations of replacement rates show that Member States differ in terms of distributional effects of the pension reforms and face difficult choices to balance the conflicting objectives of, on the one hand, protecting people in different life situations, whilst at the same time providing the financial incentives for individuals to return to the labour market.

The design of pension systems has a strong impact on effective retirement ages and adequacy of pensions. It seems that the pension challenge is more about reducing early retirement and making people work until pensionable age rather than deferring retirement after the pensionable age. Employment of older workers has been one of the most dynamic components of the EU labour market in recent years, but despite of these improvements, they are still low in many Member States. Younger workers have been particularly hard hit by the crisis and this might have a negative effect on future level of their pension benefits.

In order to meet the demographic challenge recent reforms of public pensions have concentrated on increasing effective retirement ages by delaying retirement, increasing flexibility and strengthening eligibility requirements. This, however, entails a higher decision burden on beneficiaries and knowledge that comparable standards of living in retirement in the future will require a longer working life and policies collectively supporting such prolongation of working life.

For countries where defined contribution schemes play an important the questions seem to be how to control the various risks for individual (such as investment and longevity risks), how to give people a realistic idea about what can be obtained, and how to ensure that the payout phase matches the original purpose of pension savings as efficiently as possible. In funded defined-benefit schemes the dialogue between social partners is often a key, in particular attempts to share the impacts not only over time but also between different interests. Participants to the PAYG schemes are also affected by demographic and economic changes, but the effect of these

changes on different cohorts of pensioners varies depending on how future pension systems will differ from the current arrangements.

4.1. Longer-term adequacy of pension systems

Since projections of possible poverty outcomes are currently not available, this part of the chapter will look at the long-term adequacy projections from the income smoothing point of view. It will be based mainly on two data sources: projected Theoretical Replacement Rates (2050 TRR) calculated by the Indicators Subgroup of the SPC (ISG) and adequacy indicators provided in the 2012 Ageing Report. The main consideration will be given to the **change in adequacy** from present to future.

4.1.1. Trends in theoretical replacement rates

TRR inform on current and *future* adequacy defined as the standard of living that people can achieve in retirement compared to their own situation when working, given certain assumptions. *Current* TRR describe the situation of people who retire today (in the most recent ISG exercise, people who retired in 2010). *Prospective* TRR describe the foreseen situation of people retiring in the future (in this exercise, people retiring in 2050) **under the pension legislation enacted by 2010**[88], including transitional rules to be implemented gradually that may be legislated in enacted reforms. Thus, the calculations for prospective TRR should typically reflect reformed pension systems in full maturity. Prospective TRR rely also on specific assumptions on the **key economic and demographic parameters** that are relevant for the calculation of future earnings and benefit entitlements. **In this round of TRR, like in former ones, calculations such assumptions have been aligned to the ones used by the Ageing Working Group (AWG) of the Economic Policy Committee (EPC) for the 2012 Ageing Report**. Overall, changes in TRR allow an assessment of future adequacy of pensions that takes into account assumed future economic and demographic circumstances as well as changes that have been decided in many countries as a result of recent reforms. This is important both at a general level for policy-making and for individuals' retirement planning, who need to anticipate the possible situation of their future income.

In order to properly interpret this section and conclusions that can actually be drawn (or not) from TRR calculations, it is very important to **take into account all the background and context information** to fully understand how representative the following calculations are for the different Member States (See Tables 4, 5 and 6 in sections 3.1 and 3.3 and Annex 2), especially with regards to the increase in pension expenditure, which gives an indication of the financial sustainability of the pension promise and the contribution rates which can help to analyse the efficiency of the pension system together with the replacement rate calculations. In particular, it is essential to keep in mind that has been agreed in the ISG of the SPC, the indicator of TRR actually refers to changes over time or between various situations (comparisons in levels do not make sense since they refer to situations that have actually very different meanings in the different Member States).

[88] Therefore the impact of very recent pension reforms in some countries (e.g. BE, BG, FR, HU, NL, IE) is not included in these calculations.

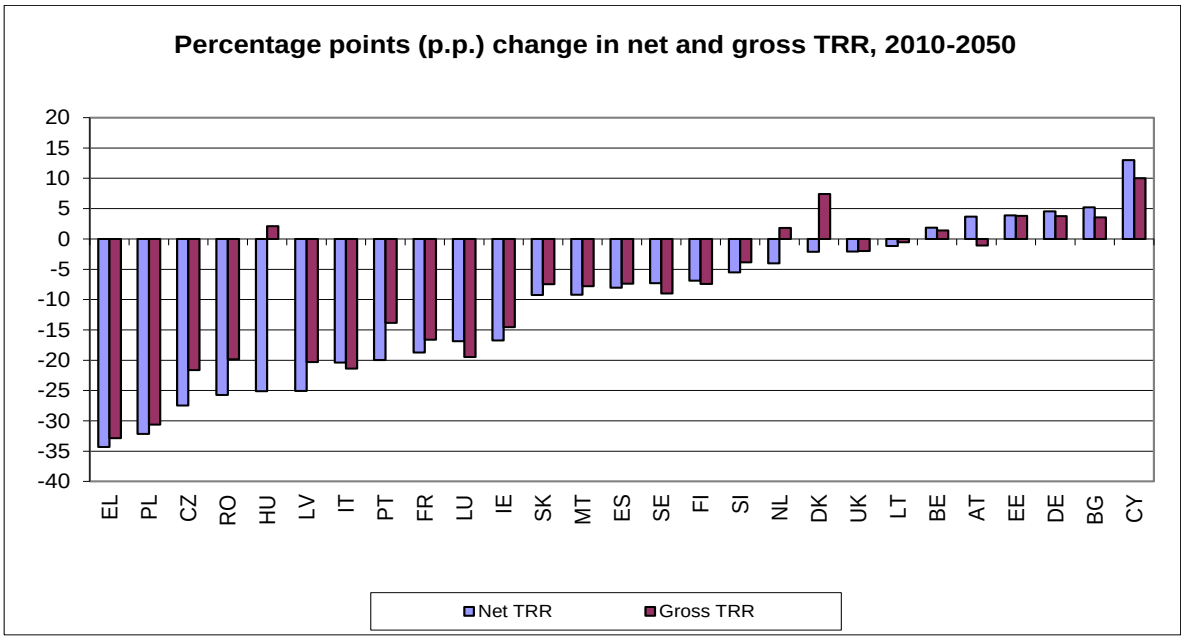
- *What are the main trends in replacement rates for a base-case theoretical individual (male with a full 40 years career retiring at 65)?*

Given the assumptions for the calculations of TRR in the 2010-2050 exercise in the base-case, **17 Member States** (EL, PL, CZ, RO, LV, IT, PT, FR, HU, LU, IE, SK, MT, ES, SE, FI and SI) display the result of **decreases in net replacement rates between 2010 and 2050 of at least 5 percentage points (p.p.) with respect to the 2010 levels, and the first 11 of them display drops of more than 15 p.p.**, for a worker with average earnings retiring at 65 after 40 years – see Figure 30 below, displaying the change in prospective replacement rates with respect to initial levels in each country in 2010 in percentage points. This is an indication that in order to deal with the financial strain put on pension systems due to demographic changes, many countries have chosen to add incentives to prolong working lives in their pension schemes in efforts to provide a reliable and sustainable pension promise in the future. As an effect, given a fixed retirement age, theoretical replacement rates tend to fall compared with today.

Some of the factors that may influence the projected evolution of replacement rates are summarised below.

Most Member States have statutory pension schemes providing earnings-related pensions. Benefits under these pension schemes are related to earnings either during a specified number of years during the career, or as is increasingly common practice, during the entire length of the career. Several countries have extended — or are still in the process of extending — the period of an individual's earnings history that is used for calculating the pension entitlement in the statutory pension schemes. Thus, instead of using the years of highest earnings towards the end of the career for the pension benefit calculation, earnings during a much longer period or even the entire career (e.g. PL, PT, ES) are taken into consideration. *This change will usually lead to lower replacement rates*, particularly if accrued entitlements are not fully adjusted for (nominal) wage growth.

Figure 30. Trends in net and gross TRR 2010-2050, the "base-case" scenario (sorted according to ascending percentage point changes in net TRR)



Source: Indicators Subgroup of the SPC, 2010 - 2050 Theoretical Replacement Rates exercise

Pension levels can also be lowered through adjustments in the pension formula used to calculate benefits. One significant development has been the introduction of a demographic adjustment factor in some Member States. For countries which have introduced life expectancy adjustment factors in their statutory pension systems (e.g. FI, FR, PT, PL, SE), this can translate into a *decrease of theoretical replacement rates*. Thereby, in order to keep income replacement rate constant, they provide incentives for people to postpone their retirement in accordance with rising life expectancy and offer opportunities for achieving adequate pension levels.

Increasing the retirement age can also result in falling replacement rates where a retirement age of 65 is assumed in the calculations. For instance, in some cases increasing the legal retirement age from 65 to 67 gives deductions per year of early retirement before the age of 67, and explains some of the fall in net theoretical replacement rates from the statutory pension scheme, when the retirement age is assumed at 65.

The structure of "bonus/malus" in pension systems often combined with an increased flexibility in the retirement age and decisions for deferred and early pensions also has an impact on the calculations.

In some cases, especially in those countries that have shifted large shares of the pension provision towards mandatory funded schemes, decreasing replacement rates have to be seen in the context of this transition into two tier pension arrangements. In 2050 part of the statutory pension will be disbursed from private pension or life insurance companies in the form of annuities. In some Member States with lower retirement age than 65 years, there is no special bonus for later retirement in the funded schemes, as it exists in the pay-as-you-go pillar. As there is no theoretical necessity behind this difference, in other countries later retirement is awarded even in the statutory funded scheme (e.g. SE).

For another group of Member States there seem to be no significant changes in their net replacement rates between 2010 and 2050 (NL, DK, UK, LT, BE, AT).

In the case of AT, for example, this is due to a new evaluation of the past earnings in the pensions-account scheme in recent reforms. In the case of LT there is no significant change in the net TRR as the pension amount evolves in line with wage increase, without any reaction in defined-benefit pension formula to increasing life expectancy (the impact of statutory funded system part is negligible). The only small difference is because of a special bonus for later retirement in 2010, which disappears in 2050 (statutory retirement age is 65 in 2050). For DK this is due to a greater increase in total income from pensions, including public old age pension, than the increase in housing costs that are projected to increase as the prices. The result of the assumptions is therefore that the value of the tax free, income-tested housing benefit is gradually decreasing in the projection period. It should also be noted, that the basic assumption of a retirement age of 65 years in 2050 implies that the full effect of the maturing Danish labour market pensions and the enacted indexing and increase of the retirement age in Denmark are not fully reflected in the replacement rates. In BE, the legal pension shows a decline in replacement rate (as a result of the wage development pattern over the career), but this decline is compensated by the contribution of the second pillar pensions (under the assumptions applied).

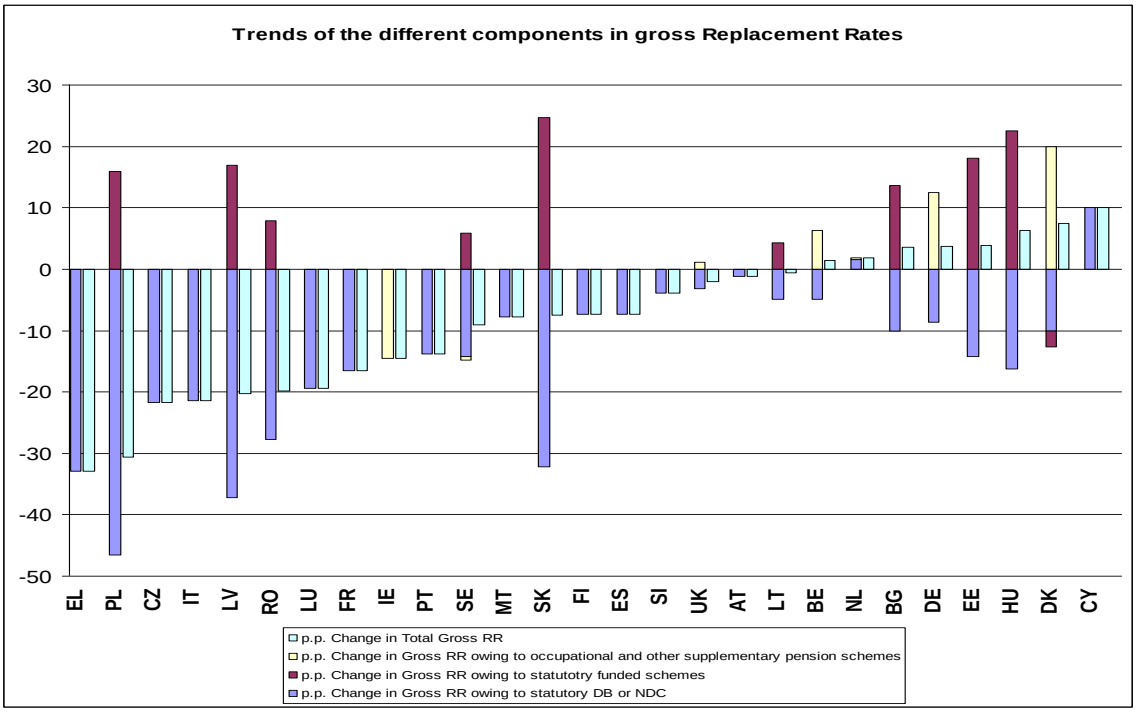
Another group of Member States may actually observe their net and gross replacement rates rise as a result of past or recent reforms that will be fully in place by 2050 (DE, EE, CY, BG). Among the reasons for these trends, are the increase of pension contribution and accrual rates (e.g. in BG), the maturation of the pension scheme (in CY) or the increasing role of supplementary schemes (DE).

HU and DK display different trends in the gross (increasing) and net replacement rates (decreasing), a possible effect of taxation systems in pensioners' income. For DK this is due to assumptions made in the projection concerning housing costs, etc. which imply that the value of the tax free, income-tested housing benefit is gradually decreasing in the projection period.

- *What are the trends in each of the (gross) replacement rates components?*

Besides the trends of total rates, it is important to understand in this base-case situation the contribution of the different pension components to the total gross TRR trends in each country (taking into account that only mandatory, typical and wide-reaching schemes were included in the TRR calculations). This allows us to study extent to which public pension provision will or will not be less generous in the future and to what extent this is compensated by a bigger role of supplementary systems. The trends in public pension provision can be further decomposed into PAYG (DB and NDC) and funded systems and this facilitates a discussion of the risks/strengths of the different pension arrangements. Figure 31 shows the percentage point changes in prospective gross replacement rates (with respect to initial levels in 2010) resulting from changes in (i) statutory DB or NDB schemes, (ii) statutory funded schemes and (iii) occupational and other supplementary schemes[89]. The three components add up to the total change in gross TRR[90].

Figure 31. Trends in the different components of gross replacement rates between 2010 – 2050 (sorted ascending according to percentage point changes in total gross TRR)



Source: Indicators Subgroup of the SPC, 2010 - 2050 Theoretical Replacement Rates exercise

[89] DK and SE are the only countries where these three components show up in the TRR calculations. It should be noted that TRR only take account of significant and wide-spread pension schemes in each country.

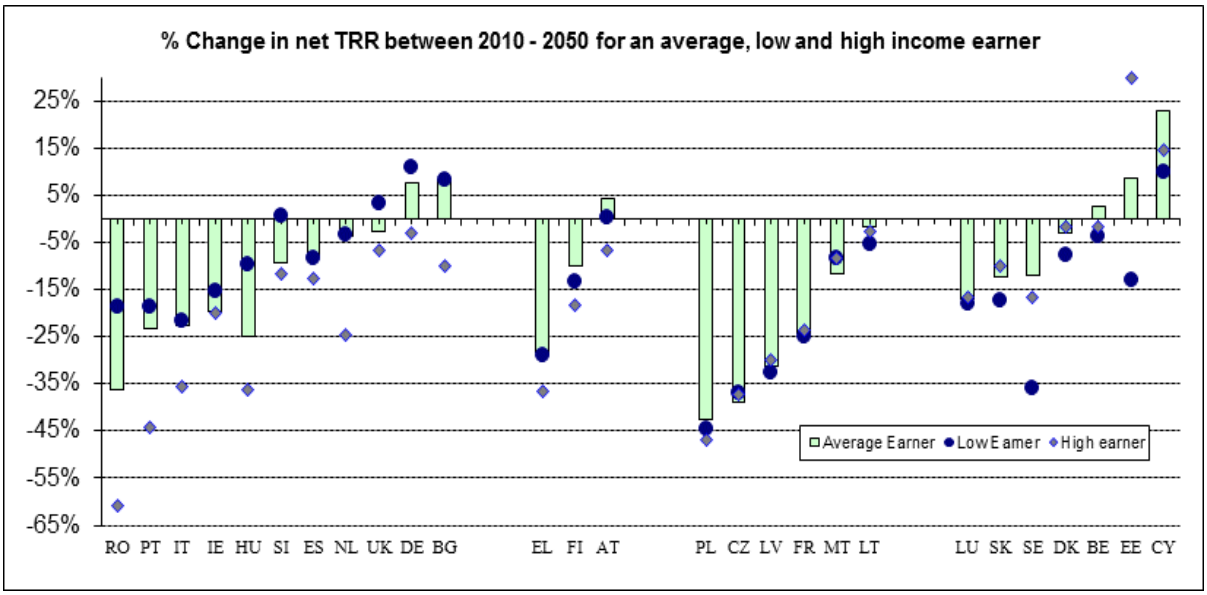
[90] As an example to interpret Figure 43: in SK the 2010 level of the gross RR would fall by 32.2 p.p. in 2050 due to the decreasing role of the PAYG system, while at the same time the second tier makes the 2010 level of gross RR go up by 24,75 p.p., thus the final effect is a decrease of about 7.4 p.p. decrease of the current level.

Pension benefits from statutory DB and NDC systems are falling everywhere (except NL and notably CY). This is **partially or more than fully compensated by increases in the pension benefits from statutory funded systems** in PL, RO, LV, SK, EE, HU, BG and to a lesser extent in SE and LT, **or by a bigger role of occupational and other supplementary systems** in BE, DE and DK. Apart from NL and CY, the statutory funded and supplementary schemes are responsible for the positive trend of gross replacement rates in the countries where these are growing. This positive weight of supplementary schemes should be considered together with coverage issues of these pensions, especially from a gender perspective and the risks of funded systems.

- *What are the effects of pension reforms on different income groups (i.e. distributional effects?)*

Looking at the trends in replacement rates for workers at different earning levels is an informative way to analyse **the redistributional effects of recent pension reforms**. Figure 32 shows the trends in net TRR for different earning profiles (percentage variation change in net TRR between 2010 and 2050 with respect to initial 2010 level, for average / low / high income earners, all retiring at 65).

Figure 32. Trends in net TRR for different earning profiles (all retiring at 65) (sorted ascending according to trend for average earner)



Source: Indicators Subgroup of the SPC, 2010 - 2050 Theoretical Replacement Rates exercise

Figure 32 groups countries according to the **projected distributional effects of their pension systems** (recently reformed in most cases), **according to the assumptions used** in the TRR calculations. The first group to the left (RO, PT, IT, IE, HU, SI, ES, NL, UK, DE and BG) are the countries where TRR developments would be more redistributive as low income earners show more favourable trends in their replacement income (low income earners will have smaller drops, no drops or larger increases- than average or high income earners). However, the extent of the relatively higher protection of low income earners varies across countries. The second group from the left (EL, FI, AT) will also be doing more redistribution with their pension systems in the sense that the trend indicates penalisation of high income earners compared to average or low earners (larger drops in replacement rates for high earners). In the

third group of countries recent pension reforms would result in changes in TRR of similar magnitude for all earning groups (PL, CZ, LV, FR, MT and LT). As replacement rates are generally higher for low-earning careers, this indicates that the decline in disposable income is projected to be higher for more modest workers and the effect would therefore be increasing inequality in the distribution of income of the elderly. This would be even more the case in the fourth group of countries (LU[91], SK, SE, DK, BE, EE, CY), where the trend in TRR for low earners is the less favourable of all income groups. This can due to the strengthened link between contributions and benefits and to the indexation assumptions used in calculations for the minimum income or other pension schemes. More generally, it can be noted that a reinforcement of the link between contributions and benefits can result into a flatter profile of the evolution of replacement rates according to initial levels, which could translate into relatively larger declines of replacement rates for more modest pensioners and increased inequality in old age.

- *How do pension systems protect future incomes in case of absences from the labour market (e.g. for childcare or unemployment)?*

While maintaining scheme incentives to return to work as quickly as possible many Member States have two mechanisms for addressing the issue of adequacy for those with career breaks, minimum pensions and the accrual of pension rights in non-contributory periods. Earnings-related systems usually offer a minimum pension calculated on more favourable terms for those with lower incomes or shorter working lives (e.g. BE, BG, CZ, ES, FR, LV, LT, LU HU, PL, PT, SE, SI). In their main statutory schemes all Member States offer some form of **protection of the accrual of pension entitlements** in typical contingencies of involuntary interruption of employment. Usually periods of unemployment, long-term illness and maternity are credited by pension contributions being paid on behalf of the affected individuals by the relevant social insurances dealing with the contingency. Yet, in earnings related contributions are mostly only continued at a general low level of income equivalent to the minimum wage and so pension accruals will therefore be much smaller in such periods under the earnings-related those systems. **Similar protections may exist in occupational schemes, but would probably not be present in voluntary funded schemes**.

Recent reforms of the public systems have also dealt with crediting systems (reviewed below). Apart from the more traditional childcare and unemployment protection, in recent years, a number of member States have also introduced **care credits for other types of care than for children**. These are usually linked to a general reference value rather than earnings (e.g. BE, DE, AT) or take into account of care periods in determining eligible qualifying periods (e.g. EL, IE, LT, PL, UK).

The discussions on crediting systems bring up the key point of how future pension systems should try to balance the conflicting objectives of, on the one hand, protecting people in different life situations, whilst at the same time providing the financial incentives for individuals to return to the labour market. Furthermore, the gender dimension of caring, the treatment of time spent out of the labour market for care other than childcare (e.g. for care for the elderly or other relatives or disability care) and the different crediting protection in different pension pillars are important issues that impinge on the future adequacy of pension systems.

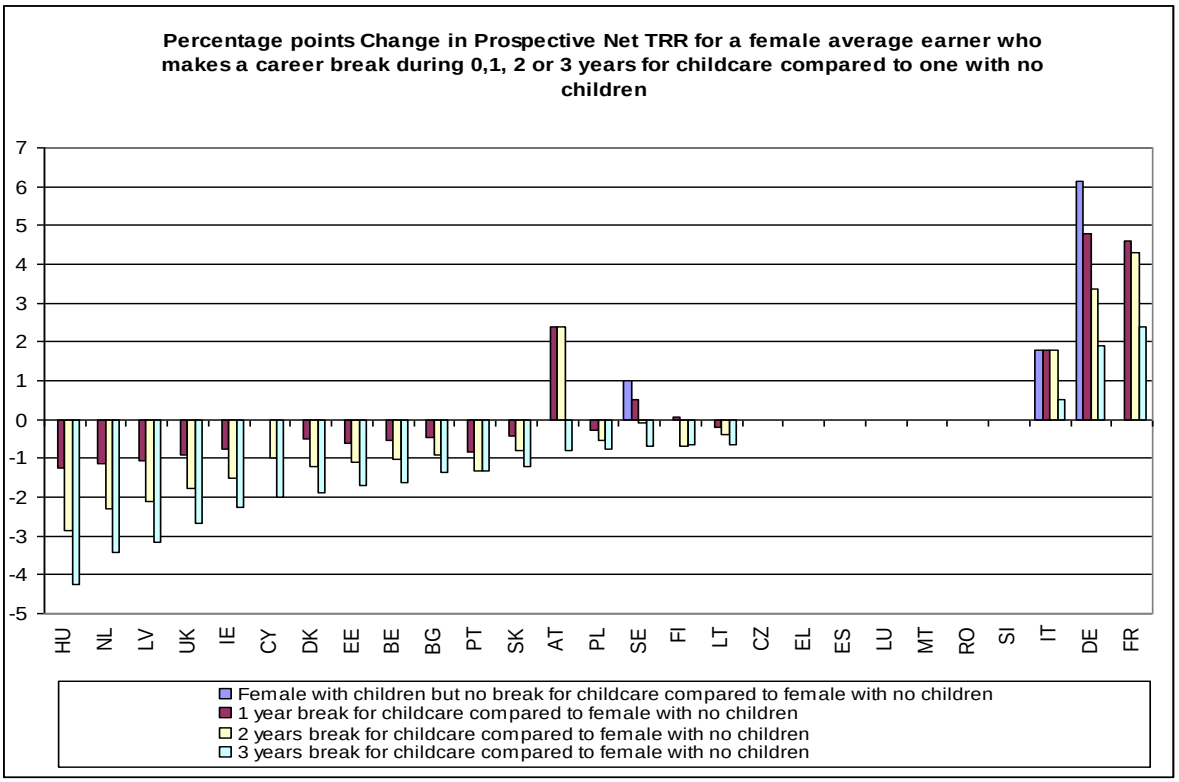
All Member States provide some kind of recognition of caring duties in pension entitlements. Many Member States have recently improved the crediting of **career breaks for childcare years** (e.g. EL, ES, LT, MT, PT, UK). The most common approach is to credit caring years at

[91] For Luxembourg, a change in the legally fixed pension indexation rule will change once financial resources of the pension scheme get insufficient.

the same level for everybody irrespective of the level of income lost or foregone. LU plans to introduce credits for childcare years. ES allows a person restricted to part-time work due to child or family care to be credited for a full day's work in the eligibility calculations. Other Member States provide a protection of pension entitlements during childcare which is linked to the employment situation and income of the individual (e.g. EE, HU, PL, PT, RO, SE). In SE extra pension entitlements for childcare are given over and above the coverage for loss of income during a period of labour market absence for childcare. Some countries, however, still deal with the issue of care years by lowering the pension eligibility age for women with children (e.g. CZ, SI).

Figure 33 can be compared to Figure 8 (effect of childcare years on current replacement rates of women retiring today). More countries (FR, AT, SE) have put in place crediting systems which provide extra pension entitlements following periods of childcare leave, so that the pension of women with childcare years in these countries will also be greater than for women with no children (up to 2 years in AT and up to 3 in FR).

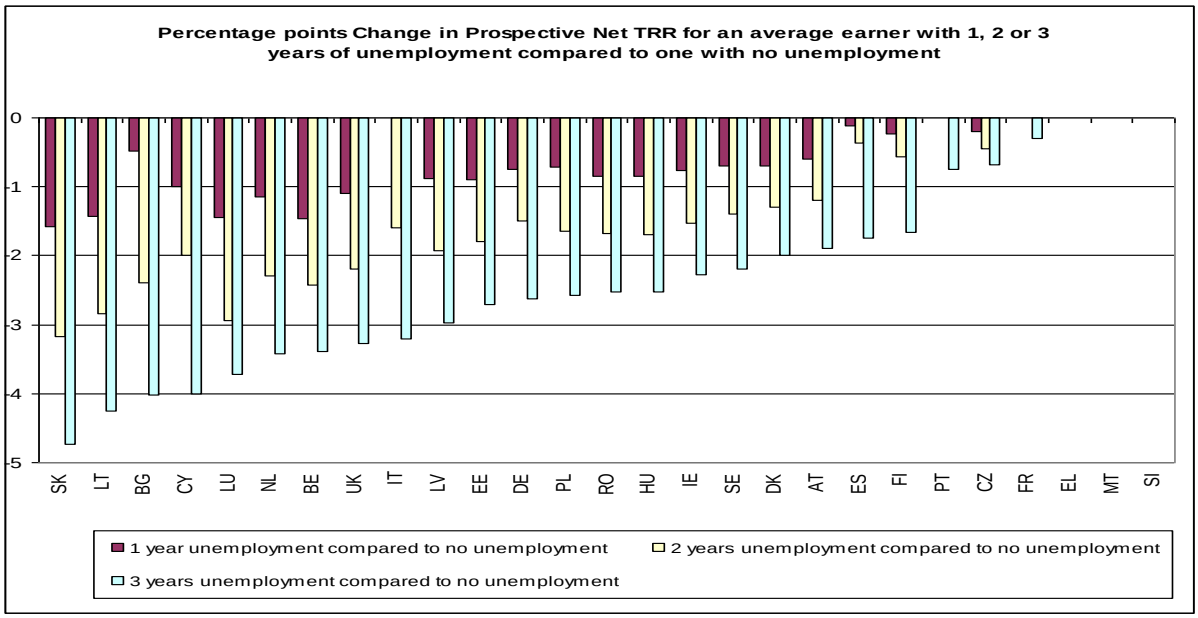
Figure 33. Effects on prospective net TRR of career breaks for childcare years (female worker)



Source: Indicators Subgroup of the SPC, 2010 - 2050 Theoretical Replacement Rates exercise

Figure 34 can be compared to Figure 9. This comparison demonstrates that **unemployment protection in pension systems** in the future will be similar to the present in most Member States. Protection up to three years of absence from the labour market owing to unemployment records better developments in BE, IE and FI (smaller drops compared to the base-case of full career than currently) and worse in BG and SE (larger drops compared to the base-case than in current situation). It should be taken into account that changes in these variant cases over time may be rather explained by life expectancy developments and earnings base changes, rather than by changes in the rules concerning unemployment protection.

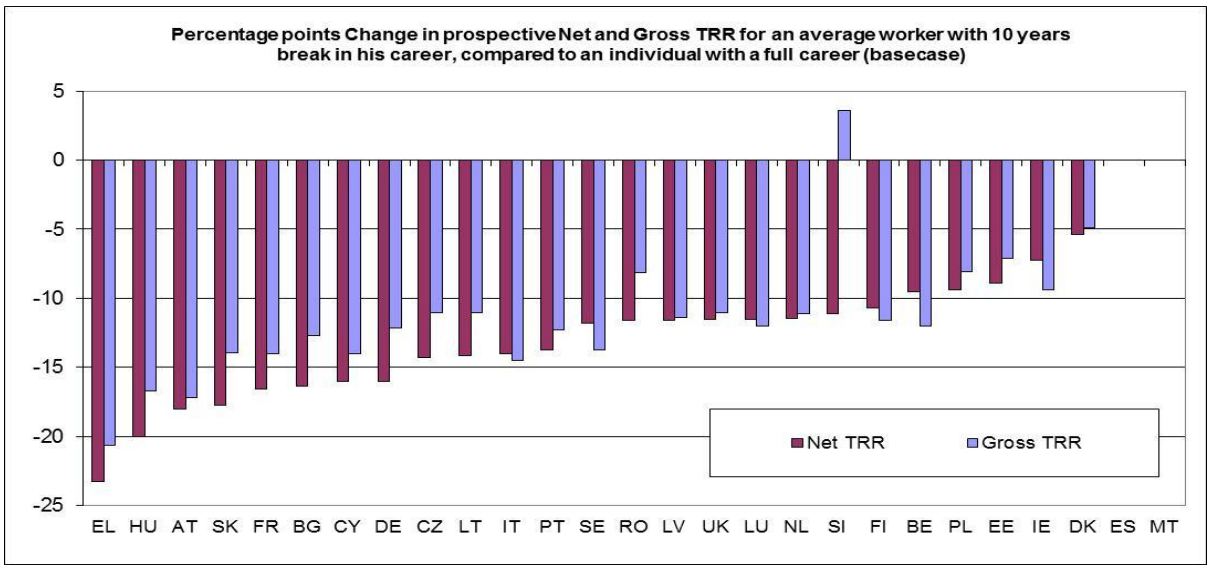
Figure 34. Effects on prospective net TRR of career breaks due to unemployment



Source: Indicators Subgroup of the SPC, 2010 - 2050 Theoretical Replacement Rates exercise

Inadequately cushioned long term career breaks will continue to produce large falls in replacement rates in the future. **Career breaks of 10 years out of the labour market** result in more than 10 p.p. lower rates than in case of a full 40 year career in most Member States. Figure 35 illustrates the possible impact on net and gross replacement rates of long-term (10 year) absences from the labour market.

Figure 35. Effects on prospective net and gross TRR of long-term career break (10 years out of the labour market)



Source: Indicators Subgroup of the SPC, 2010 - 2050 Theoretical Replacement Rates exercise

Note: ES[92] and MT: non applicable

[92] In ES a worker reaching 65 years with less than 33 contributory years will have to postpone retirement.

- *To what extent can supplementary schemes improve the adequacy of pension systems?*

The increasing role of mandatory funded schemes, as well as occupational pensions (which are not fully covered in the Ageing Report) can be described with the help of theoretical replacement rates (which include only pension schemes that are mandatory, typical or with wide-reaching coverage in a country). Figure 36 presents shares of three different pension schemes[93] in the replacement rate of an individual who started working in 2010 and will retire in 2050 (a male with 40 years contributory career, retiring at 65). The breakdown of the replacement rates into the three schemes gives an indication of the future role of the different types of pensions in pensions' adequacy, and should be compared with the results presented in Figure 11.

The difference between the two figures reveals that in a number of countries in the coming decades the role of statutory funded (BG, EE, LV, LT, PL, RO, SK and SE) and occupational pensions (DK, DE and SE) will increase in pension income of hypothetical individuals enrolled in these schemes. In IE statutory pay-as-you-go is expected to play a more significant role in the future (compared to the non-contributory scheme) while private pension coverage is also expected to increase, and in NL and UK the role of occupational schemes (in pension incomes of individuals enrolled in these schemes) should be kept more or less constant.

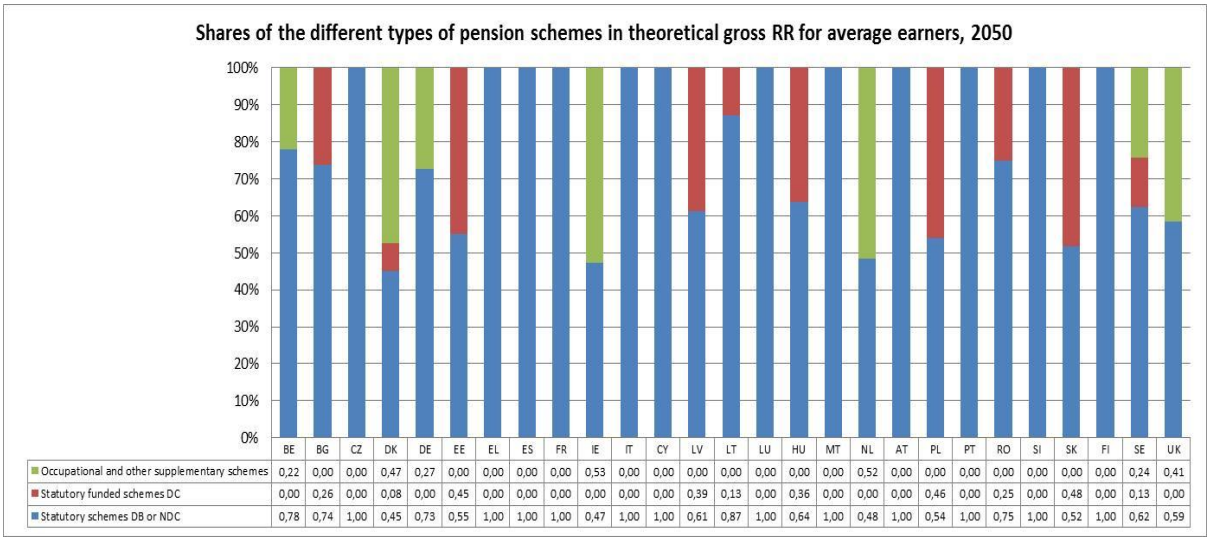
The calculations also highlight the breakdown of the pension package for different income groups (low, average and high): in 2050 in BE, DK, IE, NL, SE and UK the high income earners will receive a higher proportion of their pension income from occupational and other supplementary pensions than the low income earners. In EE, LV, PL and SK a relatively high proportion of pension income will come, including for low-income earners, from mandatory funded defined-contribution schemes.

The growing role of statutory PAYG notional defined contribution, statutory funded defined contribution and occupational defined contribution schemes will certainly have an impact on the change of character of risk related to the level of pension benefits. Different **adequacy risks** inherent to particular pension schemes are described in Chapter 4.4.

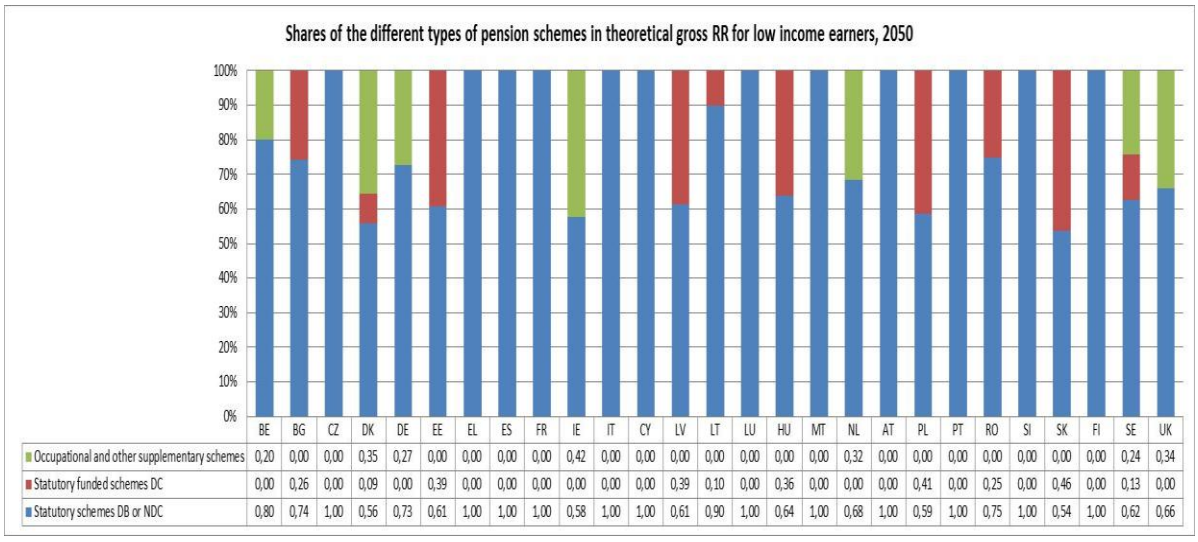
For the correct assessment of both Figure 11 and Figure 36 elements of representativeness of the reference individuals need to be taken into account, as well as details of the assumptions in the calculations of theoretical replacement rates (See Annex *2*).

[93] The three schemes covered: (1) statutory pay-as-you-go (whether of defined-benefit or notionally defined-contribution character), (2) statutory funded (usually of defined-contribution character), (3) occupational and other supplementary schemes (of defined-benefit or defined-contribution character). Individual pension savings' contracts are neglected in Theoretical Replacement Rate calculations, unless their coverage is significant.

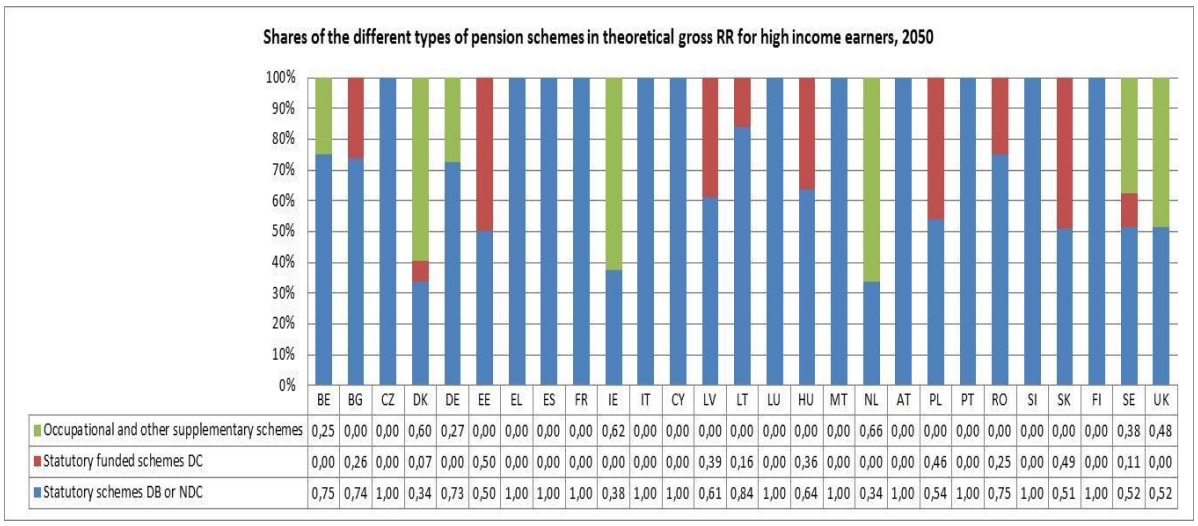
Figure 36. Shares of different pension schemes in gross theoretical replacement rates, 2050



	BE	BG	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK
Occupational and other supplementary schemes	0,22	0,00	0,00	0,47	0,27	0,00	0,00	0,00	0,00	0,53	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,52	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,24	0,41
Statutory funded schemes DC	0,00	0,26	0,00	0,08	0,00	0,45	0,00	0,00	0,00	0,00	0,00	0,00	0,39	0,13	0,00	0,36	0,00	0,00	0,00	0,46	0,00	0,25	0,00	0,48	0,00	0,13	0,00
Statutory schemes DB or NDC	0,78	0,74	1,00	0,45	0,73	0,55	1,00	1,00	1,00	0,47	1,00	1,00	0,61	0,87	1,00	0,64	1,00	0,48	1,00	0,54	1,00	0,75	1,00	0,52	1,00	0,62	0,59



	BE	BG	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK
Occupational and other supplementary schemes	0,20	0,00	0,00	0,35	0,27	0,00	0,00	0,00	0,00	0,42	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,32	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,24	0,34
Statutory funded schemes DC	0,00	0,26	0,00	0,09	0,00	0,39	0,00	0,00	0,00	0,00	0,00	0,00	0,39	0,10	0,00	0,36	0,00	0,00	0,00	0,41	0,00	0,25	0,00	0,46	0,00	0,13	0,00
Statutory schemes DB or NDC	0,80	0,74	1,00	0,56	0,73	0,61	1,00	1,00	1,00	0,58	1,00	1,00	0,61	0,90	1,00	0,64	1,00	0,68	1,00	0,59	1,00	0,75	1,00	0,54	1,00	0,62	0,66



	BE	BG	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK
Occupational and other supplementary schemes	0,25	0,00	0,00	0,60	0,27	0,00	0,00	0,00	0,00	0,62	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,66	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,38	0,48
Statutory funded schemes DC	0,00	0,26	0,00	0,07	0,00	0,50	0,00	0,00	0,00	0,00	0,00	0,00	0,39	0,16	0,00	0,36	0,00	0,00	0,00	0,46	0,00	0,25	0,00	0,49	0,00	0,11	0,00
Statutory schemes DB or NDC	0,75	0,74	1,00	0,34	0,73	0,50	1,00	1,00	1,00	0,38	1,00	1,00	0,61	0,84	1,00	0,64	1,00	0,34	1,00	0,54	1,00	0,75	1,00	0,51	1,00	0,52	0,52

Source: Indicators Subgroup of the SPC, 2010 - 2050 Theoretical Replacement Rates exercise

4.1.2. Trends in sustainability and other projected adequacy indicators

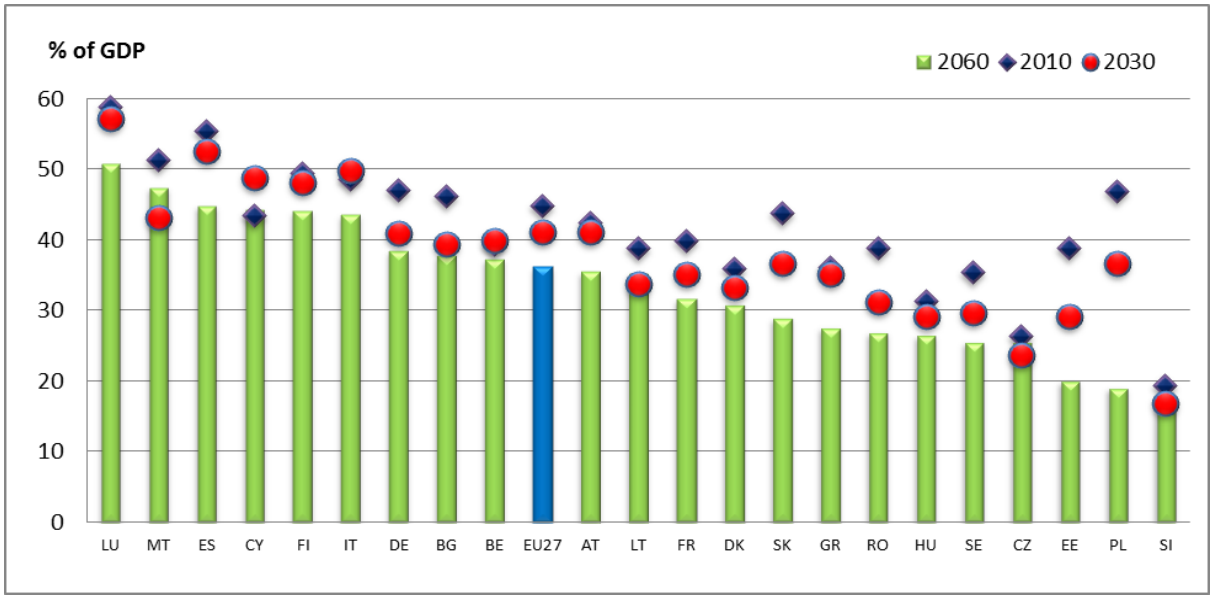
Trends in the future pension adequacy can be assessed not only with the help of theoretical replacement rates, which look at future income replacement for specific hypothetical individuals, but also with some **indicators** derived from the models used to project expenditure, which represents all public pensions. The Ageing Report uses the *benefit ratio* and *gross average replacement rate*. Unlike the theoretical replacement rates, these indicators reflect the overall pension expenditure and are based on different components of the pension mix. The benefit ratio is the average benefit of public pension or public and private pensions, respectively, as a share of the economy-wide average wage (gross wages and salaries in relation to employees), as calculated by the European Commission. The gross average replacement rate is calculated as the average first retirement pension as a share of the economy-wide average wage, as reported by Member States in ad-hoc pension questionnaires[94].

There are a number of factors that explain the difference in the magnitude of the change over time of the pension benefit in relation to earnings in the theoretical replacement rates and the benefit ratios / gross average replacement rates. The concept of the indicators, their coverage of pension schemes and their time horizons are different (see Annex 1 for a detailed description of these differences). In particular, the main conceptual difference is that the ratios represent average situation of the retired population and not the situation of a hypothetical individual covered by the most general scheme with a full career at the moment of retirement (as in the theoretical replacement rates). The fact that the same demographic and macroeconomic assumptions have been used in this round for calculating the two indicators does not make them entirely comparable.

According to the Ageing Report, benefit ratios from social security pensions are projected to decline in a majority of Member States (Figure 37). Some of these declines will be compensated by more widespread use of supplementary pensions.

[94] Public pensions used to calculate the benefit ratio include old-age and early pensions and other pensions, such as invalidity and survivor, while public pensions used to calculate the Gross Average Replacement Rate only includes old-age and early pensions. Private pensions are not included for all Member States. The benefit ratio and the gross average replacement rate convey different information. In particular, due to differences in wage concepts used when calculating the benefit ratio and the replacement rate, the two indicators (and especially their level) are not strictly comparable and should be interpreted with caution.

Figure 37. Benefit ratio (Public pensions) in 2010, 2030 and 2060, % of GDP

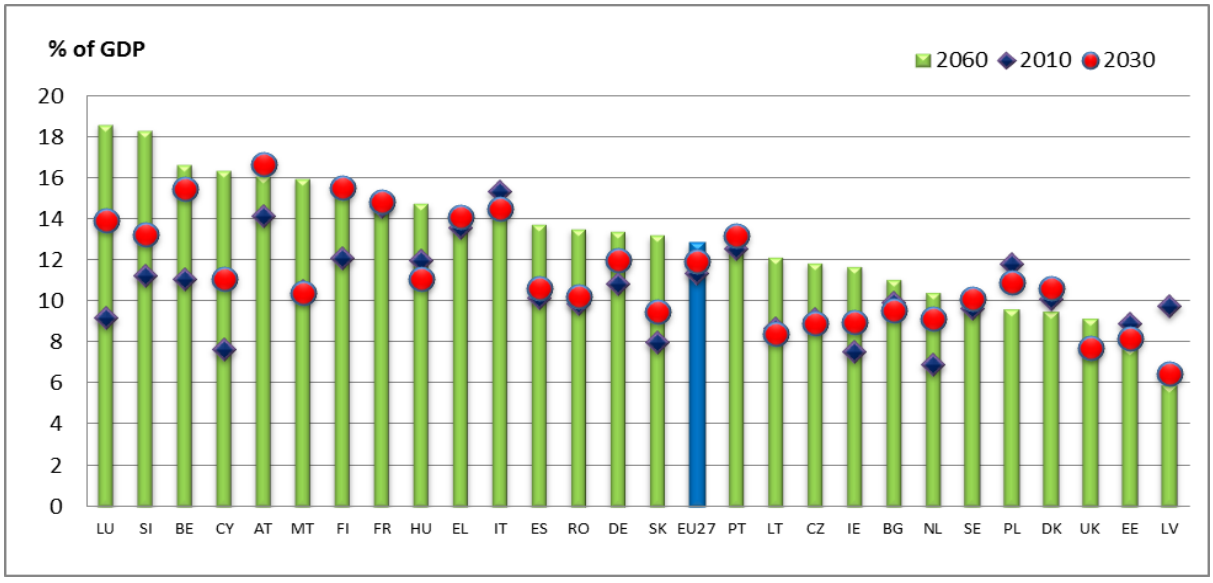


Source: The 2012 Ageing Report

Note. Data not available for IE, LV, NL, PT, UK. The impact of very recent pension reforms in Member States is not included in the calculations (see Box 2, The 2012 Ageing Report)

Despite a decrease in the future adequacy as measured with the benefit ratios, the 2012 Ageing Report projects an increase in the statutory pension expenditure in the EU-27 from 11.3% of GDP in 2010 to 12.8% in 2060. Some countries face very significant increases, while others through pension reforms managed to reduce the future pension expenditure (Figure 38).

Figure 38. Projected gross public pension expenditure, % of GDP, in 2010, 2030 and 2060



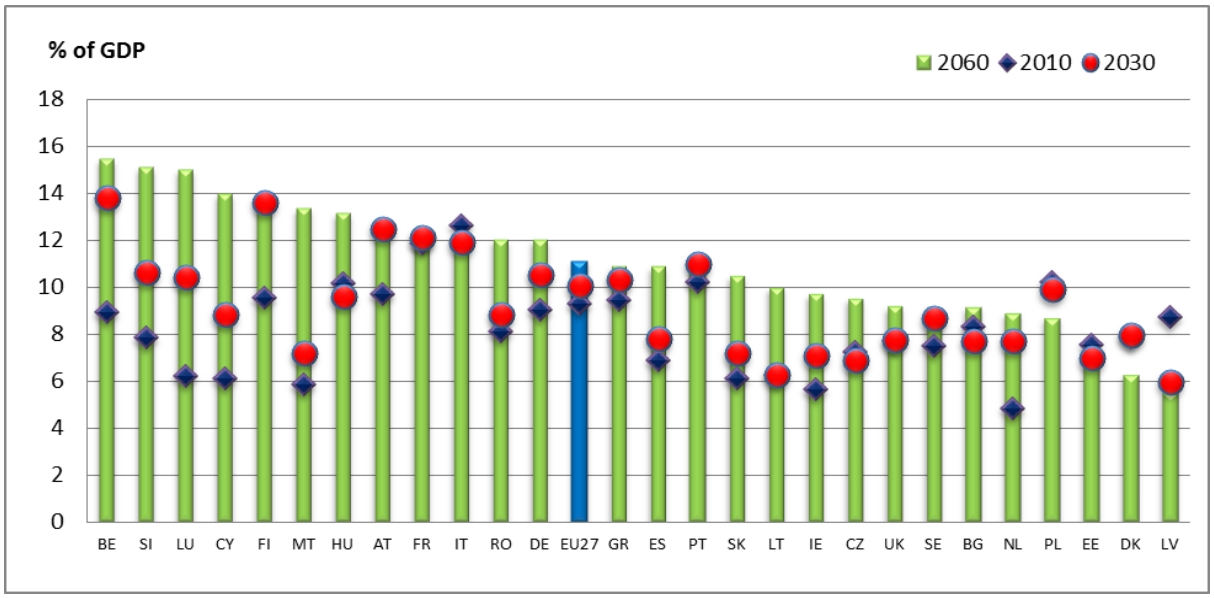
Source: The 2012 Ageing Report

Note: The impact of very recent pension reforms in Member States (BE, BG, FR and NL) is not included in the calculations (see Box 2, The 2012 Ageing Report)

Interestingly, Member States face not only a divergence in the 2060 levels of expenditure on earnings-related old-age and early pensions (from in 5.9% of GDP in LV to 18.6% in LU), but also other categories of benefits (mainly disability and survivors, from 0.3% of GDP in LV to 3.2% in DK).

Projected gross old-age and early pension expenditures in 2060 vary from 5.5% in LV to 15.4% in BE (Figure 39).

Figure 39. Projected gross old-age and early pension expenditure, % of GDP, in 2010, 2030 and 2060



Source: The 2012 Ageing Report

Note: The impact of very recent pension reforms in Member States (BE, BG, FR and NL) is not included in the calculations (see Box 2, The 2012 Ageing Report)

The trends in adequacy indicators can be put in relation to prospects for financial stability. Table 7 helps in that way to examine to what extent an adequate balance between financial sustainability and pensions adequacy, the two sides of the same coin, is maintained in the long term. Table 7 provides information on net and gross replacement rates and changes in gross replacement rates by type of scheme (statutory DB or NDC, statutory funded and occupational and other supplementary pensions), so that the changes can be more easily compared to the pension schemes included in the expenditure variable (public pension expenditure calculated by Ageing Working Group includes old-age pension expenditure, early retirement, disability and survivor pensions).

Table 7. Changes between 2010 – 2050 in public pension expenditure (as % of GDP) and pension adequacy indicators: TRR and benefit ratios

	Pulbic Pension Expenditure as % GDP (2010)	Pulbic Pension Expenditure as % GDP (2050)	Change in Public Pens Expedure. 2010 - 2050 in p.p.	Change in Net TRR. 2010 - 2050 in p.p.	Change in Gross TRR. 2010 - 2050 in p.p.	Change in Gross TRR owing to statutory DB or NDC schemes, 2010 - 2050 in p.p.	Change in Gross TRR owing to statutory funded schemes, 2010 - 2050 in p.p.	Change in Gross TRR owing to occupational and other supplementary pensions, 2010 - 2050 in p.p.	Benefit Ratio (Social Security pensions) (2010)	Benefit Ratio (Social Security pensions) (2050)	Change in Benefit Ratio 2010 - 2050 in p.p.
Countries with declining net replacement rates between 2010-2050											
EL	13,56	15,43	1,87	-34,30	-32,87	-7,37	0,00	0,00	35,95	29,04	-6,91
PL	11,80	10,04	-1,76	-32,17	-30,61	-46,49	15,89	0,00	46,73	22,42	-24,31
CZ	9,11	11,04	1,93	-27,47	-21,64	-21,64	0,00	0,00	26,21	25,21	-1,01
RO	9,82	12,76	2,94	-25,73	-19,86	-27,75	7,89	0,00	38,69	28,13	-10,56
HU	11,95	13,47	1,52	-25,09	2,06	-20,51	22,56	0,00	31,17	26,57	-4,59
LV	9,71	6,37	-3,34	-25,08	-20,31	-37,20	16,88	0,00	:	:	:
IT	15,30	15,66	0,36	-20,40	-21,40	-21,40	0,00	0,00	48,51	45,42	-3,09
PT	12,54	13,09	0,56	-19,98	-13,85	-13,85	0,00	0,00	:	:	:
FR	14,56	15,14	0,58	-18,73	-16,60	-0,08	0,00	-14,45	39,78	32,33	-7,45
LU	9,15	18,12	8,96	-16,88	-19,48	-19,48	0,00	0,00	58,70	53,70	-5,00
IE	7,53	11,38	3,86	-16,74	-14,53	-32,87	0,00	0,00	:	:	:
SK	7,98	12,21	4,23	-9,26	-7,46	-32,21	24,75	0,00	43,74	29,66	-14,08
MT	10,44	13,44	3,00	-9,20	-7,80	-7,80	0,00	0,00	51,23	47,61	-3,62
ES	10,11	13,95	3,84	-8,06	-7,37	-16,60	0,00	0,00	55,28	46,43	-8,85
SE	9,60	9,88	0,28	-7,30	-9,00	-14,20	5,80	-0,60	35,34	26,40	-8,94
FI	12,04	14,92	2,87	-6,90	-7,40	-7,40	0,00	0,00	49,41	45,30	-4,10
SI	11,20	17,87	6,67	-5,50	-3,84	-3,84	0,00	0,00	19,23	17,28	-1,95
NL	6,85	10,43	3,58	-4,02	1,82	1,56	0,00	0,25	:	:	:
Countries with no significant change in net replacement rates between 2010-2050											
DK	10,08	9,62	-0,46	-2,10	7,40	-10,00	-2,60	20,00	35,80	30,47	-5,33
UK	7,67	8,18	0,51	-2,06	-2,00	-3,16	0,00	1,16	:	:	:
LT	8,64	10,76	2,12	-1,15	-0,56	-4,85	4,29	0,00	38,68	34,94	-3,74
BE	11,03	16,70	5,67	1,85	1,39	-4,84	0,00	6,23	39,20	38,30	-0,90
Countries with increasing net replacement rates between 2010-2050											
AT	14,11	16,45	2,34	3,70	-1,10	-1,10	0,00	0,00	42,33	36,54	-5,79
EE	8,87	8,01	-0,86	3,90	3,80	-14,30	18,10	0,00	38,75	22,99	-15,76
DE	10,79	12,97	2,18	4,57	3,78	-8,70	0,00	12,48	47,02	38,12	-8,89
BG	9,92	11,15	1,23	5,21	3,57	-10,10	13,67	0,00	46,12	38,63	-7,49
CY	7,62	14,37	6,75	13,00	10,00	10,00	0,00	0,00	43,30	45,23	1,92
EU27	**11,34**	**12,80**	**1,46**						**44,66**	**37,03**	**-7,64**

: Data not available

Source: The 2012 Ageing Report and 2010 – 2050 Theoretical Replacement Rates exercise Indicators Subgroup. EU27 TRR are non-weighted averages.

Note: The calculations of prospective theoretical replacement rates and benefit ratio rely on common assumptions about the future key economic and demographic parameters. Despite this, differences in projection results still exist due to a number of factors, notably the different conceptual underpinnings of the indicators (theoretical vs. average approaches) and the different coverage of pension schemes by each indicator. This points out to the need of careful comparison between indicators. See Annex 1 for more details.

Note: Public pension expenditure includes all types of pensions and occupational schemes. The impact of very recent pension reforms in Member States is not included in the calculations (see Box 2, The 2012 Ageing Report)

4.2. Labour market: working more and longer

In the coming decades, Europe's population will undergo major demographic changes due to low fertility rates, continuous increases in life expectancy and the retirement of the baby-boom generation. Longer working and later retirement have been identified as key responses to the ageing challenge which can improve both the sustainability and the adequacy of pension systems.

This section first looks at how current pension rules encourage longer working, and how labour markets support the objective of better balancing the time spent working and in retirement. Then, it tries to assess with the help of future theoretical replacement rates whether improvements in adequacy can be obtained through longer working.

4.2.1. How pension systems support longer working

In 2011 the SPC conducted a **questionnaire on possibilities for people to improve the adequacy of their pension entitlements**, **especially through longer working**. The questionnaire[95] looks at incentives and disincentives in social protection systems (old-age pensions, invalidity pensions, unemployment benefits for older workers) for older workers to join or remain in the labour market and at measures aimed at promoting longer working lives. The following summarizes the responses.

There is a wide variation in **pensionable ages**[96] between Member States. In 2010 65 was the pensionable age for both genders in nine countries (BE, DK, DE, IE, ES, CY, LU, NL, PT), while in five (in EL, IT, AT, PL, UK) it was the pensionable age only for men as women could claim pension from the age of 60. A few countries (FR, FI, SE) were giving people the possibility to claim a pension within an age bracket (60-65, 63-68, and 61-67 respectively). In the ten remaining countries the pensionable age was set below 65, with LV and HU having no gender gap while BG, CZ, EE, LT, MT, RO, SI and SK had lower pensionable ages for women.

A number of Member States have increased the pensionable age for both genders in recent reforms. In most of these countries the higher eligibility ages for a pension will be phased in over a long period and has more effect on the younger cohorts. Ultimately, the pensionable age will reach 68 in IE and UK, 67 in CZ[97], DK[98], DE and ES, while it will reach 65 in EE, EL, LT, HU, MT and AT. In BE and FR the minimum pensionable age for people with full contributory careers (i.e. 41.5 years in FR and 45 in BE) will increase from 60 to 62. The discussion about further pension reforms and increases in the pensionable age is on-going in a number of countries (e.g. NL and PL intend to raise it to 67, LV to 65).

Even though an increase in the pensionable age will not necessarily be reflected in a corresponding rise in the effective labour market exit age, it sends a strong signal to workers

[95] The 2011 questionnaires are updates of the ones used in the 2007 – 2008 SPC studies "*Promoting longer working lives through pension reforms – Flexibility in retirement age provision and early exit from the labour markets*".

[96] One should distinguish between the **pensionable age** (sometimes referred to as the statutory retirement age: the age at which pension benefits can be accessed without any actuarial reductions), the **effective pension age** (the age at which an individual actually starts to draw a pension) and the **effective labour market exit age**.

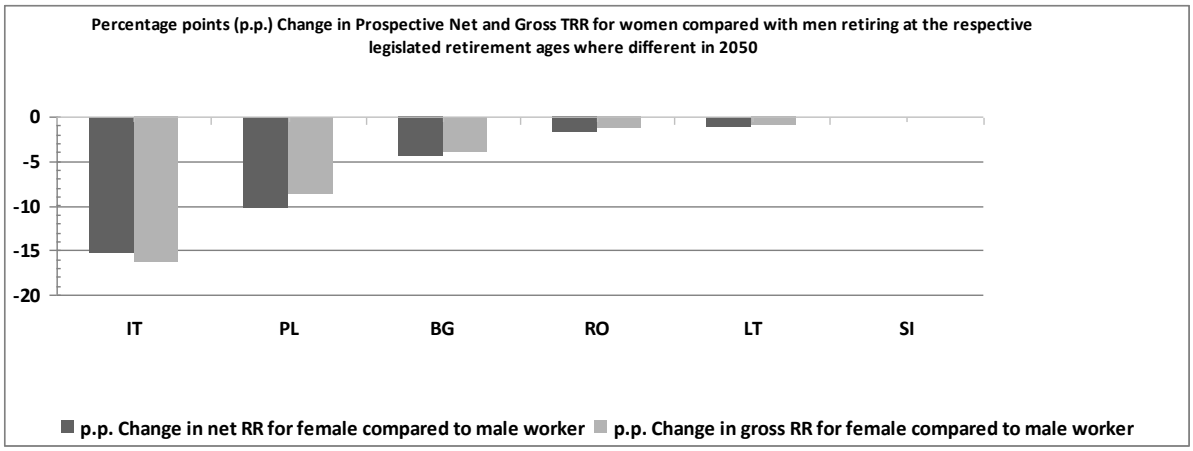
[97] 67 reached in 2044, further increases by 2 months per cohort with no upper limit.

[98] Further linked to increases in life expectancy.

and employers and – particularly if also underpinned by labour market measures to encourage and enable working longer - it is likely to influence expectations and norms with regards to employment[99].

By 2020 there would be nine countries left with a **gender gap in pensionable age** (EE, EL, MT, and UK will have equalised in the meantime), and ultimately the number of countries would drop to only five (BG, IT, PL, RO and SI) because CZ, LT, AT and SK intend to reach the gender equalisation of pensionable ages after 2020).

Figure 40. Changes in replacement rates for women compared with men retiring at the respective legislated retirement age in 2050 (where different)



Source: Indicators Subgroup of the SPC, 2010 - 2050 Theoretical Replacement Rates exercise

TRR are useful to gauge the effect of different pensionable ages for men and women in these countries in 2050 (calculations assume retirement at the legislated retirement age for both men and women – Figure 40 can be compared to Figure 5). The gross and net replacement rate results are lower for women than for men in almost all of these Member States as a result of women retiring earlier than men. The most notable gender differential in future replacement rates is observed for IT and PL (more lower replacement rates for women) which have notional defined-contribution systems with actuarial reductions of the pension the earlier it is retrieved.

According to current legislation pension eligibility age will still differ for men and women in SI in 2050, but the contributory requirements are adjusted in a manner that women receive the same gross replacement rate as men despite retiring two years earlier at age 61. Therefore, the calculations show no change for SI. LT has legislated equalisation of pensionable ages for men and women in 2050, but due to sex-specific mortality tables for the funded pension part, it still shows different prospective TRR for male and female in 2050.

The calculations for BG and RO present much narrower differences in the results between men and women in the future than currently, showing the closing of the pensionable age gap and reflecting better protection for shorter careers for women from now onwards.

Apart from the age limit, many Member States apply the minimum or standard **contributory periods** to qualify for a minimum or full pension. Contributory periods are required in flat-rate contributory pensions, where benefits are granted on the basis of contributory years (e.g. IE,

[99] *Analytical Support on the Socio-Economic Impact of Social Protection Reforms*, GVG. http://www.socialprotection.eu/ . "Synthesis Report 2011".

LT, and to a certain degree UK). They are also used in a number of earnings-related pension systems, to create incentives to stay connected to the labour market. In other countries the concept of full statutory pension is not applied (e.g. CZ, DE), and for instance the value of the pension benefit is in principle based on a number of individual pension points, regardless of the contributory period.

In reality, the labour market exit age is usually lower than the pensionable age. This is due to fact that **early retirement**, unemployment benefits and disability benefits are often used as early exit paths by those aged 55-59.

In some Member States in the statutory pension systems people with full contributory periods are entitled to retire before the standard pensionable age (e.g. BE, FR, LU, AT, SI). This underlines the fact that pension reforms cannot be focussed on increases in pensionable ages only, but also, where relevant, the **minimum or full contributory periods need to reflect increasing life expectancy**. However, situation of people who started their careers early (usually unskilled workers and people with lower life expectancy) needs special attention.

People in demanding or hazardous occupations are sometimes granted special treatment and can retire earlier (e.g. ES, HU, PT), as well as the long-term involuntarily unemployed or those who retired due to economic reasons (e.g. PT). Some countries also offer early retirement, where people can draw a pension with an applied malus (e.g. an actuarially reduced pension) which acts as a financial disincentive (e.g. HU, SK, FI). In others some occupational groups are permitted to retire earlier and on more generous basis compared to standard old-age pensioners (e.g. BG).

Possibilities of early exit through unemployment benefits vary between Member States, and are sometimes limited by short benefit duration (e.g. SK). Conditions for granting disability benefits are also different between countries. Use of disability benefits needs to be checked against health status of different age cohorts, as one can expect higher share of people with health problems among older workers (55-64) than prime-age workers. Moreover, Member States have recently reformed their disability schemes. The focus is now rather than on people's capabilities on the diminished working ability in relation to old occupation, personalised approaches, prevention, inflow management, the changing nature of incapacity, participation by social partners, involvement of employers and more inclusive labour markets[100].

Lower pensions do not necessarily discourage people from using early retirement possibilities. In a number of countries between ¼ and ½ workers follow early exit paths without going straight into retirement (e.g. CZ, ES, LU). This can certainly have an impact on future at-risk-of-poverty rates, especially for older pensioners who left early the labour market. Member States should be careful **not to introduce too much flexible old-age pensions through access to early retirement**. Early pensions reduced with actuarial principles could create a group of old-age pensioners with unacceptably low income, especially if indexation is below the evolution of median income.

Member States with early retirement schemes reform them in different ways. A first dimension is to ensure that employers bear all or at least a significant share of the costs of early retirement benefits. Secondly, particularly demanding or hazardous jobs can be compensated through higher pay, or higher contributions to a voluntary supplementary pension scheme (e.g. SK), rather than leaving the State to shoulder the whole compensation burden in the form of earlier retirement. Thirdly, in some Member States, eligibility rules are being tightened – for instance

[100] http://www.peer-review-social-inclusion.eu/peer-reviews/2009/modernising-and-activating-measures-relating-to-work-incapacity

by increasing the eligibility age and the required contributory period (e.g. BE). The recent reform adopted by BE in December 2011 has combined both increasing the eligibility age for early retirement and the required career length.[101] Some countries are also either reducing the levels of benefits provided by special schemes or closing the schemes.

In the past early exit pensions have often been used by employers as an instrument to manage their workforce in times of high unemployment. Recent reforms led to tightening of eligibility conditions and at least in some Member States (e.g. BE, EL) partially shifted the cost of early retirement towards employers. It seems that this could lead to a re-orientation of practices and could contribute to an increase in the effective retirement age (e.g. in BE, DK, EL, AT, PL)[102]. This also **underlines the importance of a consistent approach of transitions from employment to retirement (for instance not only focusing on the legal retirement age, but also the effective retirement age**).

A majority of policy measures **to promote longer working** is focussed on the abolition of disincentives to work. Such negative incentives include a default retirement age, regulations with regard to employment after the pensionable age and how employment income is taxed or deducted from pension income and whether it is considered in the future calculation of pensions[103].

Most Member States encourage workers to stay longer in employment, so that they earn additional pension rights. Longer working (and reducing early retirement) is thus one of the ways of improving pension replacement rates. Nevertheless, even if the pension incentives are in place, **the challenge is to a large extent with the labour market to provide enough job opportunities for the older workers**. Improving working conditions is crucial so that the nature of the job is less harmful to workers' health. Promotion of retraining and a change of occupation when the previous one becomes too physically challenging are other possibilities. Older workers are generally considered to be one of the most vulnerable groups in the labour market (others being, for example, youth, women and disabled workers). One reason for this is that they are often viewed as being more costly than their younger counterparts, due mainly to the prevalence of age-related remuneration systems and seniority wages.[104]

In most Member States it is possible **to combine earned income with the receipt of pension benefits**. However, some countries use earnings thresholds or benefit reductions for early retirement pensioners (e.g. CZ, DE, FR, LU, PL). The idea behind is to ensure that the social

[101] A parametric pension reform aimed at delaying early retirement and restricting access to it was voted in the Belgian Parliament at the end of December 2011. In the three main old-age pension schemes (private wage-earners, self-employed, civil servants), the minimum early retirement age and the minimum number of career years required for eligibility will gradually be increased, respectively from 60 to 62 years and from 35 to 40 years (in fact, before the reform, the 35-year threshold did not apply to the civil servant scheme). People with a 42-year career will still be eligible for early retirement at 60 (and at 61 with a 41-year career). The transition starts from 2013 and the reform will be completed in 2016 (a few years later for specific schemes with higher accrual rates). The impact of the reform on workers presently aged 57 and over who have worked at least 31 years will be capped to 2 years additional working years. In the civil servant scheme, the pension amount will take into account the earnings over the last 10 years instead of the last 5 years; this reform will not apply to civil servants who reached the age of 50 on 1 January 2012. For "prepensions" (an early retirement scheme for labour market reasons embedded in the unemployment insurance), the minimum career length requirement will also be gradually increased to 40 years. The minimum age will remain 60 years in general, and be increased to 60 years for specific cases to which a lower age presently applies. Pension entitlements for "prepension" before the age of 60 years will be reduced. Pension entitlements for certain periods of unemployment and certain career interruptions will also be reduced.

[102] ASISP Network (*Analytical Support on the Socio-Economic Impact of Social Protection Reforms)*, GVG: Synthesis Report on 2011 Annual Reports http://www.socialprotection.eu/

[103] Ibidem.

[104] *Employment in Europe 2007*, Chapter 2 Active ageing and labour market trends for older workers.

protection objectives of benefits are achieved without resulting in high benefit/earnings combination, while still supporting a parallel objective of higher labour market participation.

Some Member States offer unlimited possibilities for suspending pensions or de-retirement (e.g. LV, SE), while in others people who re-enter the labour market continue to receive benefits and their pension is suspended only if earnings exceed certain threshold.

In a number of Member States there are no **special incentives to hire older people**. Other countries report that they propose reductions in social contributions (e.g. BE, ES, LV, LU, PL, PT, SK), shift part of contributions towards employees (FI), offer special flexible contracts (FR) or subsidise salaries (LT) of people in their pre-retirement age or old-age pension beneficiaries.

In a few Member States, early exits through **supplementary pensions** (occupational or private) used to be a common practice, though it is now diminishing or has stopped. Supplementary pensions should be seen not only as a potential bridge between early retirement and reaching pensionable age, but primarily as a way to improve adequacy of retirement income. If they are used to finance early withdrawal from employment, supplementary pensions are not fulfilling their **role of improving pension adequacy**.

Some Member States discourage early take-up of supplementary pensions by imposing higher taxes or social contributions on annuities drawn under certain age threshold (e.g. BE). Moreover, private or occupational pension benefits are actuarially reduced in case of early withdrawal. But this may not actually influence labour market exit, as employees are often unaware of these reductions. It seems that more needs to be done to change the labour market exit behaviour than providing the right financial incentives only. In SE employment of older workers is encouraged through lower social contributions resulting in employer incentives and through the in-work tax credit resulting in incentives for employees.

4.2.2. Recent performance of the labour markets

It is now widely accepted that there is no trade-off between the employment of younger people and that of older people (compare Figure 41 and Figure 42) [105].

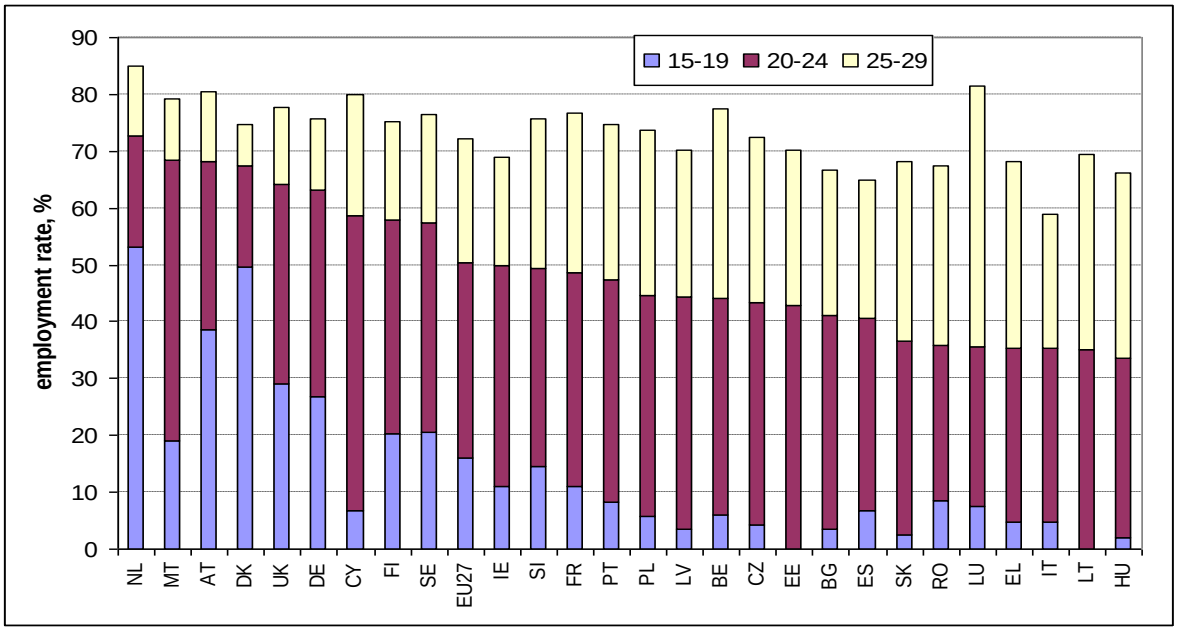
International comparisons show that restricting the labour supply of older workers can actually reduce overall employment, as it generates an additional cost to social protection systems.

In the majority of Member States there are no special incentives to encourage young workers not in training or education to enter early the labour market. Some instruments, for instance the required contributory period or the principle of lifetime earnings, act indirectly, but given the focus in public debates on pensionable ages it is questionable whether younger workers are aware of the risks to the future adequacy of their pensions. Research[106] indicates a lack of awareness of the link between work and pension income.

[105] See for instance empirical studies from Kalwij, A., Kapteyn, A. and K. De Vos (2009), "Early Retirement and Employment of the Young", Working Paper, RAND, and Agar Brugiavini & Franco Peracchi,(2010). "Youth Unemployment and Retirement of the Elderly: The Case of Italy," NBER, which shows that the "lump of labour" assumption fails in Italy. The direct relationship between the unemployment rate of the young and the labour force participation of the old is pro-cyclical, i.e. a higher labour force participation of the old is related to a lower unemployment rate of the young.

[106] Social Protection Committee 2006 report on minimum income provisions.

Figure 41. Employment rate of people aged 15-19, 20-24, and 25-29 in EU Member States in 2010



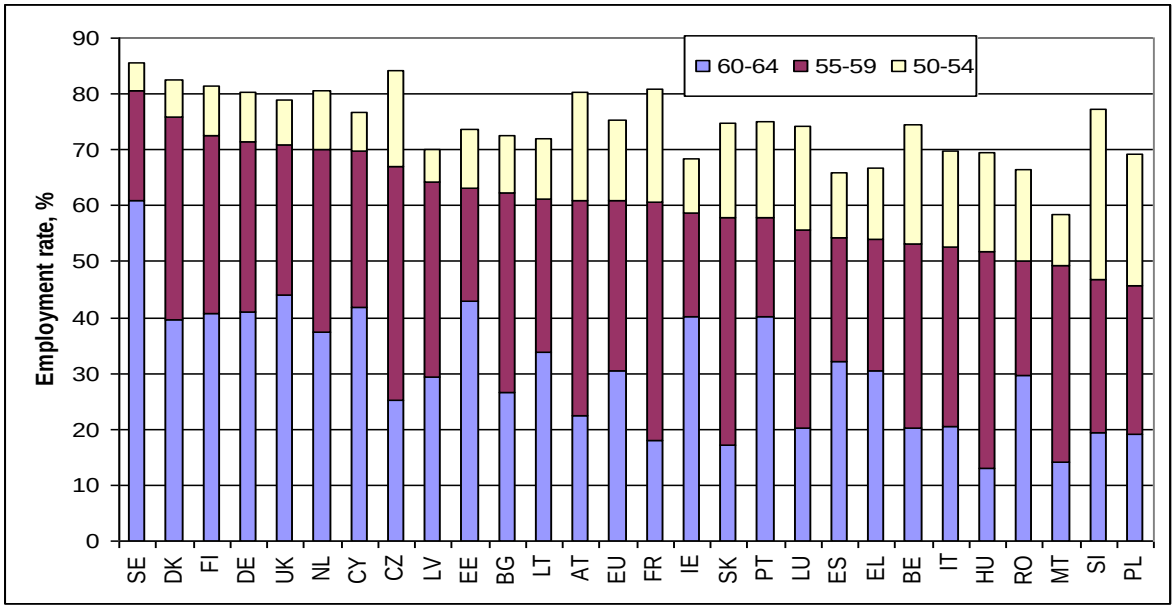
Source: ESTAT LFS

Employment rates of young workers vary considerably between Member States. Lower employment rates of those under the age of 25 are usually explained by enrolment in education or unemployment. In 2010 there were nine Member States where the employment rate of those aged 25-29 was below 70% (IT, ES, HU, BG, RO, SK, EL, IE and LT).

Younger workers have been particularly hard hit by the crisis. The employment rate in the 20-24 age group decreased from 54.9% in 2008 to 50.3% in 2010, having a negative effect on pension accruals of young workers. Given the fact that longer contributory periods are usually required in the reformed pension systems, this might have a negative effect on future level of pension benefits.

Due to the use of early retirement schemes, **effective retirement age** is usually lower than the normal pensionable age. In several Member States 33% or more of new retirees are under the age of 60 (e.g. SK, CZ, HU, FI). In a majority of countries more than ½ of new retirees are 60-64 years old (e.g. BE, BG, CZ, DE, FR, LV, MT, PL and FI). A majority of new retirees is 65 and more years old in countries with universal or contributory flat-rate pensions (e.g. DK), but also some countries with earnings-related pensions (e.g. PT and ES). It is important to notice, however, that retiring before 65 (and in some countries even before 60) is not a general evidence of early retirement, as the pensionable age is very often set below the age of 65.

Figure 42. Employment rate of people aged 50-54, 55-59, and 60-64 in EU Member States in 2010



Source: Eurostat LFS

People can combine retirement with work, or leave the labour market before applying for a pension. Nevertheless, in a majority of countries early exit from the labour market and early access to retirement are two sides of the same coin. In the context of retaining older people in employment longer, it is interesting to examine **the employment rate profile across specific ages**.

Figure 42 presents differences between employment rates of those aged 60-64, 55-59 and 50-54. One can see that a high proportion of people are not working before the age of 55 in SI, PL, but also in BE, FR, AT, LU, and HU. The employment rate of people aged 55-59 drops by more than 35 p.p. in FR, CZ, SK, AT, HU, DK, LU, BG and MT. SE is the only Member State with the employment rate of people aged 60-64 higher than 60%.

Compared to the situation reported in the 2008 SPC study, some Member States have reduced the share of people under the age of 60 or in the 60-64 age bracket (e.g. DE, PL) among the new retirees. This is also reflected in the recently growing employment rates of older workers.

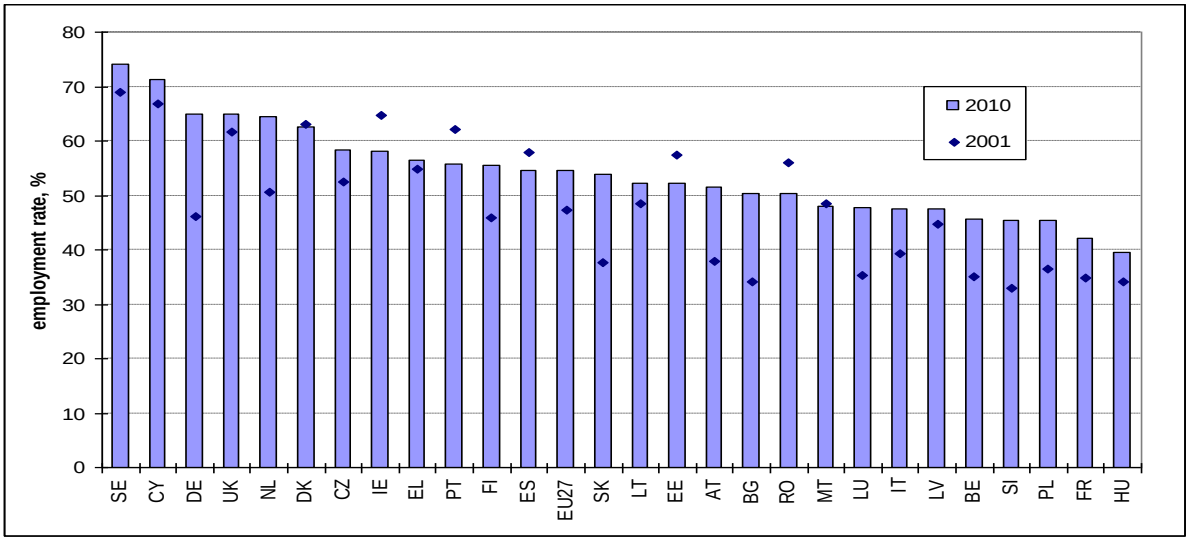
Along with the rise in female participation, **employment of older workers** has been one of the most dynamic components of the EU labour market in recent years. The employment rate of older female workers (55-64) increased by more than ⅓ in the last decade, from 28.2% in 2001 to 38.6% in 2010. The corresponding increase for older male workers, at less than one sixth, was less pronounced (from 47.4% in 2001 to 54.6% in 2010) (Figure 43).

For older women this is largely a consequence of the longer-term trend of rising female participation in general, with higher participation in successive cohorts of better educated younger women progressively feeding through into improved participation in older age groups. This will also be reflected in future pension levels. For older men it marks a turnaround in the long-term trend of falling participation rates observed since the 1970s. The overall increase in the employment rate of older workers is also partially a result of the underlying demographic change. In some countries the baby-boom generation is entering their late fifties, so partially

the increase in employment rate is attributable to changes in population structure (as employment rates for 55-59 years old are higher than for the 60-64 years old).

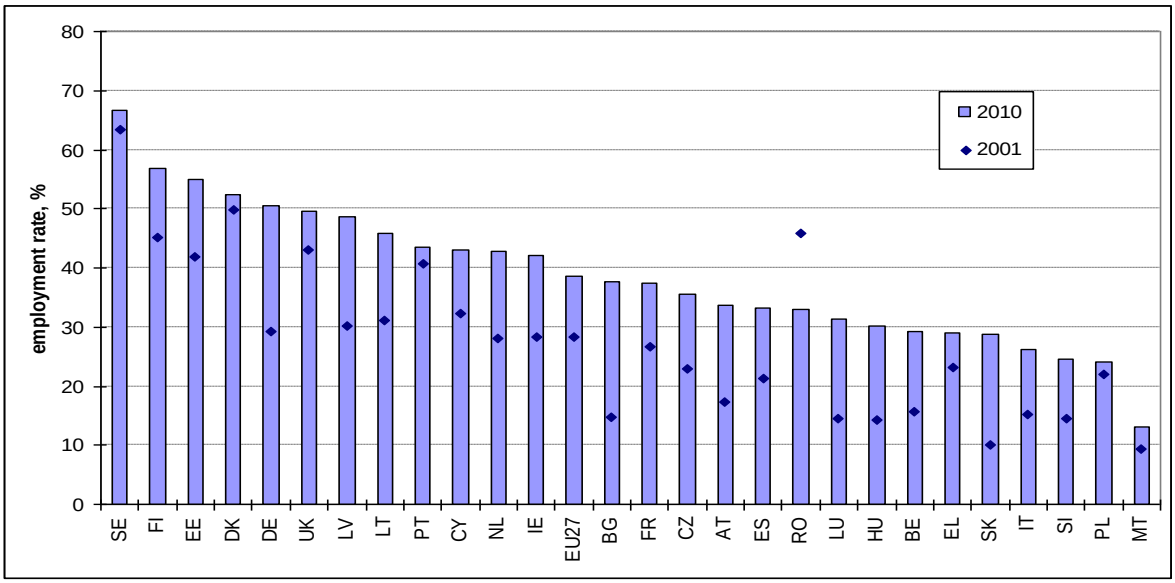
The most marked increases in employment rates of older women (of 15 p.p. or more) in the last decade have been observed in BG, DE, SK, LV, LU, AT and HU. For older men the employment rate has increased by 10 p.p. or more in DE, SK, BG, NL, AT, SI, LU and BE. Although it is not always so, generally the larger increases in employment rates of older workers have occurred in countries that started the decade at the lowest levels. RO has been the only Member State to observe a decrease in employment rates of both older women and men. PT, IE, EE, and ES have recorded lower employment rate for older male workers in 2010 than in 2001, whilst SE is the country with the highest labour market participation for both men and women throughout the period.

Figure 43. Employment rates of men aged 55-64 in the current EU-27 Member States in 2001 and 2010



Source: ESTAT LFS

Figure 44. Employment rates of women aged 55-64 in the current EU-27 Member States in 2001 and 2010



Source: ESTAT LFS

In spite of these recent improvements, **in many Member States the employment rates of older workers are still low**, lying in 2010 either below 40% in MT, PL, HU, SI, IT, BE, LU and FR, or above 40% but still below the EU-27 average of 46.3% in SK, RO, EL, AT, BG and ES, and exceeding 55% in only a few cases (FI, CY, UK, DK, DE and SE). And it is noteworthy that employment rates of older workers (55-64) is everywhere lower than employment rates for the total population (15-64), which reached 64.1% in 2010 in the EU-27. Furthermore, despite progress in female employment rates, **differences for older workers according to gender are still substantial in most Member States**. This is due at least in part to lower levels of female participation in general, including at younger ages, the lower skill levels of older women and lower pensionable ages for women compared to men in many Member States. This indicates both a strong need for enhanced efforts as well as ample room for further improvement.

Older workers are relatively unlikely to move from employment to unemployment, but once unemployed, they experience longer unemployment spells. This might be due to the fact that they search less intensively for work, but also because they are trapped in early retirement, or they may face stigmas in the labour market. Health status also affects the retirement decision.[107]

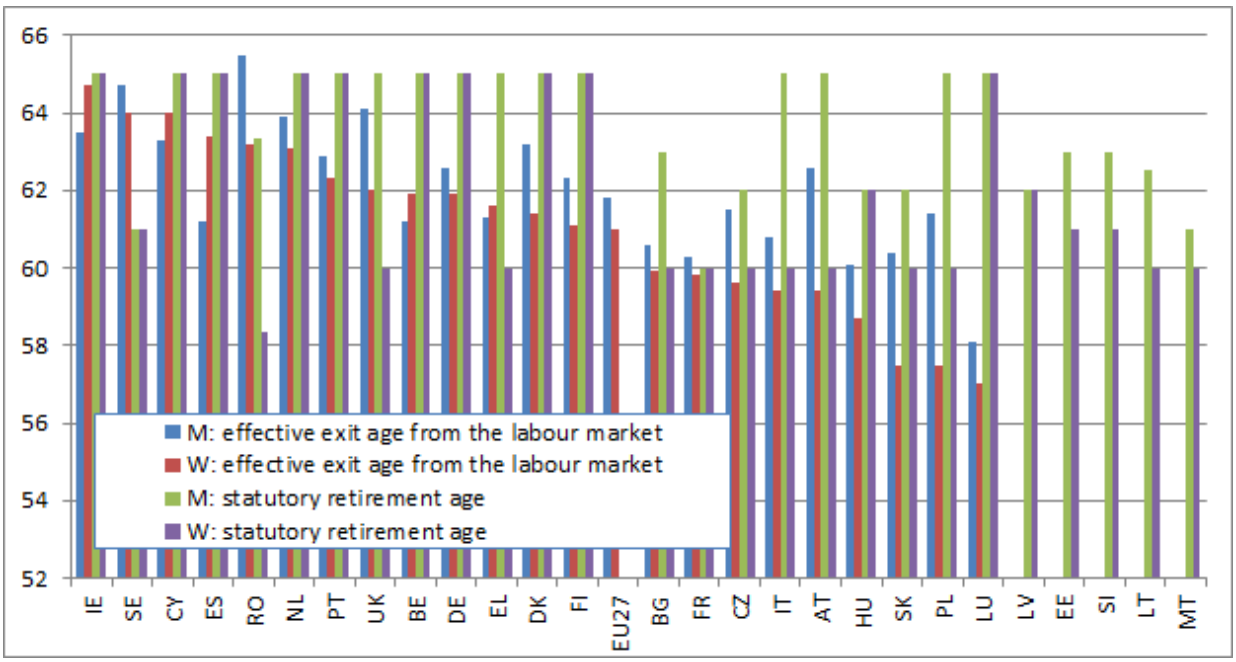
The **gap between the normal and the effective pensionable age**s can be an indication of a possible use of early retirement schemes (Figure 45). As mentioned above, the age of exit from the labour market does not necessarily equal the age of pension take-up.

In 2009 the effective exit age of men from the labour market was lower than the pensionable age by three years or more in CY, LU, IT, BE, ES, EL and PL, and between two and three years in AT, DE and PT. For women the gap exceeded three years in LU, SK, DK, HU, BE and DE, while between two and three years in PT and PL (see Figure 45). RO and SE were the only countries where the average effective exit from the labour market for both genders took place after the pensionable age. Also women in EL and UK on average were leaving the labour market after having reached the pensionable age.

A high gap between the pensionable and effective retirement ages can reflect low incentives in pension systems to work longer (where they are not actuarially neutral), easy access to early retirement schemes, or inadequate employment opportunities for older workers.

[107] *Employment and Social Developments in Europe 2011*, Chapter 5, Active Ageing http://ec.europa.eu/social/main.jsp?catId=113&langId=en&pubId=6176&type=2&furtherPubs=yes

Figure 45. Pensionable age and average effective exit age from the labour market, 2009



Source: ESTAT LFS, SPC National questionnaires

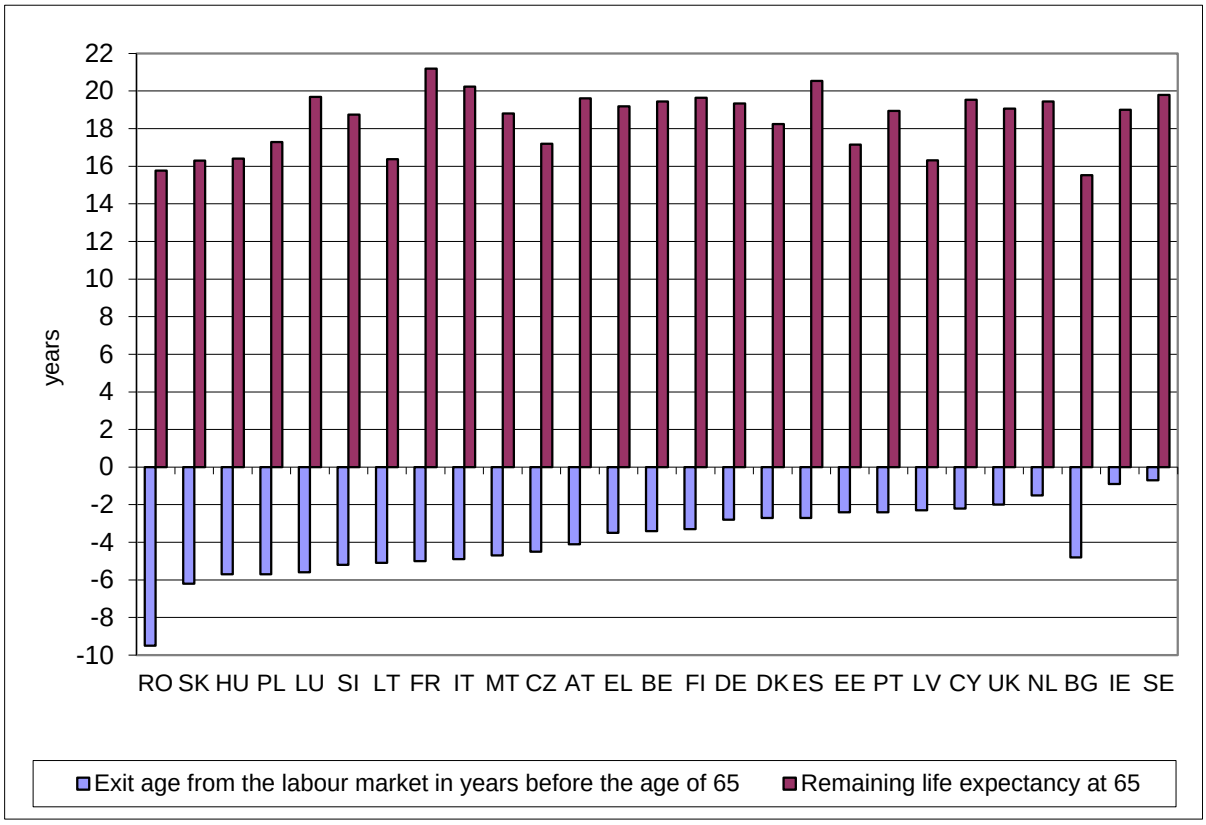
Notes: According to the administrative data for PT, in 2010 the average effective age to call for an old-age pension was 63.1 years in the case of men and 63.8 years in the case of women (higher than the graph presents). Source for BG: Administrative pension database of the National Social Security Institute.

In some countries exit age from the labour market is close to the pensionable age, but still relatively low if life expectancy is taken into account (see Figure 46). Comparison of the exit age from the labour market with the remaining life expectancy at 65 helps to estimate the remaining life-time spent out of the labour market[108]. In some countries, **people who left the labour market in 2009 can expect around 25 years or more in retirement in FR, LU, IT, less than 20 years in BG, LV, EE and IE, and between 20 and 24 years in the majority of Member States**. Comparison of **time spent in retirement** with life expectancy at birth and at the time of retirement **is an important aspect of pension adequacy** and inter-generational solidarity.

According to the 2012 Ageing Report, the average total effective exit age from the labour force in the EU-27 in 2010 was 62.1 (62.5 – for men, 61.7 – for women).

[108] Or time spent in retirement if the exit age from the labour market is used as a proxy of the retirement age.

Figure 46. Exit age from the labour market (years before the age of 65) and remaining life expectancy at 65, EU Member States, 2009



Source: ESTAT

Note: Data for RO are different than reported separately for the two genders. According to the administrative data for PT (63.4 years) the number of years to attain the exit from the labour market (statutory age: 65 years) should be 1.6 years instead of 2.4 obtained through the indicator from the LFS. Source for BG: Administrative pension database of the National Social Security Institute.

Pension reforms in the Member States will play a role in the EU's ability to achieve its goal of raising the employment rate to 75% by 2020. The goal would be de facto impossible to achieve, unless employment of older workers is boosted.

It seems that the pension challenge is more about reducing early retirement and ensuring that people work until pensionable age rather than deferring retirement after the pensionable age. Considerable drops in the employment rates in the 50-54 and 55-59 age brackets suggest that possibly in some countries the balance between having high level of guaranteed pensions and incentives to work longer could be improved. The marginal effects of benefit systems in promoting longer working lives should be strengthened.

The design of pension systems has a strong impact on effective retirement ages and adequacy of pensions. Rules on deferred and (especially) early retirement influence people's decisions on when to retire. In recent years Member States have seen progress in tackling early retirement schemes, but more efforts are needed in many cases. With increases in pensionable ages and required contribution periods, the challenge of supporting adequacy of pensions is to a larger extent shifted to the ability of labour markets to create jobs and to keep people in the labour market. This calls for comprehensive active ageing strategies, including investments in

the employability and life-long learning of older workers, and efforts to take their health and safety needs into account.

In a situation where the link between contributions and benefits is strengthened in the wake of the pension reforms, there is a risk that a growing number of people reaching the pensionable age will not see a possibility to accrue rights to pension benefits which would exceed the level of minimum income provisions. In consequence, they would be insensitive to pension systems incentives to work longer. These incentives should thus be balanced against the goal of adequacy of pensions expressed both in terms of poverty avoidance (minimum income provisions) and income replacement (accrual of pension rights).

Pension levels can also be lowered through adjustments in the pension formula used to calculate benefits. One significant development has been the introduction of a demographic adjustment factor in some Member States. For countries which have introduced life expectancy adjustment factors in their statutory pension systems (e.g. FI, FR, PT, PL, SE), this can translate into a decrease of theoretical replacement rates. Thereby, in order to keep income replacement rate constant, they provide incentives for people to postpone their retirement in accordance with rising life expectancy and offer opportunities for achieving adequate pension levels. For LU, a change in the legally fixed pension indexation rule will change once financial resources of the pension scheme get insufficient with as a consequence a reduction of the theoretical replacement rate.

4.2.3. Impact of longer working on future replacement rates

Amongst other measures, allowing people to increase their replacement rates within public pension schemes can make a major contribution to future adequacy. In several Member States, working longer can compensate for the reduction in replacement rates of public pensions at a given retirement age.

Currently, deferred retirement is usually possible and unlimited, but in some Member States consent of employer (SE) or minimum number of hours worked (DK) are required, and deferred retirement can be limited by collective agreements (ES). One year of additional work usually can lead to a 2-7% bonus. In some countries bonus is higher for people with longer contribution periods (e.g. ES, PT). If economic incentives to retire later are not actuarially neutral and are too low, they may not have the desired effect. But if they are too high, the cost to the public purse may be significant. There is also a risk of subsidising those who would in any case have postponed retirement.

Deferred retirement in a majority of Member States has much lower appeal than early retirement. Some countries report there is no clear evidence to indicate that deferral had an impact on the labour market exit age of individuals.

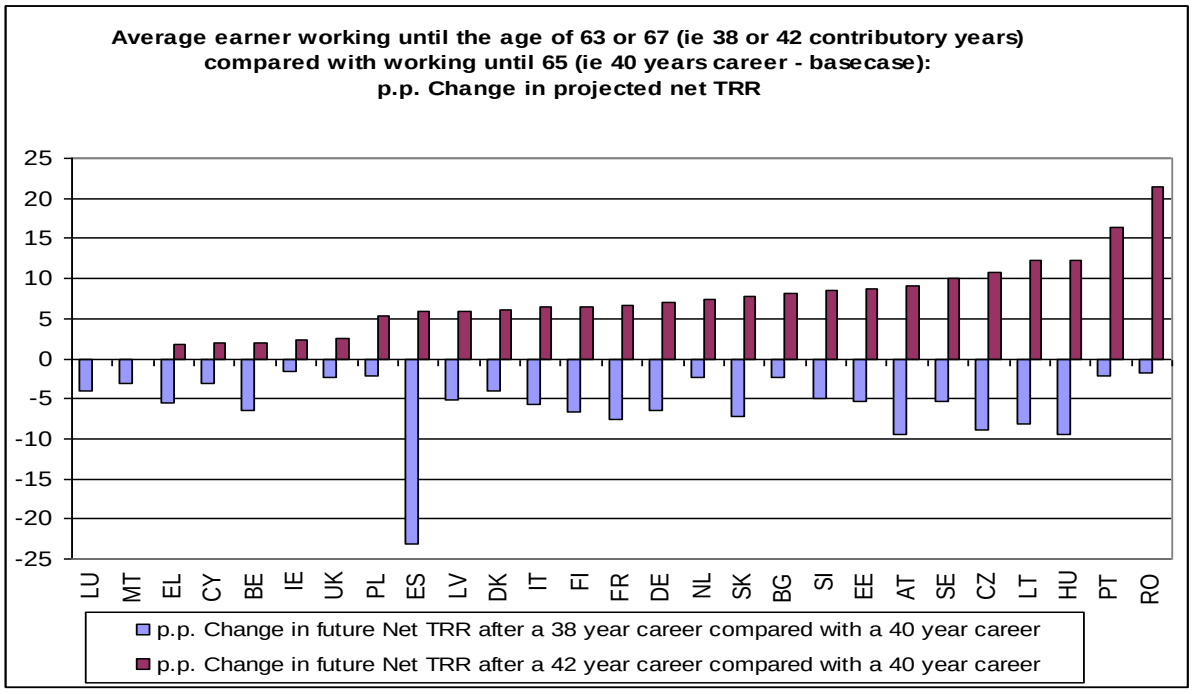
Analysis of the prospective theoretical replacement rates can help to find the answer to what extent **in the future** will people get a better pension by staying longer in employment? And will incentives to work longer or disincentives to retire earlier be comparable for different wage levels?

Calculations show that in all Member States delaying retirement by two years (retirement in 2052 at 67 after a 42-year career) (Figure 47) results in higher future net TRR (increases of 10 p.p. or more with respect to retirement at 65 are projected in SE, CZ, LT, HU, PT, RO), while earlier retirement (in 2048 at 63 after a 38-year career) results in lower replacement rates

(drops of more than 20 p.p. occur in ES). Again, as is the case with *current* replacement rates (which reflect past pension rules) and according to the assumptions used, the incentives embedded in current rules of pension systems (which are reflected in future theoretical replacement rates) **are not symmetric**. In all but a few Member States the increments in rates for prolonged working lives by two years are larger than the falls in replacement rates owing to two years shorter careers. It is also important to note that since the analysis here shows net replacement rates some of the work incentives reflected in the results can be imbedded in the **taxation systems** and not just the pension systems.

Penalties for early retirement take different forms. In some countries a low initial early retirement benefit is replaced at the pensionable age with a higher old-age pension (e.g. LV), but in others the penalty has an impact on the whole retirement period (e.g. ES, HU). Value of the benefit is usually reduced by 3-8% of the old-age pension per year before the pensionable age.

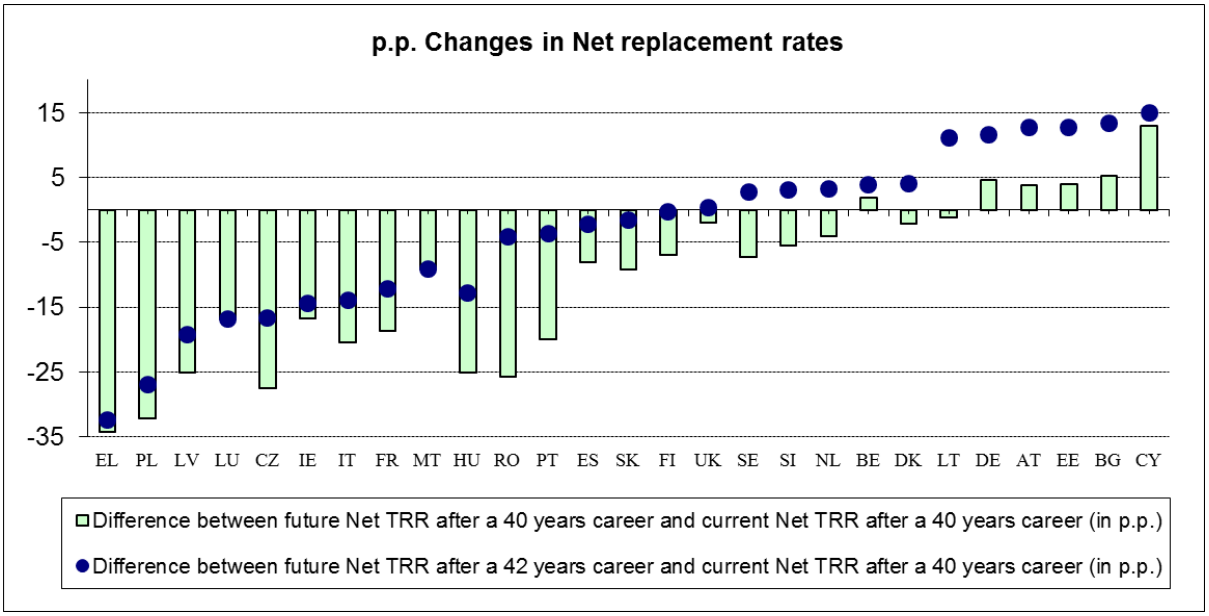
Figure 47. Effects on prospective net TRR of different career lengths (shorter / longer careers compared to retirement at 65 in 2050)



Source: Indicators Subgroup of the SPC, 2010 - 2050 Theoretical Replacement Rates exercise

Given the reality of **increasing pensionable ages**, it is also interesting to analyse the **impact of this policy on replacement rates**. A higher pensionable age in the future might help to maintain or even increase the current level of replacement rates (otherwise dropping in many cases over time as discussed earlier). This can be seen by a dynamic example comparing the replacement rates received by people retiring currently at 65 after a 40-year career with replacement rates of people retiring at a higher age (67, after a 42-year career) in the future. The Figure 48 shows that **2 years longer working can provide higher pension entitlements in the future**, counterbalancing for the large drops in total net replacement rates in many countries or even yielding higher replacement rates than today (see further discussions on how working longer can improve pension provision in the future in section 4.3).

Figure 48. Projected impact on net replacement rates of working longer in the future

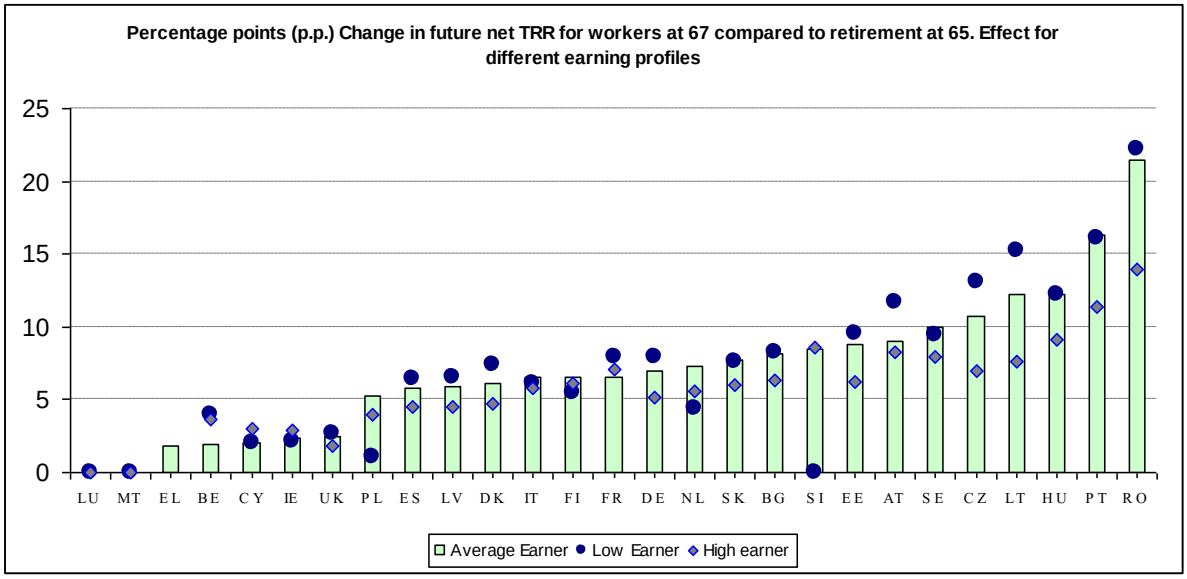


Source: Indicators Subgroup of the SPC, 2010 - 2050 Theoretical Replacement Rates exercise

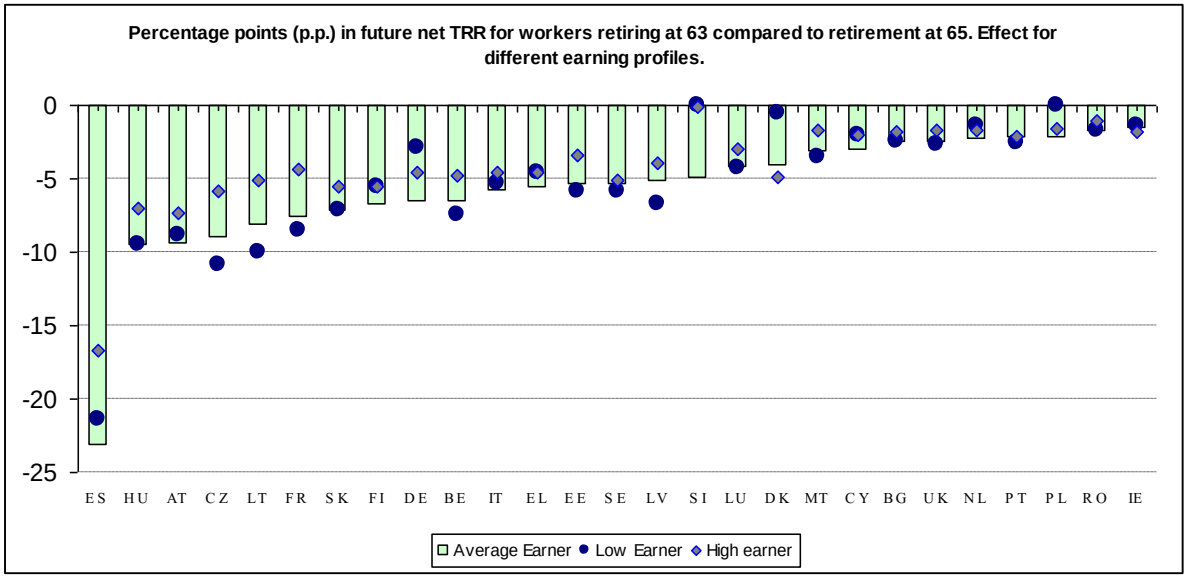
It is also of interest to analyse whether the **incentives to work longer are comparable for different wage levels in the future**, thus contributing to reflections on the adequacy impacts of working longer across different income groups.

Figure 49. Effects on prospective net TRR of longer / shorter careers for different earning profiles

a) Longer careers (42 contributory years compared to 40 years)



b) Shorter careers (38 contributory years compared to 40 years)



Source: Indicators Subgroup of the SPC, 2010 - 2050 Theoretical Replacement Rates exercise

Figure 49 demonstrates that the **incentives to work longer and disincentives to early retirement are broadly preserved across the different income groups** for the majority of Member States: thus, the percentage points change in prospective net TRR after 38 / 42 years career compared to 40 years career is similar for all income groups (low / average / high income earners). In a few Member States the incentives to longer working (measured by increase in TRR in p.p.) are bigger for low income earners than for high income earners (ES, LV, DK, FR, DE, EE, AT, CZ, LT, RO), while the reverse is true in CY and IE (high income earners have marginally better incentives to work longer than low income earners). On the other hand, disincentives to shorter careers are stronger for low income earners in CZ, LT, FR and LU and marginally in MT, and only in DK high income earners have stronger disincentives to early retirement than their counterparts with average or low incomes.

4.3. Adequacy risks inherent to different pension systems

All types of pension systems need periodically to be adapted to demographic trends, in particular to the ongoing increase in life expectancy. Longer working would be necessary to underpin adequacy in the reformed pension systems. Nevertheless, a decline in the relative level of public pensions and greater role of prefunding (4.1.1) make pension benefits more dependent on the outcomes of labour and financial markets. This entails some risks for pension adequacy, which have different character in particular pension schemes.

From the point of view of the individual, the risks are the most imminent in the funded defined-contribution schemes, but members of the funded defined-benefit and the pay-as-you-go schemes also have to bear the burden of adjustment.

In a number of Member States we can already observe growing importance of funded defined-contribution (DC) provision. DC-funded pensions can be statutory, occupational and voluntary, and all three are expected to see some growth in at least some Member States. Currently,

statutory DC-funded schemes are found in the majority of new Member States (BG, EE, LT, LV, PL, RO, and SK) together with SE and IT. In the wake of the crisis a number of Member States have temporarily (e.g. EE) or ultimately (e.g. LV, LT, PL) reduced or abolished (HU) contributions to the mandatory DC schemes. A number of Member States have DC occupational pension schemes, notably UK, IE, SE and DK, although others including NL, BE and CY also have some provision of this type. Voluntary DC provision is currently only of importance in IE, UK, CZ and particularly DE, on the back of the strongly incentivised Riester pensions[109].

For these countries the questions seem to be how to control the risk for pension level, how to give people a realistic idea about what can be obtained, and how to ensure that the payout phase matches the original purpose of pension savings as efficiently as possible. The questions are particularly relevant for countries where DC schemes are mandatory and play a significant role in income replacement.

In relation to an individual's capacity to bear risk a possible solution is to gradually lowering the investment risk as people get closer to retirement age (so-called life-styling or life-cycling investment strategies). Meanwhile, the choice between investment strategies with different potential rates of return and levels of risk leads to questions as to the accuracy of information. Evidence from the 2008 peer-review in Warsaw suggests that many people went for riskier options than would have been justified given their earning capacity and the length of their working life. Additional information provided by non-partisan organisations such as consumer NGOs could help people make the right choices. Introducing limited-risk default options designed to be a reasonable choice for most people would likewise help.

The payout phase in DC pension design often appears to be an afterthought when it should be central to the scheme. A poorly designed payout phase means money supposedly saved to provide retirement income leaks out of the pension system to be used for other purposes such as bequests. This is a problem unique to DC pensions. Pay-as-you-go (PAYG) and defined-benefit (DB) schemes and their inherent cross-subsidies between those who live for longer or shorter periods in retirement ensure that all resources are used to provide pensions, also in the form of survivors' benefits.

Moreover, in funded DC schemes actuarial adjustments occur automatically in the payout phase. The pension fund accumulated will have to cover more or less years of retirement depending on when a person retires and how long they can expect to live on average, so the amount they will receive annually will vary accordingly. This is made most overt (and individual longevity and investment risks are most reduced) when the payout phase is via annuities.

The investment risk in the defined-benefit (DB) occupational pension schemes is with the scheme sponsor, so in the shorter term people in generally get the pension they expect. Going forward some impacts of the economic crisis will be felt as funded DB pension schemes that are in deficit as a result of falls in investments seek to restore their funding balance. The crisis has caused most DB funds to move into deficit, due not only to falls in the value of investments but also to changes in the market interest rates used to translate future liabilities into today's money terms.

Member State reactions to the problems with funded schemes have in the short term been pragmatic. National pension supervisory authorities have aimed to allow pension funds more

[109] It is important to remind that Riester pensions are not pure DC schemes because they do not leave the investment risk entirely with scheme members. Financial institutions are obliged to offer to their customers a guarantee of maintenance of nominal value of capital.

flexibility than normal. The normal maximum period allowed for recovery from deficits has been extended and greater use has been made of existing flexibility. Regulators and the insurance and pension industry have agreed to temporary changes in the standards by which the solvency of funds is calculated to avoid funds locking in their losses by being forced to sell assets in the depressed markets. The double aim is to avoid destabilisation of the mortgage bond market and substantial losses for pension savers.

Dialogue between social partners is often a key element behind the recovery plans, as they involve attempts to share the impacts not only over time but also between different interests. A greater sharing of risks between scheme members and employers may be needed if the decline in DB provision is to be halted and such schemes are to have a viable future. The existing risk-sharing mechanisms can be used to lower or freeze indexation of benefits, increase contribution levels and/or increase the pensionable age. This shares the impacts between employers and pension scheme members, whether still working or retired. These mechanisms and the increase in permitted recovery periods aim to avoid the need for any last-resort adjustment of actual benefits.

Another important issue with regard to complementary occupational or private savings is how to increase their coverage, in particular for women. The DC and DB complementary schemes are often limited in coverage to prime-age workers with higher earnings. They also are gender-unbalanced (see 3.1.2). Auto-enrolment whereby employees are automatically enrolled into a complementary scheme (with a possibility to opt-out.) is seen as a solution for low coverage in some Member States.

Statutory PAYG schemes also are not immune to the economic downturns. The sustainability of PAYG pensions ultimately depends on the strength of the underlying economy, such as fewer people working and paying contributions, lower economic growth and depending also on institutional arrangements on national public debt. At least over the short term the effects are limited. Where they occur, impacts may take the form of lower indexation, higher contributions or changed timing of reforms.

One strength of PAYG pensions is that they are more resilient to shocks from economic recessions in the short term, and these impacts can be smoothed and shared over long periods. The majority of Member States have preferred to accept increased conjuncture linked deficits in their social security schemes, so that automatic stabilisers can play their role, by not affecting pensions currently in payment (EL, LT and HU are exceptions). Anti-cyclical behaviour in social spending is an important part of supporting an economy in recession. This is one of the factors that can contribute to ballooning general government deficits and a dramatic increase in the level of gross general government debt in the EU. In order to limit the increase in public debt some countries have decided to deplete their reserve funds.

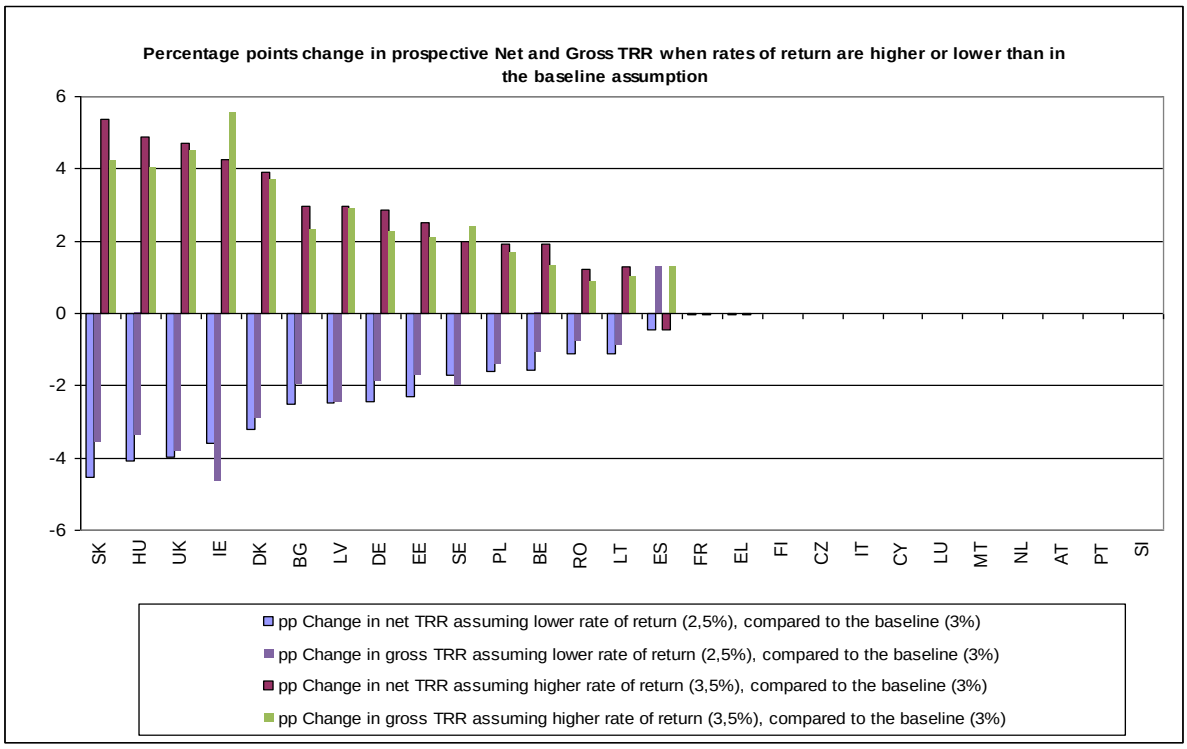
The effect of the crisis on different cohorts of pensioners varies depending on how much future pension systems will differ from the current arrangements. In most Member States, most retired cohorts today obtain their pensions under pre-reform rules providing for guaranteed pension levels. Younger cohorts in reformed schemes may be affected to some extent depending on the design of the scheme.

By varying the assumptions about the future evolution of macro-economic variables, **Theoretical Replacement Rates allow studying future pension adequacy to be studied under different possible macro-economic scenarios** and therefore give an indication of adequacy risks inherent to different pension schemes.

For example, the base-case calculations of prospective replacement rates are based on the assumption that the annual real rate of return for funded schemes is 3% (as from 2017 onwards

to 2050). Studying the effect on theoretical replacement rates of changing this assumption is a way of assessing how financial market fluctuations may affect the future adequacy performance of DC pension systems. Figure 50 shows the effect on prospective replacement rates of higher (3.5%) or lower (2.5%) rates of return.

Figure 50. Effects on net TRR of higher/lower rates of return (compared to the baseline assumption) (CZ, CY, ES, LU, MT, NL, AT, SI, PT, FI no change)

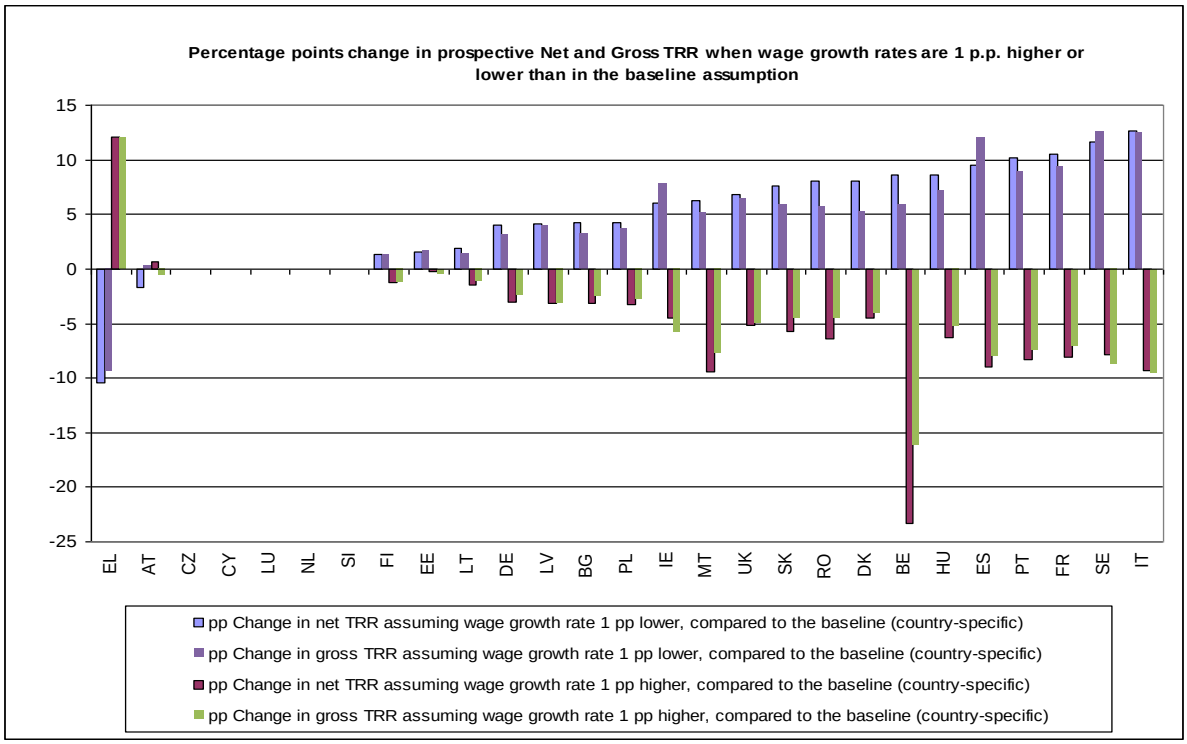


Source: Indicators Subgroup of the SPC, 2010 - 2050 Theoretical Replacement Rates exercise

Member States where funded systems have a greater role (i.e. either mandatory funded schemes or occupational and other supplementary systems) are clearly sensitive to changes in rates of return, and the effect is such that an increase in rates of return provides hikes in the replacement rates of a larger magnitude than the falls caused by equivalent drops in rates of returns. 0.5 percentage points higher rates of return often entail gains of more than 2 p.p. in replacement rates (compared to the basic assumption). These results are important to reflect on the increasing exposure to financial risks in Member States where funded pensions are being / have been introduced.

Likewise, the base-case calculations of prospective replacement rates are based on country-specific assumptions about the future evolution of earnings growth rates (see table inAnnex 2: average annual earnings real growth between 2010 and 2050 lies between 1.3 and 2.5 for all Member States). Studying the effect on theoretical replacement rates of changing this assumption is a way of assessing how macroeconomic fluctuations may affect future adequacy performance of pension systems. Figure 51 shows the effect on prospective replacement rates of higher (1 p.p.) or lower (1 p.p.) wage growth rates than in the country-specific base case.

Figure 51. Effects on net TRR of higher/lower wage growth rates (compared to the baseline assumption) (CZ, CY, LU, NL, SI: no change)



Source: Indicators Subgroup of the SPC, 2010 - 2050 Theoretical Replacement Rates exercise

Higher wage growth yield lower TRR in the long-run in the vast majority of Member States, whilst lower earnings growth lead to higher TRR in the future. Drops or hikes in TRR associated with 1 p.p. change in earnings growth rate are often beyond 5p.p. (compared to the baseline scenario). The first pension and the last salary are the numerator and the denominator of the replacement rate. The value of the pension usually depends on valorised past earnings. Some EU countries with earnings-related schemes valorise past earnings in line with economy-wide wage growth. However, other countries valorise earnings to price inflation or a mix of price inflation and earnings growth. In the situation of higher wage growth, the first pension will be relatively lower in comparison to the last salary, so that the replacement rates will be lower. In a few countries (CZ, CY, LU, NL, SI) changes of the wage growth rates entail virtually no changes in the net TRR.

4.4. Providing information to future pension beneficiaries

As explained in chapter 2, growing concerns about the sustainability of public pension systems have led to reforms some of which have tended to increase the degree of uncertainty over the amount of pension which individuals will receive when they retire, particularly with funded DC schemes or PAYG NDC schemes. The changes in question include, in particular, linking contributions to benefits, building in annuity factors to take account of longevity, and introducing funded schemes to link pensions to the performance of the economy. Previous section of chapter 4 illustrate that Member States are more likely to support adequate pensions by achieving a better balance between the time people spend working and the time they spend

in retirement or out of the labour market. Income replacement role of pensions can be also enhanced through complementary retirement savings. This in turn makes pension adequacy more dependent on the performance of labour and financial markets.

The assumption is that people will respond in a rational manner to the new financial incentives to work longer and save more being built into the system. However, this is unlikely to happen if they lack detailed information or fail to understand the information they do have. Public authorities play an essential role in this regard.

The government responsibility in providing information is threefold: alerting people to their responsibilities; informing them about the choices on offer; advising them on new policies (e.g. by providing default options leading to desired results). However, these roles may conflict, leading to a potential loss of credibility. To ensure the provision of politically unbiased information, therefore, governments should not be the only source of information on pensions. Third-party information sources can include NGOs, consumer groups, sectoral organisations and the social partners, including employers with fiduciary liability for their employees' pension choices. Pension rating companies also appear to be very successful in some countries, but, as regards independent advisers, some regulation of fees may be necessary to ensure truly unbiased advice. The government should also seek to assist market mechanisms that facilitate consumer choice, such as market concentration, corporate reputation and informative advertising.

In terms of information content, pension payout projections emerged as an important item, while the relative risks linked to different kinds of pension schemes and funds also need to be made clear.

Moreover, different groups may need different types of information. This may be the case for women and men, but also for groups with different economic, occupational and educational backgrounds.

To make rational decisions, people need a unified picture of their pension options. Public authorities should therefore coordinate their activities and standardise information. Most Member States have internet sites and brochures **to provide information** to future pension beneficiaries and their employers. Some countries send out specific individual information on pension accruals. But presenting information in a form that people can understand and absorb is difficult notably when retirement rules become more complex. Research in some Member States showed that a large percentage of older workers were not aware of the possibility of deferring their pension. **Broad and complete information must be provided on the effects of reforms for individuals and on the potential impact of their choices**.

5. Knowledge gaps in measuring adequacy: possible future developments

This section identifies a number of areas which could be developed in order to facilitate a more detailed analysis of pension adequacy at EU level in future. In particular a number of potential new indicators are proposed and suggestions for future work are set out.

5.1. Gender differences in pension adequacy

Gender differences in employment and life course may be reproduced, mitigated or compounded in pension systems. It is therefore often suggested that policy makers should subject present pension systems and all ideas for changes to a test of their differentiated implications for men and women.

There is, however, **considerable complexity** in stating the gender impact of pension policies because past, present and future cohorts may be affected in rather different ways and because gender differences of course also interact with income differences - and to an increasing degree as women become better represented in labour market hierarchies.

Even the notion of gender differences in pension adequacy is ***somewhat difficult***. Whereas women's average pensions are lower than men's in terms of monthly or annual benefit amounts their average replacement rates will tend to be higher as effect of minimum or guarantee pensions. Moreover, if pensions are seen as primarily income smoothing women can also have a higher "return" on their insurance contributions than men if they benefit disproportionally from basic and guarantee pensions. However, requirements about minimum contributory periods may also deprive women of a return as they may fail to qualify for the minimum pension.

Obviously, results also depend on the ***overall objective behind policy designs***. Member States presently do in fact have different gender and family policy goals. Whereas in some Member States, the goal is to create dual-income families other countries may not expect all adults (women in particular) to work full-time. Instead they may aim to expand choices and options by enabling people to take time out of their careers, without incurring disadvantages.

In order to achieve ***gender equality*** a pension system countries would have to combine *gender sensitive* features in line with gender specific life circumstances with *gender neutral* aspects. A pension system would be gender-neutral - or to a successfully extent promoting gender equality - if neither men nor women are penalized in their benefits for being poor or low-waged, living longer, bringing up children, getting divorced or being widowed. It would be fair in gender terms, if it at the same time established similar incentives for men and women to take part in the world of work and to contribute to the pension system.

5.1.2. Risk profiling: identifying threats to adequacy in gender gaps

One major point of agreement in the work towards the EPC-SPC Report was that what pension policy makers need to concern themselves with more than anything are the short, medium and long term risks entailed in the pension system designs and mixes countries have opted for. This

point follows from the observation that no-size-fits-all and that different designs can in fact - where well implemented - deliver pensions that are equally adequate and sustainable, but in order to manage a pension system one needs to be aware of its inherent risks.

Such risk profiling for gender would be about how the character of the pension system relates to the (pre-existing) gender gaps in participation, employment and in life expectancy at 65 - how good is the fit in terms of reproduction, mitigation or accentuation? The question to ask would be: How gender sensitive is a national pension system – how well does it correspond to gender differences in the sense of being able to compensate or mitigate how such differences in employment and life course impact on the fairness of pension adequacy outcomes for men and women?

In assessing the likely risk in a Member State's pension system one can possibly *work backwards from a calculation of the pension gap and try to disaggregate* the pension adequacy outcome into the factors at work pertaining respectively to features of the pension systems and pre-existing gender differences in labour markets and life courses.

Risks can also be deducted from a number of *employment related indicators* such as the gender gaps in pay, hours worked, career duration, employment and unemployment rates – particularly after 50 – in exit ages and in life expectancy at 65.

Likewise risks of transmitting or accentuating pre-existing gender gaps could be deducted from *features of the pension system*. For example one could look at the relative accent on 2nd & 3rd pillar in relation to gender gaps in coverage and average entitlement accruals, whether there are any minimum pension, whether there are any credits for periods of care and the degree of close ties between contributory record and entitlements etc.

5.1.3. The Gender Pension Gap as potential common indicator

Since the detailed design of pension schemes thus will determine the extent to which those differences in employment and remuneration which give rise to the gender pay gap will tend to be compounded into an even larger gender gap in pensions it would be useful to develop a standard way to measure and compare the difference in pension outcomes for men and women.

One composite indicator of gender equality in pension adequacy could be a measurement of the pension gap as expressed as the difference between the average individual pensions entitlements of men and women. This would be particularly useful if it were possible to measure differences in the combined pension package for men and women, i.e. the sum of old age income from entitlements under the 3 pillars.

At the recent peer-review on the *Effects of life courses on women's pensions* in Berlin the 'Gender Pension Gap' (GPG) was used as an indicator of unequal pensions today, the product of the interaction between pension schemes and gender specific employment and life course behaviour. The following box is an excerpt from the Host Country Report discussed at the peer-review.

Definition of gender pension gap

The gender pension gap is defined as the percentage difference between the average female individual pension benefits and the average male individual pension benefits. The formula is:

$$\text{Gender Pension Gap}\,\% = 100\% - \frac{\text{average female individual pension benefits}}{\text{average male individual pension benefits}}\%$$

Reference benefits are the monthly gross benefits. If, for instance, women's individual pension benefits amount to 600 Euros per month and men's to a monthly 1,000 Euros, the gender pension gap is 40%.

The index takes into account individual pension benefits from all three pillars of the pensions system (statutory, occupational and private). And while all old-age benefits a person has accumulated individually are taken into consideration, derived old age pension entitlements, especially survivor's pensions, are excluded.

The gender pension gap looks at individual persons aged 65 or older so that, unlike with other analyses of retirement income, it does not refer to the household as an economic unit. Accordingly, these figures do not allow any conclusions to be drawn on the actual income situation of elderly women or men.

In future work on adequacy it would make sense to ask the Indicators Subgroup to investigate if such an indicator could be developed and agreed.

5.2. Wider measures of adequacy

As explained in chapter 3.4, adequate standards of living in old-age are not only about pensions. There is a wide range of other specific benefits that are afforded to older people to help with a variety of expenses. These benefits are another way of ensuring a higher standard of living in old age. Therefore, it is necessary to take into account the overall context in order to determine adequate level of pensions.

The Indicator Sub-Group (ISG) of the Social Protection Committee could help to develop a more detailed data collection. This would allow illustrating complexities in the service systems (access, coverage, user fees, user profiles etc.). One approach would be to develop a better understanding of *the availability of services* and the effect they have on the living standards of the elderly people. The focus would be on the level of spending and, to some extent, on the use of services (number of users, access to services). The other way would be to measure *the lack of services*, i.e. to what extent the retired people need to purchase services themselves.

The ISG could help with developing: (a) a list of possible in-kind benefits provided to the elderly in each Member State and their characteristics (whether means-tested or universal); (b) total number of users and percentage of age groups benefiting (by gender); (c) the total public spending and spending per user (total spending divided by 65+ population or by number of actual users) in EUR in purchasing power parities; (d) access to services and user fees.

Poverty reduction impact

An analysis of the adequacy outcomes (in terms of poverty prevention) by the type of minimum income provisions (residency-based, earnings-related, supported by tax system, etc.) could be developed by the ISG. In particular, national poverty thresholds and their evolution could be compared with the level of minimum pensions and conditions attached to eligibility (e.g. residence or contributory period required, the size of the household, etc.). This could be

complemented with an analysis of the number of beneficiaries of different kinds of minimum income provisions or social assistance. This work could help assess the impact of pension developments on the achievement of the Europe2020 poverty reduction goal.

5.3. Single / households trends

Theoretical Replacement Rates (TRR) are individuals' calculations while poverty and incomes are household based indicators. This implies that there can be a gap between TRR trends and household-based indicators' trends. Since there are very strong structural trends that are not captured at the individual level, such as the structural increase in the employment rate of women, it is thus essential to complement the analysis at the individual level by information at the household level. Indeed, assessments of future adequacy could well different significantly at household level compared to individual ones. For instance, while individual TRRs are projected to decline to a significant extent in a number of MSs, the increase of women employment can translate, with different timings in a significant increase of the number of pensions by household in the future, thus mitigating part of the projected decline in individual replacement rates. Therefore, it seems, notably within the Europe 2020 context, that there is a need to begin to examine the various factors at play here in this gap between individual and household trends (notably trends in female employment rates). In this regard, **it would be helpful in the future to provide some trends of TRR at household level** and some indication of the trends in the structure of households (for instance, share of two earners households in recent and future decades).

In general, it would be useful to start a discussion on how to bridge the individual and household concepts and what variations of existing indicators can be developed in order to close the gap.

5.4. Modelling tools to project future adequacy: the example of micro-simulation models

There are clear limitations to the analysis that can be carried out regarding future adequacy of pensions with the current set of commonly agreed upon indicators. Presently our methodological tools do not allow us to assess the likely extent to which pension systems in Member States will contribute to goal of reducing the number of people exposed to poverty or social exclusion by 20 million by 2020. Developments in the relation of minimum benefits for older people to poverty thresholds are very difficult to forecast. But if all Member States were able to apply dynamic micro-simulation models to this task, likely scenarios which could offer guidance to policy makers could be constructed.

Micro-simulation models have in recent years gained popularity in the assessment of social security systems because of the accuracy they provide for the purpose that are used. In particular, they can be used to help inform policy-making by giving a better understanding of the likely short-term impact of reforms on the dispersion of pension benefits across individuals with different circumstances. Micro-simulation models can monitor the detailed effects of policy measures on the income distribution (poverty risks, Gini-coefficient and replacement rates). Static and dynamic micro-simulation models differ from (semi-) aggregate budgetary models in that they simulate the impact of policy measures and schemes on real people. If large samples of administrative data are used the results that micro-simulation models deliver can be

representative for the entire population. Thus they can be used to assess the adequacy of social security schemes. Furthermore these models could be used as complement to other modelling tools which are primarily used for assessing sustainability of pensions. For example, micro-simulation models could be useful in calibrating and confirming the validity of the macro-economic aggregate model.

Recently calls for proposals under the PROGRESS programme have been used to help interested Member States develop their capacity to build and use micro-simulation models in their policy making[110] – and more calls are planned. At the same time further EU-level long-term work in this area is called for, so that a proper process can be established for **using modelling tools to determine future adequacy** (peer reviews, voluntary projection exercises, etc.).

As a first step the ISG could review for which indicators it would be useful to carry out projections. Secondly, the capacity of Member States to produce these projections would need to be determined. The ISG could start a voluntary projection exercise which could be extended to all Member States as their capacity, models and datasets develop. In general, it is important to discuss the **possibility of developing a common EU methodological framework** for assessing the effective implication of policies for the future balance between the adequacy and sustainability of pensions. Commonly agreed standards and principles would enhance the comparability of results among Member States and increase the transparency of results.

5.5. Joint assessment of current adequacy and sustainability

A better understanding of the sustainability and adequacy challenges of public pensions is needed. In that regard, indicators that look at the pension system's financial position today, by comparing pension systems' revenue and expenditure can also be explored.

For example, **comparable and time series data on coverage of pension systems is currently non-existent**. The development of data on the number of pensioners by gender, in different age groups (e.g. 55-59, 60-64, or 65-69) and in different pension categories (e.g. old-age pensions, survivors, disability pensions, anticipated old age pensions, etc.) could be given more attention. In analytical terms it would be the change in the number of people covered by pension systems over time and across pension categories that is politically interesting. For example, it would be useful to analyse how many people within the age group 55-65 have a disability benefit, an unemployment benefit (including social assistance), an anticipated old age pension and are still working. A time series of these data would help to check whether there are shifts across the different categories over time, for example if a reform in disability pensions or anticipated old age has not the unintended effect of increasing unemployment benefits or social assistance. For the moment there are no data on the number of pensioners in different age brackets and/or different pension categories that would allow such analysis. Likewise, existing data on number of pensioners receiving occupational or other supplementary pensions is scarce and not widely available for all countries (see section 3.1.2 and Annex 3 for some data on pension beneficiaries of private pensions in selected EU countries where information is available).

Further analysis is needed to assess the **cost-effectiveness** of pension expenditure (including expenditure tax exceptions aimed at promoting 2nd and 3rd pillar private pensions) in relation to

[110] Countries that have developed such models under the 2009 PROGRESS Call for Proposals on "*Actions related to the development of administrative datasets and models for labour market and pension analysis*" include BE, IT, AT, LT, LU, SI, CZ and IE.

various income, distributional and social protection goals. One obvious question could be if it is possible to maintain adequate pensions at a lower cost to public budgets, or in other words, can spending for adequate pensions be made more efficient? This question, although analysed within the context of current adequacy, is of central importance for the future of pensions in a context of ageing societies and the serious budgetary imbalances and social uncertainties left by the financial and economic crisis.

It is interesting to put the current adequacy outcomes of pension systems of EU Member States, such as poverty among the elderly, relative living standards, duration of retirement and equality and fairness, together with pension spending in each country in order to identify possible scope for improvements. However, it has to be clearly understood that comparing what countries get for their public expenditure on pensions is not straightforward and this analysis has important limitations, as different aspects influence each part of the equation.

It should be noted that countries differ in their demographic profile and therefore a demographically older country would need to spend more on pensions to reach the same adequacy outcomes as a younger country. The actual pension spending can thus be adjusted to the demographic situation. What is needed is to see how high the level of public pension expenditure would be, had each country the same old age dependency ratio as the EU average. Countries with less/more favourable dependency ratio than the EU average would have lower/higher pensions expenditure than the real one, all else equal.

To develop appropriate conclusions, a number of requirements have to be met. Firstly, it is important to restrict expenditure to pensions for people above the age of 65. For instance in the case of the Netherlands, ESSPROS expenditure contains pensions for people aged 65+, but also the earnings-related disability benefits for people below the age of 65.

Secondly, expenditure from supplementary pension schemes needs to be included, together with tax rebates. The question also arises how to treat the expenditure on other supports for older people (i.e. "other benefits").

In Member States with a multi-pillar provision (e.g. with an important role for occupational pensions) cost-effective public expenditure can create opportunities for cost-effective solutions in supplementary schemes. While poverty avoidance would be the major role of public pensions, occupational pension plans can enhance their income replacement role, e.g. by adjusting risk levels in their investment strategies. Balanced risk sharing mechanisms between and across generations could then help to spread the benefits of the risk premium over all generations as much as possible. At any rate the scope for improving pension spending can be gauged by comparing spending levels, pension scheme designs and social outcomes across the Member States.

Looking for greater cost-effectiveness of public spending on pensions would require an examination of the administrative expenses in public schemes. However, there would seem to be limited scope for improvements here for big mandatory public schemes, contrary to some privately-managed funded schemes. Administration costs can indeed be a major issue for private pension schemes[111]: public spending to promote private provision will be less cost-effective if these administration costs are not kept under control.

Cost-effectiveness of public spending in achieving adequate pensions should also not be reduced to administration of public schemes. It should be much more about the overall design of a complex pension system with its different components, or pillars, the incentives it creates and the social outcomes it produces.

[111] SPC 2008 study on *Privately managed funded provision and their contribution to adequate and sustainable pensions*.

Annexes

Annex 1. Methodological explanation of indicators[112]

Presently there are a number of indicators in use to measure:

– the current risk of poverty or social exclusion of older people;
– the relative income of the elderly currently and projected into the future.

Current adequacy indicators

At-risk-of-poverty rate for people aged 65+ is defined as a percentage of population with income after social transfers below the at-risk-of-poverty threshold. The threshold is set at 60% of the median equivalised[113] income in a given country, thus the indicator treats poverty as a relative and not absolute concept (the value of the at-risk-of-poverty threshold evolves with the wealth of the society and can also go downward, as has happened during the crisis). As a result, the observed increases/decreases can be partly explained by pension incomes rising at a higher/lower pace than income of the working population.

The indicator is also relative in a sense that thresholds are defined at national and not the European level. The indicator reflects monetary poverty (income inequalities in a society), but does not take into consideration access to in-kind services (e.g. education, healthcare) which in some countries are publicly provided for free. The fact that the indicator does not take wealth into account is another shortcoming, as house ownership and associated imputed rents have a strong impact on the welfare of pensioners.

The risk-of-poverty rate for the elderly is a relative poverty measure that **reflects (monetary) income inequalities**. Thus a Member State with a low risk of poverty rate for the elderly reflects a rather egalitarian income in different groups at the lower half of the income scale (and not necessarily a decent standard of living or a low poverty threshold). It is important to note that the standard of living of elderly people as measured by the current level of income at a large extent depends on the performance of national pension system in the past. Poverty rates also depend on the tax system which affects the poverty threshold. It is possible to have low poverty thresholds together with high poverty rates (i.e. if inequalities at the bottom are very large and people in the first income deciles are very poor) and high thresholds and low rates when income distribution in the bottom part of the income scale is more egalitarian. The ratio does not measure the distribution of income in the top part of the income scale.

Severe material deprivation rate of people aged 65+ is an absolute measure of poverty and can be compared across countries. It intends to identify the inability to afford some items considered desirable or even necessary by most people to lead an adequate life. Individuals who cannot afford four out of nine items[114] on the list are considered to fall under the scope of

[112] Abbreviations used:
-- EPC/AWG: Economic Policy Committee working group on Ageing Population
-- Eurostat/ESPROSS: European System of integrated Social Protection Statistics
-- Eurostat/LFS: European Union Labour Force Survey
-- Eurostat/EU-SILC: EU Statistics on Income and Living Conditions

[113] Equivalised income is a measure of household income that takes account of the differences in a household's size and composition, and thus is equivalised or made equivalent for all household sizes and compositions. The equivalised income is calculated by dividing the household's total income from all sources by its equivalent size, which is calculated using the modified OECD equivalence scale. This scale attributes a weight to all members of the household: 1.0 to the first adult; 0.5 to the second and each subsequent person aged 14 and over; 0.3 to each child aged under 14. The equivalent size is the sum of the weights of all the members of a given household.

[114] The list of nine items covers the ability/inability to (1) pay the rent, mortgage or utility bills; (2) keep the home adequately warm; (3) face unexpected expenses; (4) eat meat or protein regularly; (5) go on holiday; (6) afford to buy a television; (7) afford to buy a washing machine; (8) afford to buy a car; (9) afford to buy a telephone.

the indicator. The indicator distinguishes between individuals who cannot afford a certain good or service, and those who do not possess this good or service for another reason, e.g. because they do not want or do not need it (it shows enforced lack of four out of nine items). Evolution of the value of the indicator helps to track growing wealth of a given society, as a decreasing number of people falls into the category of material deprivation.

The risk of poverty or social exclusion of the people over 65 (the EU2020 indicator) combines both the at-risk-of-poverty rate and the severe material rate without double counting of people who fall into these two categories. The EU2020 indicator for population under the age of 65 also includes those who live in households with low work intensity (this is not applied to population of 65 and more years of age).

The median relative income of elderly people reflects equivalised (the indicator takes into account household composition) median disposable household income and is relevant to measure the overall income situation of older people (those aged 65 and more) relative to the active population (population aged less than 65). As this indicator is based on equivalised household income, differences between men and women fundamentally reflect income differences between people living in single households.

The aggregate replacement ratio: is defined as median individual pensions of 65-74 year olds relative to median individual earnings of 50-59 year olds, excluding other social benefits. This is relevant to monitor current adequacy and the actual contribution of pensions to the replacement of earnings. This is based on individual gross income, and several factors besides aggregate replacement rates (such as differences in household composition and size and the overall design of social protection and taxation systems) can have a strong influence on the overall living standards of individuals.

The income quintile ratio is another indicator measuring distribution of income across society. It compares the income of the individuals at the top of the distribution to the income of those at the bottom (the total income received by the 20% of the population with the highest income – top quintile – to the total income received by the 20% with the lowest income – lowest quintile). Income must be understood as equivalised disposable income.

Future adequacy indicators

Indicator developed by the Social Protection Committee

- **Theoretical replacement rates:** Theoretical Replacement Rates (TRR) are defined as the level of pension income the first year after retirement as a percentage of individual earnings at the moment of take-up of pensions. The exercise on TRR gives therefore a picture of **pension systems'** ***adequacy***, when adequacy is understood as to what extent the level of pension benefits replace (the theoretical) individual previous' earnings. TRR can measure current and future adequacy. *Current* TRR describe the situation of people who retire today. *Prospective* TRR describe the foreseen situation of people retiring in the future (in this exercise, people retiring in 2050 in the base case under the pension legislation enacted by 2010). Calculations for prospective TRR typically reflect reformed pension systems in full maturity. TRR are case study based calculations for an assumed hypothetical worker, with a given earnings and career profile and a corresponding affiliation to pension schemes. TRR cover public pensions and mandatory private schemes, as well as occupational and other supplementary schemes with wide-reaching coverage and that are considered to play a significant role in the future (More details in Annex 2)

Indicators developed by the Economic Policy Committee

These indicators are derived from the models used to project pension expenditure, and thus represent averages, not specific cases.

- The **Benefit ratio** is the average benefit of: (i) public pension; and (ii) public and private pensions, respectively, as a share of the economy-wide average wage (gross wages and salaries in relation to employees). Public pensions used to calculate the Benefit Ratio includes old-age, early pensions and Other pensions (disability and survivors),

- The **Gross Average Replacement Rate** is calculated as the average first retirement pension as a share of the economy-wide average wage. Public pensions used to calculate the Gross Average Replacement Rate only include old-age and early retirement pensions.

The calculations of prospective TRR in the current round has relied on assumptions about the future key economic and demographic parameters, which have been aligned to the ones used by the AWG for the pension projections in the 2012 Ageing Report.

Despite the alignment of assumptions on key demographic and macro-economic parameters for the future, differences in projection results may still exist between the various future adequacy indicators of the ISG / AWG (i.e. differences in the magnitude of the changes over time and/or in the sign of the changes). This may be due to a number of factors, notably the different conceptual underpinnings of the indicators and the different coverage of pension schemes by each indicator.

Box: Differences between theoretical replacement rates and benefit ratios

There are a number of factors that explain the difference in the magnitude of the change over time of the pension benefit in relation to earnings:

· *The concepts of the indicators are different:* The benefit ratio is defined as the average pension in relation to the average wage at time t. The theoretical replacement rate is defined as the first retirement pension at time t in relation to the last wage at time t-1 for a representative, hypothetical person (male worker) with a typical career (40 years). There are several underlying differences in the methodologies to compute these two measures of adequacy. First, the benefit ratio measures the average pension comprising all pensions, both new and old, thus covering several cohorts. As such, it captures the evolution of pension after retirement, which depends on how the pension benefit is updated (the indexation regime). Second, the benefit ratio includes all pension benefits and all features that affect the value of pension contributions (e.g. crediting for maternity leave, higher education…). Third, the benefit ratio measures real or expected careers, as opposed to a hypothetical one, and their changes over time. These factors contribute to the larger decline in the benefit ratio than in the theoretical replacement rate in the long term.

· *The projection period is different:* The projection period for the benefit ratio is 2010-2060, while for the theoretical replacement rate it is 2010-2050. Aligning the period over which developments are measured reduces the difference between the indicators.

· *The coverage of the pension benefits is different:* The benefit ratio includes all public pensions (e.g. old-age, early and disability pension, schemes for self-employed or other types of workers) and, where available, private pensions. The theoretical replacement rate includes old-age and early public pensions as well as mandatory private pillars and some other private pensions when these schemes are projected to play a significant role for a given type of employee.

· *Gender differences are reflected in benefit ratio and not in theoretical replacement rates: as a result benefit ratios are lower.*

The following presents **country-specific tables containing the schemes covered by each indicator (Theoretical Replacement Rates, Benefit Ratio and Gross Average Replacement Rate)**, as well as the ad-hoc assumptions on valorisation/indexation and contribution rates, etc. used for the current exercise of Theoretical Replacement Rates (2010-2050) and Benefit Ratio / Gross Average Replacement Rate (base year: 2010). (Source: Indicators Subgroup of the Social Protection Committee).

Annex 2. Methodological and Background Information on Theoretical Replacement Rates

The Indicators Subgroup of the SPC has carried out in 2011 the exercise for updates and validation of prospective (2050) and current (2010) Theoretical Replacements Rates. The package of cases currently adopted includes:

- Base case
- Variant cases, including
    - A female base case worker (applicable only for a handful of MS)
    - A shorter career for the average earner– typically working till 63
    - A longer career for the average earner– typically working till 67
    - A lower wage – 2/3 of average earnings- and retirement at 65
    - A higher wage – 100-200% of average earnings – and retirement at 65
    - A shorter/longer career for both lower/higher wages
    - A worker ten years after retirement
    - A career break for childcare years – 0-3 years
    - A career break for unemployment years – 0-3 years
    - A career break for 10 years out of the labour market
    - Lower/higher wage growth rates
    - Lower/higher rates of return

This Annex presents more details on the technical, macroeconomic and demographic *assumptions* used in theoretical replacement rates calculations (macroeconomic and demographic assumptions have been aligned to the ones used by the Ageing Working Group for the pension projections). It also stresses the importance of using the given **background information** for a correct interpretation of theoretical replacement rates.

Theoretical Replacement Rates (TRR) are defined as the level of pension income the first year after retirement as a percentage of individual earnings at the moment of take-up of pensions. The exercise on TRR gives therefore a picture of **pension systems' *adequacy***, when adequacy is understood as to what extent the level of pension benefits replace individual previous' earnings. In that sense TRR can be considered a proxy to the standard of living that people can achieve in retirement compared to their own situation when working.

TRR can measure current and future adequacy. *Current* TRR describe the situation of people who retire today (in this exercise, people who retired in 2010 in the base case).

Prospective TRR describe the foreseen situation of people retiring in the future (in this exercise, people retiring in 2050 in the base case) under the pension legislation enacted by 2010, including transitional rules to be implemented gradually that may be legislated in enacted reforms. Thus, the calculations for prospective TRR should typically reflect reformed pension systems in full maturity. Prospective TRR rely also on specific assumptions on the key economic and demographic parameters that are relevant for the calculation of future earnings and benefit entitlements. In this round of TRR calculations such parameters have been aligned to the ones used by the Ageing Working Group (AWG) of the Economic Policy Committee (EPC) for the 2012 Ageing Report, in order to improve the comparability of adequacy indicators between the two exercises. Overall, prospective TRR allow an assessment of future adequacy of pensions that takes into account assumed future economic and demographic circumstances as well as changes that have been decided in many countries as a result of recent reforms. This is important both at a general level for policy-making and

for individuals' retirement planning, who need to anticipate the possible situation of their future income.

The calculations presented here for the *current* replacement ratios are carried out by Member States in national models. The calculations for *prospective* replacement ratios are also carried in the national models, except for DE, HU, IE, LU, LT, LV, PL, PT, RO, SK and UK that have used the APEX (Analysis of Pension Entitlements across Countries) model infrastructure of the Organisation for Economic Co-operation and Development (OECD).

The TRR calculations take into consideration social security contributions to statutory and supplementary pension schemes or funds. Taxes and means-tested social benefits are included in the calculations. The *gross replacement rate* is defined according to the pre-taxed income (after employer contributions, but including employee contributions). The *net replacement rate* is calculated as net of income taxes and employee contributions.

TRR calculations include all (and only) pension schemes that are mandatory, typical or with wide-reaching coverage in a country (See Annex 1 for more information on schemes included in the TRR calculations).

TRR are calculated for **an assumed hypothetical worker**, who in the so-called "base case" has a given earnings and career profile (male, earnings of average wage constant over his fulltime 40 years career, retiring at 65, etc.) and a corresponding affiliation to pension schemes (i.e. the most general schemes for private sector employees). In the so-called "variant cases" the key assumptions of the base case are changed, once at a time, (for example, variant earnings profiles or length of contributory period) in order to illustrate how the replacement rates vary for different departures from the main assumptions.

The choice of specific common assumptions about the hypothetical worker used for the calculation, such as the age of retirement and the length of the contributory period before retirement, inevitably imply that only a share of individuals are actually represented by this career scenario. Therefore, in order not to misinterpret the results it is vital to consider TRR with information on representativeness and the assumptions, as they are calculated for a hypothetical worker.

Furthermore, this implies that comparability of replacement rate levels across countries is not possible. The base case, for example, is chosen in order to reflect as closely as possible current actual situations and institutional frameworks. However, given the diversity of situations across Member States, the base case may not necessarily be representative of workers in all Member States and therefore TRR need to be analysed in the light of background information aimed at showing in particular how "representative" the hypothetical worker is in a specific Member State. For example, in the calculations a **forty year career is typically assumed with a person entering the labour market at the age of 25 and retiring at 65**. The fallback with these calculations is that the TRR for countries with a higher or lower legislated retirement age than that which is assumed can mean that the pension results may be under or overestimated depending on how they are legislated (see Table 1 for a summary of current and future legislated pensionable ages). And more generally, the representativeness of the base case assumption of a 40-year career is closely related to elements like average age at retirement and seniority or career lengths of the flows of retirees. The closer these elements to the assumed 40-year career with retirement at 65, the closer the replacement rates exercise represent reality of a country. Otherwise the results can under or overestimate the real situation. Table 1 gives details on average age at retirement and seniority of new flows of retirees in 2010 for such an assessment.

Consequently, comparability between Member States of current and projected replacement rates depends on the degree to which the commonly defined individual case is representative in different Member States. This varies considerably across Member States, impairing the direct comparability of the results based on actual replacement rate levels.

Therefore, the analysis of TRR focus on percentage variation changes in theoretical replacement rates over time or between different profiles at a point in time within each country, to assess different reforms, rather than on levels' comparison across countries. Also the interpretation of the TRR over time has to consider that it is a fixed theoretical case, not matched by the reality of increasing average careers.

Table 1. Macro-economic historical data for current Theoretical Replacement Rates

Macro-economic historical Data used for Current Theoretical Replacement Rates					
	Average earnings (after employers' social security contributions) in national currency, 2009	Average annual earnings growth, 1970 - 2010	Average annual GDP growth, 1970 - 2010	Average annual inflation, 1970 - 2010	Average annual interest rates, 1970 - 2010
BE	34629 EUR	5,5% nominal		3,8%	2,5% applied between 1992 and 2009
BG					
CZ	280128 CZK	6,58	n.a.	4,66	n.a.
DK	367100 DKK	3,5%	n.a.	n.a.	7,2%
DE	27867 EUR	3,50	1,6	2,9	3,8 *
EE	9408 EUR	5,6 *	4,4 *	4,5 *	0,5 **
EL					
ES	23843.38 EUR		11,12% nominal	7,67%	
FR	33364 EUR				
IE	42421 EUR	2,10	1,8	6,6	n.a.
IT	24875,22 EUR	1,62	2,0	7,4	
CY	28032 EUR		4,1	4,7	
LV	393,79 * LVL	**	,,,	,,,	***
LT	24672 LTL	n.a.	n.a.	n.a.	n.a.
LU	n.a.	n.a.	n.a.	n.a.	n.a.
HU	202576 HUF	4,20	2,7	4,9	
MT	16679* EUR	1.15**	1.6***	1.79**	n.a.
NL	32455 EUR	-	-	-	-
AT	30758 EUR	4,90%	6,1%	3,5%	
PL					
PT	15985 EUR	1,8% (1)	3,2% (1)	10,7%	
RO					
SI	17.268 EUR	17,5*	3,24**	4,27***	-25,3****
SK	8934 EUR	6,5	4,8	7,7	n. a.
FI	2940 EUR/month	2,2*	2,5*	1,5*	4,9*
SE	289679 SEK	0,04		0,02	0,02
UK	25349 GBP	8,21	7,9	6,6	8,3

FI:
* 1995-2010, which is relevant period in the calculations
DE:
* 1975 -2010
MT:
* 2009 figure based on the system of National Accounts, NSO
** 2008-2010 only taken for the calculation of TRRs base case
*** data 2001-2010 only, GDP growth rate was not needed for the calculation of TRRs base case, source EUROSTAT
SI:
* Data available for period 1991-2010; Data source: Statistical Office of Republic of Slovenia; Calculation: ZPIZ (Pension and Invalidity Insurance Institute of Slovenia)
**Data available for period 1996-2010; Data source: Statistical Office of Republic of Slovenia; Calculation: ZPIZ (Pension and Invalidity Insurance Institute of Slovenia)
***Data available for period 2000-2010; Data source: Statistical Office of Republic of Slovenia; Calculation: ZPIZ (Pension and Invalidity Insurance Institute of Slovenia)
****Data available for period 1991-2010; Data source: Bank of Slovenia; Calculation: ZPIZ (Pension and Invalidity Insurance Institute of Slovenia)
EE:
*: 1998 - 2010
**: 2002- 2010 from the beginning of II pillar, real

PT:
(1) In real terms

LV:
* per month
**According to Latvian design of the NDC scheme's transition provisions, insurance period until the year 1995 (inclusive) is credited with an initial capital, calculated using an average contribution wage of individual in 1996-1999 (four years). Average annual growth of the average contribution wage 1996 - 2010 (included) : 10,6%
*** Average annual growth for NDC capital indexation 1996-2010 (included):10,8%

SK.:
Average earnings growth is nominal
Average GDP and inflation are calculated from period 1993 to 2010

Table 2. Macro-economic assumptions for prospective Theoretical Replacement Rates

Macro-economic assumptions for prospective Theoretical Replacement Rates (aligned to AWG projections)					
	Average earnings (after employers' social security contributions) in national currency, 2010	Average annual earnings real growth, 2010 - 2050	Average annual GDP real growth, 2010 - 2050	Average annual inflation, 2017 - 2050	Average annual real interest rates, 2017 - 2050
BE	37957.73 EUR	1,49	1,68	2,0	3,0
BG	9203.92 BGN	2,48	1,54	2,0	3,0
CZ	283115.11 CZK	2,00	1,69	2,0	3,0
DK	376100 DKK	1,49	1,54	2,0	3,0
DE	28762.35 EUR	1,52	0,90	2,0	3,0
EE	9504 EUR	2,28	1,91	2,0	3,0
EL	25268,31 EUR	1,25	1,07	2,0	3,0
ES	25173.90 EUR	1,36	1,77	2,0	3,0
FR	33965 EUR	1,60	1,77	2,0	3,0
IE	43099.63 EUR	1,64	2,28	2,0	3,0
IT	25586,54 EUR	1,33	1,28	2,0	3,0
CY	29150 EUR	1,43	1,97	2,0	3,0
LV	6516.51 LVL	2,27	1,63	2,0	3,0
LT	23857.77 LTL	2,26	1,69	2,0	3,0
LU	32321.46 EUR	1,54	2,09	2,0	3,0
HU	2704898.73 HUF	1,80	1,38	2,0	3,0
MT	16646.2 EUR	1,70	1,63	2,0	3,0
NL	33104 EUR	1,52	1,35	2,0	3,0
AT	33231.72 EUR	1,55	1,47	2,0	3,0
PL	33525.46 EUR	2,34	1,73	2,0	3,0
PT	16213.88 EUR	1,46	1,29	2,0	3,0
RO	27339.37 RON	2,33	1,33	2,0	3,0
SI	17984 EUR	1,84	1,48	2,0	3,0
SK	9228 EUR	2,4	1,86	2,0	3,0
FI	35510.57 EUR	1,8	1,69	2,0	3,0
SE	290817.11 SEK	1,58	1,86	2,0	3,0
UK	25679.26 GBP	1,71	2,05	2,0	3,0

Annex 3. The 2011 OECD study on indicators of coverage, contributions and benefits in private pensions in selected OECD countries

	Germany (2008)	Ireland (2009)	Italy (2010)	Netherlands (2010)	Spain (2005)	United Kingdom (2009)
Coverage (% labour force or employment) (1)						
Total	51,6	41,3	21,3	93,4	22,7	53,0
Type of plan						
Occupational	24,9	31,0	11,8	92,9	4,1	38,7
Personal	40,5	12,0	9,5	30,4	19,1	12,9
Age group						
16-24	23,4	13,1	1,5	59,5	0,5	11,9
25-34	52,7	38,8	5,7	93,7	8,4	42,2
35-44	63,5	47,7	12,1	94,9	26,0	56,8
45-54	55,3	46,6	10,7	93,4	37,0	62,1
55-64	31,6	43,7	7,3	95,5	42,5	55,3
Gender						
Male	51,7	46,0	23,3	95,7	23,9	48,0
Female	51,6	35,7	17,9	90,5	20,9	48,5
Income						
1st decile	15,8	..	3,0	67,4	13,9	15,3
2nd decile	28,8	..	4,4	76,9	10,6	23,5
3rd decile	43,7	..	4,4	96,3	14,9	27,9
4th decile	56,2	..	5,1	97,9	17,3	37,6
5th decile	52,6	..	6,2	100,0	22,0	44,4
6th decile	57,2	..	8,9	98,0	26,7	51,3
7th decile	65,5	..	10,3	98,9	20,6	63,1
8th decile	66,6	..	13,8	98,7	24,5	69,9
9th decile	70,0	..	19,2	100,0	35,1	77,6
10th decile	68,7	..	23,2	100,0	42,6	80,6
Type of employment						
Full-time	57,8	47,2	10,7	..	22,5	55,9
Part-time	53,4	21,8	10,1	..	17,8	24,3
Average Contributions (% of average earnings) (2)						
Total in national currency	1 828	4 319	2 178	..	1 530	3 406
Total as % of average earnings	3,3	8,3	12,3	..	11,4	15,8
Type of plan						
Occupational : in national currency	1 903	4 329	2 880	..	1 986	..
as % of average earnings	3,4	8,3	16,7	..	14,8	..
Personal : in national currency	1 160	2 154	1 147	1 205	1 376	
as % of average earnings	2,1	4,1	6,8	4,2	10,2	..
Age group						
16-24	2,0	6,1	4,0	..	6,4	..
25-34	2,5	6,9	8,9	3,3	7,4	..
35-44	3,3	7,7	12,9	3,1	7,8	..
45-54	3,8	9,0	15,0	3,5	10,8	..
55-64	3,5	9,6	24,9	6,3	20,4	..
Gender						
Male	3,4	8,5	15,3	4,9	12,4	..
Female	3,2	7,8	11,8	2,8	9,7	..
Income						
1st decile	0,7	1,3	8,8	6,5	4,3	..
2nd decile	1,2	2,9	7,4	3,1	5,5	..
3rd decile	2,6	3,5	9,0	4,0	6,0	..
4th decile	2,1	4,1	8,7	4,2	5,6	..
5th decile	3,3	4,7	9,8	3,0	6,7	..
6th decile	2,1	5,3	11,8	5,5	6,7	..
7th decile	2,4	6,0	9,6	3,1	8,4	..
8th decile	3,4	8,0	22,4	3,5	9,5	..
9th decile	4,8	9,6	20,8	5,5	18,2	..
10th decile	6,9	21,0	30,5	5,7	21,8	..
Type of employment						
Full-time	3,9	8,6	13,9	..	12,2	..
Part-time	2,3	5,4	7,5	..	7,7	..
Pension Beneficiaries (% of 65+)						
Total	15,4	26,5	1,2	62,7	1,9	61,9
Type of plan						
Occupational	13,6	22,5	..	60,8	..	52,7
Personal	2,5	4,1	..	5,8	..	13,4
Average Benefits: in national currency or as % of average earnings (3)						
Total in national currency	6 945	14 795	12 649	10 836	9 599	6 495
Total as % of average earnings	26,4	57,7	74,0	38,6	71,4	30,2
Type of plan						
Occupational : in national currency	6 768	15 325	..	10 360	..	6 662
as % of average earnings	25,7	59,8	..	36,9	..	30,9
Personal : in national currency	6 094	11 183	..	8 585	..	3 791
as % of average earnings	23,2	43,6	..	30,6	..	17,6
Accumulated savings (% of average earnings)						
Total	23,4	..	91,2	..	92,6	..

Source: **OECD report on indicators of coverage, contributions and benefits in private pensions in selected OECD countries, 2011**. Data Sources: OECD calculations using the Irish Quarterly National Household Survey (QNHS), the OECD Global Pension Statistics data set (for Italy), the Dutch DNB Household Survey (DHS), the Spanish Survey of Household Finances (EFF) and the British Family Resource Survey (FRS) and the German SAVE survey[115].

Notes:

(1) Several measures coexist of private pension coverage. Individuals can be considered as covered by a private pension plan if they have a positive account balance, if they have accrued benefits, if they contribute to a plan, or if contributions are being made on their behalf. To be a member of a private pension plan from the perspective proposed in this OECD report, an individual must have assets or accrued benefits in a plan. Hence, an individual who does not contribute (for various reasons, including unemployment) or on behalf of whom contributions are not made during a year would still be considered as a plan member if s/he has assets accumulated or benefits accrued in the plan.

For DE, the coverage rate represents the percentage of households where at least one of the partners is enrolled in private pension plans, and in which the head is younger than 65 and at least one of the partners is in the labour force. For IE, the coverage rate represents the percentage of employed individuals enrolled in private pension plans and aged between 20 and 69. For IT, the coverage rate represents the ratio between the total number of pension accounts and the total number of individuals in the labour force. For the other countries, the coverage rate represents the percentage of individuals enrolled in private pension plans who are in the labour force and younger than 65.

The sum of the coverage rates by type of plan does not equal the coverage rate for the total as individuals may have both occupational and personal plans simultaneously.

(2) Average contribution levels are expressed as a percentage of average earnings in the country and do NOT represent contribution rates but only allow expressing the level of contributions as a share of average earnings in the economy of each country.

(3) Average benefit levels are expressed as a percentage of average earnings in the country and do NOT represent replacement rates but only allow expressing the level of benefits as a share of average earnings in the economy of each country.

[115] SAVE is just one of the datasets in Germany which provides information on second and third pillar coverage and distribution, but due to the relatively small sample size there exists doubts about the representativity of data for the German population.

Annex 4. Glossary

Accrual rate – Rate at which future pension benefits are built up. It is used in defined benefit schemes and based on the formula linked to the scheme. For example, a pension accrual rate could be 1.5% of final pensionable salary for each year of pensionable service (See also: Defined benefit (DB) schemes).

Annuity – A financial contract, sold by a life insurance company for example, that guarantees a fixed or variable payment of income benefit (monthly, quarterly, half-yearly, or yearly) for the life of a person(s) (the annuitant) or for a specified period of time. It differs from a life insurance contract which provides an income to the beneficiary after the death of the insured. An annuity may be bought on instalments or by paying a single lump sum. Benefits may start immediately or at a pre-defined time in the future or at a specific age. An annuity is one way of securing a regular retirement income for individuals who have saved in a defined contribution scheme. (See also: Defined contribution (DC) schemes).

Automatic (or auto-) enrolment – Generally refers to employees being members of their employer's pension scheme as a default choice, with the possibility of opting out on request.

Automatic adjustment mechanisms – Generally refers means of adjusting benefits, rights and/or contribution levels to changing circumstances, e.g. economic conditions, financial market returns or longevity assumptions.

Book reserve pension scheme – A method of accounting used by some sponsoring employers to finance pension promises. Sums are entered in the balance sheet of the scheme sponsor as reserves or provisions for scheme benefits. Some assets may be held in separate accounts for the purpose of financing benefits, but they are not legally or contractually pension plan assets. (See also: Defined benefit (DB) schemes).

Defined benefit (DB) schemes – Pension schemes where the benefits accrued are linked to earnings and the employment career (the future pension benefit is pre-defined and promised to the member). It is normally the scheme sponsor who bears the investment risk and often also the longevity risk: if assumptions about rates of return or life expectancy are not met, the sponsor must increase its contributions to pay the promised pension. These tend to be occupational schemes. (See also: Defined contribution (DC) schemes).

Defined contribution (DC) schemes – Pension schemes where the level of contributions, and not the final benefit, is pre-defined: no final pension promise is made. DC schemes can be public, occupational or personal: contributions can be made by the individual, the employer and/or the state, depending on scheme rules. The pension level will depend on the performance of the chosen investment strategy and the level of contributions. The individual member therefore bears the investment risk and often makes decisions about how to mitigate this risk. (See also: Defined benefit (DB) schemes).

Effective retirement age – Age at which an individual actually retires. Not necessarily the same as the labour market exit age or normal retirement age. (See also: Labour market exit age, and Normal pension age).

Funded scheme – A pension scheme whose benefit promises are backed by a fund of assets set aside and invested for the purpose of meeting the scheme's liability for benefit payments as they arise. Funded schemes can be either collective or individual. (See also: Pay-As-You-Go schemes).

Individual pension scheme – Access to these schemes does not depend on an employment relationship. The schemes are set up and administered directly by a pension fund or a

financial institution acting as pension provider without the involvement of employers. Individuals independently purchase and select material aspects of the arrangements. The employer may nonetheless make contributions to individual pension schemes. Some schemes may have restricted membership.

Labour market exit age – Age at which an individual actually leaves the labour market. For data availability reasons labour market exit age is often used as a proxy for the effective retirement age. Differences between the two may exist, as some people leave the labour market before they actually retire while others continue working after retirement. (See also: Effective retirement age).

Life styling or life-cycling strategies – Investment strategies used in defined contribution pension schemes to reduce investment risk and volatility by gradually and automatically reducing the investment risk taken by the scheme member as they approach retirement. (See also: Defined contribution (DC) schemes).

Occupational schemes – A pension plan where access is linked to an employment or professional relationship between the plan member and the entity that sets up the plan (the plan sponsor). Occupational pension schemes may be established by employers or groups of employers (e.g. industry associations) or labour or professional associations, jointly or separately, or by self-employed persons. The scheme may be administered directly by the sponsor or by an independent entity (a pension fund or a financial institution acting as pension provider). In the latter case, the sponsor may still have responsibility for overseeing the operation of the scheme.

Pay-As-You-Go (PAYG) schemes – Pension schemes where current contributions finance current pension expenditure (See also: funded schemes).

Payout phase or decumulation phase – Period during which assets accrued in the accumulation phase are paid out to the pension scheme member in a funded scheme. An example of a payout phase is a period in which regular retirement income is received through the purchase of an annuity. (See also: Annuity).

Pensionable age – Age at which a member of the pension scheme is eligible to receive full pension benefits.

Pension pillar – Different types of pension schemes are usually grouped into two, three, four or more pillars of the pension system. There is however no universally agreed classification. Many pension systems distinguish between statutory, occupational and individual pension schemes, or between mandatory and voluntary pension schemes. Participation in occupational and individual pension schemes, usually private pension arrangements, can be mandatory or voluntary.

Replacement rate – Generally refers to an indicator showing the level of pension income after retirement as a percentage of individual earnings at the moment of take-up of pensions or of average earnings. Replacement rates measure the extent to which pension systems enable typical workers to preserve their previous living standard when moving from employment to retirement.

Statutory pension scheme – Social security and similar statutory programmes administered by the general government (that is central, state, and local governments, plus other public sector bodies such as social security institutions). Public pension plans have traditionally been of the PAYG type.

Supplementary pension schemes – Mandatory or voluntary pension schemes which generally provide additional retirement income to the statutory pension scheme.

Annex 5. ISG Theoretical Replacement Rates and AWG Benefit Ratio and Gross Average Replacement Rates

		ISG: Theoretical Replacement Rates								
		Covered by TRR?	Scheme –specific assumptions							
	Pension schemes (Country-specific)	(Y/N - Comments)	Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
				2010	2050					
					Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?
	* Public pensions:	Yes - employees private sector	Mixed	16,36	16,36	Legislated			Constant prices (as imposed)	
	* Occupational pensions:	Yes	Contributions	4,25	4,25	Ad-hoc			Constant prices (as imposed)	
	* Private pensions:	No								

		AWG: Benefit Ratio (BR) and Gross Average Replacement Rates (GARR)									
		Covered by BR / GARR?		Scheme –specific assumptions							
	Pension schemes (Country-specific)	(Y/N -Comments)		Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
					2010	2050					
		BR	GARR			Assumptions used for BR/GARR projectionss	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?
	* Public pensions:	Yes	Yes	Mixed							
BE	1) Wage-earner	Yes	Yes		Employers: 24,77%; Employees: 13,07% (for all Social Security schemes)	Constant rates	Legislated	The reference wage up to a ceiling is adjusted to the current prices by the CPI. Periods of unemployment, prepension or disability are valued at the last corresponding earned wage. A minimum claim per working year also exists.	Legislated	Automatically adjusted to the CPI and partially adapted to living standards (Generation Pact): annual growth of 1.25% for the wage ceilings and the minimum claim; 1% for the lump-sum benefit; 0.5% for the non lump-sum benefit	Legislated
	2) Self-employed	Yes	Yes		In 2011: from 12,129.76 to 52,378.55: 22%; from 52,378.55 to 77,189.40: 14,16% (for all Social Security schemes)	Constant rates	Legislated	The reference income (valued at a fixed income before 1984, and calculated on the basis of the business income as from 1984) up to an income ceiling is adjusted to the current prices by the CPI.	Legislated		
	3) Civil servants	Yes	Yes		Employees: 7.5% survivor pension (other rules for local authorities)	Constant rates	Legislated	The wage is adjusted to the current prices by the CPI.	Legislated	Automatically adjusted to the CPI and to the real wage increases of the working civil servants	Legislated
	* Occupational pensions:	No	No								
	* Private pensions:	No	No								

BG

Pension schemes (Country-specific)	ISG: Theoretical Replacement Rates								
	Covered by TRR? (Y/N - Comments)	Scheme –specific assumptions							
		Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
			2010	2050					
				Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?
*** Public pensions:**									
1.1 Earnings related PAYG, DB, administrated by National Social Security Institute	Yes	mixed	17,8 % for persons born before 01.01.1960 (EE - 7,9%; ER - 9,9%); 12,8% for persons born after 31.12.1959 (EE - 5,7%; ER - 7,1%); 12% State	The same contribution rates as in 2010.		No volarisation of pensionable earnings. Instead, in the pension formula an individual coefficient is applied which is the ratio of an individual's average insurable income and the national average insurable income.		No indexation in 2011-2012. As of 2013 50% CPI + 50% wages will be applied.	
1.2 Pensions not related to labour activity	No	taxes-funded							
2. Earnings related, funded tier of statutory scheme, DC									
2.1 Universal Pension Funds (UPF)	No	contribution	5% for persons born after 31.12.1959 (EE - 2,2%, ER - 2,8%)	7% since 2017					
2.2 Professional Pension Funnds (PPF)	No	contribution	12%/7% for first/second labour category, paid by ER						
*** Occupational pensions:**									
*** Private pensions:**	No								

Pension schemes (Country-specific)	AWG: Benefit Ratio (BR) and Gross Average Replacement Rates (GARR)									
	Covered by BR / GARR? (Y/N -Comments)		Scheme –specific assumptions							
			Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
				2010	2050					
	BR	GARR			Assumptions used for BR/GARR projectionss	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?
*** Public pensions:**										
1.1 Earnings related PAYG, DB, administrated by National Social Security Institute	Yes	Yes	mixed	17,8 % for persons born before 01.01.1960 (EE - 7,9%; ER - 9,9%); 12,8% for persons born after 31.12.1959 (EE - 5,7%; ER - 7,1%); 12% State	The same contribution rates as in 2010.		No volarisation of pensionable earnings. Instead, in the pension formula an individual coefficient is applied which is the ratio of an individual's average insurable income and the national average insurable income.		No indexation in 2011-2012. As of 2013 50% CPI + 50% wages will be applied.	
1.2 Pensions not related to labour activity	No	No	taxes-funded						No indexation in 2011-2012. As of 2013 50% CPI + 50% wages will be applied.	
2. Earnings related, funded tier of statutory scheme, DC										
2.1 Universal Pension Funds (UPF)	No	No	contribution	5% for persons born after 31.12.1959 (EE - 2,2%, ER - 2,8%)	7% since 2017					
2.2 Professional Pension Funnds (PPF)	No	No	contribution	12%/7% for first/second labour category, paid by ER						
*** Occupational pensions:**	No	No								
*** Private pensions:**	No	No								

CZ

Pension schemes (Country-specific)	ISG: Theoretical Replacement Rates									
	Covered by TRR? (Y/N - Comments)	Scheme –specific assumptions								
		Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment		
			2010	2050						
				Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?	
*** Public pensions:**										
Basic pension insurance	Yes	Contribution funded	28 Employer – 21,5 Employee – 6,5	28 Employer – 21,5 Employee – 6,5	Legislated	Average nominal wage growth	Legislated	CPI + 1/3 real wage growth	Legislated	
*** Occupational pensions:**	No (do not exist)	N (do not exist)								
*** Private pensions:**										
Supplementary pension insurance with state contribution	No	Contribution funded and state subsidy								

Pension schemes (Country-specific)	AWG: Benefit Ratio (BR) and Gross Average Replacement Rates (GARR)									
	Covered by BR / GARR? (Y/N -Comments)		Scheme –specific assumptions							
			Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
				2010	2050					
	BR	GARR			Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?
*** Public pensions:**	Yes (average pension benefit/average wage)	Yes (average newly granted pension benefit/average wage)	Contribution-funded	28% total (21.5% employers, 6.5% employees)	28% total (21.5% employers, 6.5% employees)	Legislated (assumption of no-policy change)	Nominal wage growth	Legislated (Assumption of no-policy change)	CPI + 1/3 real wage growth	Legislated
*** Occupational pensions:**	No (do not exist)	No (do not exist)	-	-	-	-	-	-	-	-
*** Private pensions:**	No (not enough data for calculations)	No (not enough data for calculations)	Private contributions, employer and state subsidized	Approximately 1.4% of average wage (private contributions), 0.3% of average wage (state subsidy)	Approximately 1.4% of average wage (private contributions), 0.3% of average wage (state subsidy)	Assumption in order to keep constant share of contributions on average wage as observed in past five years	Nominal wage growth	Assumption in order to keep pensionable earnings equal to wage	- (calculations of pension payments are not calculated)	-

DK

Pension schemes (Country-specific)	ISG: Theoretical Replacement Rates								
	Covered by TRR? (Y/N - Comments)	Scheme –specific assumptions							
		Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
			2010	2050					
				Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?
*** Public pensions:**									
Folkepension	Yes	Tax	-	-	Legislated, automatic regulation of benefits (satsregulering)			Automatic regulation of benefits (satsregulering)	Legislated
ATP	Yes	Private 1/3 – employer 2/3	3.240 kr.	12.860 kr.	Ad hoc, follows wages (set by negotiation)			Follows wages	Ad hoc
Efterløn	Yes	Tax/private	5.076 kr.	20.628 kr.	Legislated, automatic regulation of benefits (satsregulering)			Automatic regulation of benefits (satsregulering)	Legislated
Supplerende pensionsydelse	Yes	Tax	-	-	Legislated, automatic regulation of benefits			Automatic regulation of benefits	Legislated
*** Occupational pensions:**	Yes	Private 1/3 – employer 2/3	10.8 %	10.8 %	Ad hoc (set by negotiation)			Follows wages	Ad hoc
*** Private pensions:**	No	-	-	-	-	-	-		-

	Pension schemes (Country-specific)	AWG: Benefit Ratio (BR) and Gross Average Replacement Rates (GARR)									
		Covered by BR / GARR? (Y/N -Comments)		Scheme –specific assumptions							
				Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
					2010	2050					
		BR	GARR			Assumptions used for BR/GARR projectionss	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?
DK	*** Public pensions:**										
	Folkepension	Yes		Tax	-	-	-			Wage indexation	Legislated, automatic regulation of benefits (satsregulering), but without subtraction of 0,3 pct. points
	Efterløn (VERP)	Yes		Tax/contribution	-	-	-			Wage indexation	Legislated, automatic regulation of benefits (satsregulering), but without subtraction of 0,3 pct. points
	Førtidspension (disability pension)	Yes		Tax	-	-	-			Wage indexation	Legislated, automatic regulation of benefits (satsregulering), but without subtraction of 0,3 pct. points
	Tjenestemandspension (Civil servants pension)	Yes		Tax	-	-	-			Wage indexation	Ad-hoc
	*** Occupational and private pensions:**	Yes		Contribution	9,60%	10,00%	Ad-hoc			Depends on accumulation of pension funds, which in turn depends on e.g. the interest rate	No legislation as scheme is defined contribution scheme
	ATP	Yes		Contribution	0,80%	0,70%	Ad-hoc			Depends on accumulation of pension funds, which in turn depends on e.g. the interest rate	No legislation as scheme is defined contribution scheme
	LD	Yes		Contribution	0	0	Ad-hoc			Depends on accumulation of pension funds, which in turn depends on e.g. the interest rate	No legislation as scheme is defined contribution scheme

DE

Pension schemes (Country-specific)	ISG: Theoretical Replacement Rates								
	Covered by TRR? (Y/N - Comments)	Scheme –specific assumptions							
		Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
			2010	2050					
				Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?
*** Public pensions:**	Yes	mixed (contribution and tax-funded)	19,90%	OECD-calculation		accumulated pension points (see indexation)	Legislated	The pension-point value is indexed annually in relation to the gross wage growth (wage-factor) as a starting point. In addition, the contribution-rate-factor accounts for changes of the contribution-rate to the statutory pension scheme and to the subsidised (voluntary) private pension schemes. The sustainability-factor, that measures the change of the number of standardized contributors in relation to the number of standardized pensioners, links the indexation of the pension-point value to the changes in the statutory pension scheme's dependency ratio, the ratio of pensioners to contributors.	Legislated
*** Occupational pensions:**									
*** Private pensions:**				OECD-calculation (4% of gross wages each year of working career)					

Pension schemes (Country-specific)	AWG: Benefit Ratio (BR) and Gross Average Replacement Rates (GARR)									
	Covered by BR / GARR? (Y/N -Comments)		Scheme –specific assumptions							
			Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
				2010	2050					
	BR	GARR			Assumptions used for BR/GARR projectionss	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?
*** Public pensions:**	Yes	Yes	mixed (contribution and tax-funded)	19,90%	see: The 2012 Ageing Report: Underlying Assumptions and Projection Methodologies	Legislated	pension points	Legislated	see Table on ISG indicators	Legislated
*** Occupational pensions:**										
*** Private pensions:**										

EE

Pension schemes (Country-specific)	ISG: Theoretical Replacement Rates									
	Covered by TRR? (Y/N - Comments)	Scheme –specific assumptions								
		Funding source -2	Contribution rates -3			Valorisation of pensionable earnings		Indexation of pensions in payment		
			2010	2050						
				Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?	
*** Public pensions:**	Yes	Social tax + general budget (if deficit)	20% , who has not joined II pillar. 16%- has joined II pillar - employer	20%,16% - employer	Legislated	Labour productivity and CPI	Ad-hoc (AWG assumptions)	80% social tax revenues growth (depends on wage growth and change of labor force)+20% CPI	Legislated	
*** Occupational pensions:**	No – Do not exist	-	-	-	-	-	-	-	-	
*** Private pensions:** Mandatory funded scheme (II pillar)	Yes	Contribution funded	4% employer + 2% employee	4% employer + 2% employee	Legislated	Labour productivity and CPI	Ad-hoc (AWG assumptions)	Accumulation phase real investment reurn 2,5%. Outpayment phase annuity investment return nominal 3%	Ad-hoc assumptions	

Pension schemes (Country-specific)	AWG: Benefit Ratio (BR) and Gross Average Replacement Rates (GARR)									
	Covered by BR / GARR? (Y/N -Comments)		Scheme –specific assumptions							
			Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
				2010	2050					
	BR	GARR			Assumptions used for BR/GARR projectionss	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?
*** Public pensions:**	Yes	Yes	Social tax + general budget (if deficit)	20% , who has not joined II pillar. 16%- has joined II pillar - employer	20%,16% - employer	Legislated	Labour productivity and CPI	Ad-hoc (AWG assumptions)	80% social tax revenues growth (depends on wage growth and change of labor force)+20% CPI	Legislated
*** Occupational pensions:**	No – Do not exist					-				-
*** Private pensions:**	Yes	Yes	Contribution funded	4% employer + 2% employee	4% employer + 2% employee	Legislated	Labour productivity and CPI	Ad-hoc (AWG assumptions)	Accumulation phase real investment reurn 2,5%. Outpayment phase annuity investment return nominal 3%	Ad-hoc assumptions

EL

Pension schemes (Country-specific)	ISG: Theoretical Replacement Rates									
	Covered by TRR? (Y/N - Comments)	Scheme –specific assumptions								
		Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment		
			2010	2050						
				Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?
*** Public pensions:**									
IKA	Yes	Contributions	Employers 13.33% Employees 6.67%	Employers 15.4% Employees 7.6%	Legislated	Wage growth	Legislated	Benefit Indexation	Legislated
ETEAM	Yes	Contributions	Employers 3% Employees 3%	Employers 3% Employees 3%	Legislated	Wage growth	Legislated	Benefit Indexation	Legislated
*** Occupational pensions:**									
*** Private pensions:**									

Pension schemes (Country-specific)	AWG: Benefit Ratio (BR) and Gross Average Replacement Rates (GARR)									
	Covered by BR / GARR? (Y/N -Comments)		Scheme –specific assumptions							
			Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
				2010	2050					
	BR	GARR			Assumptions used for BR/GARR projectionss	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?
*** Public pensions:**										
IKA	Yes	Yes	Contributions	Employers 13.33% Employees 6.67%	Employers 15.4% Employees 7.6%	Legislated	Wage growth	Legislated	Benefit Indexation	Legislated
ETEAM	Yes	Yes	Contributions	Employers 3% Employees 3%	Employers 3% Employees 3%	Legislated	Wage growth	Legislated	Benefit Indexation	Legislated
*** Occupational pensions:**										
*** Private pensions:**										

FR

Pension schemes (Country-specific)	ISG: Theoretical Replacement Rates								
	Covered by TRR? (Y/N - Comments)	Scheme –specific assumptions							
		Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
			2010	2050					
			Employers	Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?
*** Public pensions:**									
Private pensions scheme (CNAV)	Yes	Taxes/Contributions	**Employers:** 8.30% up to the SSC (1), plus 1.60% on the full wage (1) ; **Employees:** 6.65% up to the SSC (1), plus 0.10% on the full wage	Data of 2010. Constant contribution rate	Ad-hoc assumption	Prices	Legislated	Prices	Legislated
Complementary pension scheme (ARRCO)	Yes	Contributions	(2) 7,5% up to the SSC (1), plus 20% between one and three SSC. No distinction between employers and employees contributions	Data of 2010. Constant contribution rate	Ad-hoc assumption	Prices	Legislated	Prices	Legislated
*** Occupational pensions:**	No								
*** Private pensions:**	No								

(1) SSC: "social security ceiling", wage ceiling which determines the contribution rate level. In 2011, the SSC is 2946 euros per month.

(2) In the TRR of ISG, it is favoured an individual rights perspective. Consequently, the complementary pension system includes: ARRCO, not AGIRC, AGFF, CET.

	Pension schemes (Country-specific)	AWG: Benefit Ratio (BR) and Gross Average Replacement Rates (GARR)									
		Covered by BR / GARR? (Y/N -Comments)		Scheme –specific assumptions							
				Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
					2010	2050					
		BR	GARR		Employers	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?
FR	* Public pensions:										
	Private pensions scheme (CNAV)	Yes (1)	Yes (1)	Contributions	**Employer:** 8.30% up to the SSC (3), plus 1.60% on the full wage; **Employee:** 6.65% up to the SSC (3), plus 0.10% on the full wage	Data of 2010. Constant contribution rate	Ad-hoc assumption	Prices	Legislated	Prices	Legislated
	Complementary Pension Scheme (AGIRC)	Yes	Yes	Contributions	**Employer:** (2) 5.70% up to the SSC (3), plus 13.90% between one and four SSC, plus 12.60% between four and eight SSC, plus 0.22% up to eight SSC ; **Employee:** (2) 3.80% up to the SSC (3), plus 8.60% between one and four SSC, plus 7.70% between four and eight SSC, plus 0.13% up to eight SSC	Data of 2010. Constant contribution rate	Ad-hoc assumption	Wages - 1.5%	Ad-hoc	Wages - 1.5%	Ad-hoc assumption
	Complementary pension scheme (ARRCO)	Yes	Yes	Contributions	**Employer:** (2) 5.70% up to the SSC (3), plus 13.30% between one and three SSC; **Employee:** (2) 3.80% up to the SSC (3), plus 8.90% between one and three SSC	Data of 2010. Constant contribution rate	Ad-hoc assumption	Wages -1.5%	Ad-hoc	Wages -1.5%	Ad-hoc assumption
	* Occupational pensions:	No									
	* Private pensions:	No									

(1) The observed outcomes do not distinguish the different pension schemes.
(2) In the BR and the GARR of AWG, a financing perspective is favoured. Consequently, AGFF is included (2%).
(3) SSC: "social security ceiling", wage ceiling which determines the contribution rate level. In 2011, the SSC is 2946 euros per month.

IE

Pension schemes (Country-specific)	ISG: Theoretical Replacement Rates									
	Covered by TRR? (Y/N - Comments)	Scheme –specific assumptions								
		Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment		
			2010	2050						
				Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?
*** Public pensions:**									
State Contributory Pension	Yes	State	All State Pensions measured 40% of TRR	Increase in line with wages	Ad hoc	Calculated by average earnings and poverty threshold	Ad hoc	Earnings	Ad hoc
State Non-Contributory Pension	Yes	State	All State Pensions measured 40% of TRR	Increase in line with wages	Ad hoc	Calculated by average earnings and poverty threshold	Ad hoc	Earnings	Ad hoc
*** Occupational pensions:**									
Private Schemes	Yes	Employee/employer contributions	All TRR not covered by State	10% Contribution rate	Ad hoc	Value of contributions	Ad hoc	Earnings	Ad hoc
*** Private pensions:**									
Investment, etc.	No	Not Included							

Pension schemes (Country-specific)	AWG: Benefit Ratio (BR) and Gross Average Replacement Rates (GARR)									
	Covered by BR / GARR? (Y/N -Comments)		Scheme –specific assumptions							
			Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
				2010	2050					
	BR	GARR			Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?
*** Public pensions:**										
State Contributory Pension (SCP)		Yes, 37-38%	Current expenditure (notionally SIF)						The 100% SCP payment rate as a percentage of the gross average industrial wage. Indexed to average wage growth so replacement rate remains fairly constant	Ad hoc assumption
*** Occupational pensions:**										
Public service pensions		60% (1)	Current expenditure	1/40					Nominal wage growth	
*** Private pensions:**										

(1) This encompasses a pension replacement rate of 50% and also takes into account a lump sum payment of 1.5 times final salary

IT

Pension schemes (Country-specific)	ISG: Theoretical Replacement Rates									
	Covered by TRR? (Y/N - Comments)	Scheme –specific assumptions								
		Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment		
			2010	2050						
				Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?
* Public pensions:									
* Occupational pensions:									
* Private pensions:									

Pension schemes (Country-specific)	AWG: Benefit Ratio (BR) and Gross Average Replacement Rates (GARR)									
	Covered by BR / GARR? (Y/N -Comments)		Scheme –specific assumptions							
			Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
				2010	2050					
	BR	GARR			Assumptions used for BR/GARR projectionss	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?
* Public pensions:										
* Occupational pensions:										
* Private pensions:										

CY

Pension schemes (Country-specific)	ISG: Theoretical Replacement Rates								
	Covered by TRR? (Y/N - Comments)	Scheme –specific assumptions							
		Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
			2010	2050					
				Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?
*** Public pensions:**									
General Social Insurance Scheme	Yes	Contribution-funded	17,90%	25,70%	Legislated	Wage indexation	Legislated	Basic part: wage indexation Supplementary part: price indexation	Legislated
Government Employees Pension Scheme	No								
Social Pension Scheme	No								
*** Occupational pensions:**									
*** Private pensions:**									

Pension schemes (Country-specific)	AWG: Benefit Ratio (BR) and Gross Average Replacement Rates (GARR)									
	Covered by BR / GARR? (Y/N -Comments)		Scheme –specific assumptions							
			Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
				2010	2050					
	BR	GARR			Assumptions used for BR/GARR projectionss	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?
*** Public pensions:**										
General Social Insurance Scheme	Yes	Yes (old-age pension only)	Contribution-funded	17,90%	25,70%	Legislated	Wage indexation	Legislated	Basic part: wage indexation Supplementary part: price indexation	Legislated
Government Employees Pension Scheme	Yes	No	Mixed (employee and general taxation)	5% (employee only)	5% (employee only)	Legislated	Wage indexation	Legislated	Price indexation	Legislated
Social Pension Scheme	Yes	No	Tax-financed	N/A	N/A	N/A	N/A	N/A	Price indexation	Legislated
*** Occupational pensions:**										
*** Private pensions:**										

LV

Pension schemes (Country-specific)	ISG: Theoretical Replacement Rates									
	Covered by TRR? (Y/N - Comments)	Scheme –specific assumptions								
		Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment		
			2010	2050						
				Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?
* Public pensions:									
NDC	Yes	Contribution funded	18%	14%		Contribution wage sum index		No indexation until 2013. From 2014 - with CPI.	
* Occupational pensions:									
* Private pensions:									
Mandatory DC funded scheme	Yes	Contribution funded	2%	6%		Market rate of return			

Pension schemes (Country-specific)	AWG: Benefit Ratio (BR) and Gross Average Replacement Rates (GARR)									
	Covered by BR / GARR? (Y/N -Comments)		Scheme –specific assumptions							
			Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
				2010	2050					
	BR*	GARR			Assumptions used for BR/GARR projectionss	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?
* Public pensions:										
NDC		Yes	Contribution funded	18%	14%		Contribution wage sum index		No indexation until 2013. From 2014 - with CPI.	
* Occupational pensions:										
* Private pensions:										
Mandatory DC funded scheme		Yes	Contribution funded	2%	6%		Market rate of return			

* The Benefit Ratio has not been calculated and showed in the LV filled Questionnaire file for 2012 projection exercise as it was a voluntary part.

LT

Pension schemes (Country-specific)	ISG: Theoretical Replacement Rates								
	Covered by TRR? (Y/N - Comments)	Scheme –specific assumptions							
		Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
			2010	2050					
				Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?
*** Public pensions:**									
Social insurance pensions	Yes (old age social insurance pensions)	Contribution-funded	Employers - 23.3%; Employees - 3% (1% for participant in the second pillar)	Employers - 23.3%; Employees - 3% (1% for participant in the second pillar)	Legislated	Average annual real wage growth 2.26 %	Discretionary	Average annual real wage growth 2.26 %	Discretionary
*** Occupational pensions:**	-	-	-	-	-	-	-	-	-
*** Private pensions:**									
Quasi-mandatory private scheme	Yes	Contribution-funded	Employees - 2%	Employees - 2%	Legislated ***	3% rate of return	market rate of return	2% price inflation	-

Pension schemes (Country-specific)	AWG: Benefit Ratio (BR) and Gross Average Replacement Rates (GARR)									
	Covered by BR / GARR? (Y/N -Comments)		Scheme –specific assumptions							
			Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
				2010	2050					
	BR	GARR			Assumptions used for BR/GARR projectionss	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?
*** Public pensions:**										
Social security pensions	Yes (social security pensions*)	Yes (social insurance old age pensions)	Tax-funded and contribution-funded (BR); contribution-funded only (GARR)	Employers - 23.3%; Employees - 3% (1% for participant in the second pillar)	Employers - 23.3%; Employees - 3% (1% for participant in the second pillar)	Legislated	Average annual real wage growth 1.85 %**	Discretionary	Average annual real wage growth 1.85 %**	Discretionary
*** Occupational pensions:**	-	-	-	-	-	-	-	-	-	-
*** Private pensions:**										
Quasi-mandatory private scheme	No	Yes	Contribution-funded	Employees - 2%	Employees - 2%	Legislated ***	3% rate of return	market rate of return	2% price inflation	-

* Includes all types of pensions (both tax-funded and contribution-funded)

** According to AWG macro assumptions average annual real wage growth used was 2.22%. With frozen indexation of the pensions at the period 2011-2014 the recalculated average annual real wage growth was 1.85%

***Legislated for 2010 and 2011. In 2012 contribution rate has been reduced to 1.5%. This reduction will be compensated by raising the rate to 2.5% in 2013. Further reform is planned from 2014.

LU

Pension schemes (Country-specific)	ISG: Theoretical Replacement Rates									
	Covered by TRR? (Y/N - Comments)	Scheme –specific assumptions								
		Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment		
			2010	2050						
				Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?
*** Public pensions:**									
general and public pension scheme	Yes	taxes and contributions	23% (including tax-funding of 1/3 of contributions)	47%	ratio of line 6 to line 3 in AWG baseline questionnaire	< 2020: 100% prices and 100% wages > 2020: 100% prices and 50% wages	AWG constant legislation scenario (section 1.3 of country fiche)	< 2020: 100% prices and 100% wages > 2020: 100% prices and 50% wages	AWG constant legislation scenario (section 1.3 of country fiche)
*** Occupational pensions:**									
*** Private pensions:**									

Pension schemes (Country-specific)	AWG: Benefit Ratio (BR) and Gross Average Replacement Rates (GARR)									
	Covered by BR / GARR? (Y/N -Comments)		Scheme –specific assumptions							
			Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
				2010	2050					
	BR	GARR			Assumptions used for BR/GARR projectionss	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?
*** Public pensions:**										
general and public pension scheme	Yes	Yes	taxes and contributions	23% (including tax-funding of 1/3 of contributions)	47%	ratio of line 6 to line 3 in AWG baseline questionnaire	< 2020: 100% prices and 100% wages > 2020: 100% prices and 50% wages	AWG constant legislation scenario (section 1.3 of country fiche)	< 2020: 100% prices and 100% wages > 2020: 100% prices and 50% wages	AWG constant legislation scenario (section 1.3 of country fiche)
*** Occupational pensions:**										
*** Private pensions:**										

HU

Pension schemes (Country-specific)	ISG: Theoretical Replacement Rates								
	Covered by TRR? (Y/N - Comments)	Scheme –specific assumptions							
		Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
			2010	2050					
				Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?
*** Public pensions:**									
PAYG DB: mandatory social insurance pension scheme	Yes	contribution	Employers: 24% Employees: 1,5% (in 2010 total: 9,5% - 8% to private pension system, 1,5% to Pension Insurance Fund; In 2011 and 2012: 10%)			Valorisation multiplicators are set in legislation in every March.	Legislated	Indexation is set in legislation (1)	Legislated
Mandatory DC private pension system (2)			8% (of total 9,5%)						
*** Occupational pensions:**									
*** Private pensions:**									

(1) From 2010 related to GDP growth (different proportion of consumer prices and average wages related to different percentages of GDP growth):
(2) Rules on private pensions are changing from the end of 2010. Employees' contributions to the 2nd pillar are suspended between 1st November 2010 and 31st December 2011, the whole contribution flows to the

Pension schemes (Country-specific)	AWG: Benefit Ratio (BR) and Gross Average Replacement Rates (GARR)									
	Covered by BR / GARR? (Y/N -Comments)		Scheme –specific assumptions							
			Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
				2010	2050					
	BR	GARR			Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?
*** Public pensions:**										
PAYG DB: mandatory social insurance pension scheme	Yes	Yes	contribution	Employers: 24% Employees: 1,5% (in 2010 total: 9,5% - 8% to private pension system, 1,5% to Pension Insurance Fund; In 2011 and 2012 10%)			Valorisation multiplicators are set in legislation in every March.	Legislated	Indexed to HICP	Legislated
mandatory DC private pension	Yes	Yes		8% (of total 9,5%)						
*** Occupational pensions:**										
*** Private pensions:**										

MT

Pension schemes (Country-specific)	Covered by TRR? (Y/N - Comments)	Funding source	Contribution rates 2010	Contribution rates 2050 – Assumptions used for TRR projections	Contribution rates 2050 – Legislated or ad-hoc assumption?	Valorisation of pensionable earnings – Assumptions used for TRR projections	Valorisation of pensionable earnings – Legislated or ad-hoc assumption?	Indexation of pensions in payment – Assumptions used for TRR projections	Indexation of pensions in payment – Legislated or ad-hoc assumption?
ISG: Theoretical Replacement Rates									
Scheme –specific assumptions									
*** Public pensions:**									
Two-Thirds pension scheme	Yes	Social Security Contributions	10% employee ; 10% employer ; 10% the state Subject to ceiling	Same as in year 2010	Legislated	inflation	Legislated	70% inflation and 30% wage growth	Legislated
*** Occupational pensions:**	not applicable								
*** Private pensions:**	not applicable								

Pension schemes (Country-specific)	Covered by BR / GARR? (Y/N -Comments) BR	GARR	Funding source	Contribution rates 2010	Contribution rates 2050 – Assumptions used for BR/GARR projections	Contribution rates 2050 – Legislated or ad-hoc assumption?	Valorisation of pensionable earnings – Assumptions used for BR/GARR projections	Valorisation of pensionable earnings – Legislated or ad-hoc assumption?	Indexation of pensions in payment – Assumptions used for BR/GARR projections	Indexation of pensions in payment – Legislated or ad-hoc assumption?
AWG: Benefit Ratio (BR) and Gross Average Replacement Rates (GARR)										
Scheme –specific assumptions										
*** Public pensions:**										
Two-Thirds pension scheme	Yes	Yes	Social Security Contributions	10% employee ; 10% employer ; 10% the state Subject to ceiling	Same as in year 2010	Legislated	Linked to inflation	Legislated	70% inflation and 30% wage growth	Legislated
*** Occupational pensions:**	not applicable	not applicable								
*** Private pensions:**	not applicable	not applicable								

Benefit Ratio

Coverage:

- Old age pensions include: 2/3 retirement pension (TTP); National minimum pension (NMP); increased national minimum pension (INMP); increased retirement pension (IRP); decreased national minimum pension
- Disability pensions include: national minimum invalidity pension (NMIP); invalidity pension (IP); increased invalidity pension (IIP); decreased national invalidity pension (DNIP); share of the contributory bonus
- Other pensions includes: national minimum widows' pension (NMWP); survivors pension (SRP); early survivors pension (ESRP); retirement pension (RP); widows pension (WP); share of contributory bonus
- Treasury Pensions

GARR

Coverage:

Two-Thirds pension (TTP); National minimum pension (NMP); increased national minimum pension (INMP); increased retirement pension (IRP); decreased national minimum pension (DNMP);

NL

Pension schemes (Country-specific)	ISG: Theoretical Replacement Rates									
	Covered by TRR? (Y/N - Comments)	Scheme –specific assumptions								
		Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment		
			2010	2050						
				Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?
* Public pensions:	Yes	mixed	17,9	17,9	Legislated	not applicable		wages	Legislated
* Occupational pensions:	Yes	contribution	Employers: 13,3; Employees: 6,7	Employers: 13,3; Employees: 6,7	Ad-hoc	not applicable		wages	Ad-hoc
* Private pensions:	No								

Pension schemes (Country-specific)	AWG: Benefit Ratio (BR) and Gross Average Replacement Rates (GARR)									
	Covered by BR / GARR? (Y/N -Comments)		Scheme –specific assumptions							
			Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
				2010	2050					
	BR	GARR			Assumptions used for BR/GARR projectionss	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?
* Public pensions:	Yes	Yes	mixed	17,9	17,9	legislated	not applicable		wages	legislated
* Occupational pensions:	Yes	Yes	contribution	Employers: 13,3; Employees: 6,7	Employers: 13,3; Employees: 6,7	ad-hoc	not applicable		wages	ad-hoc
* Private pensions:	No	No								

		ISG: Theoretical Replacement Rates								
		Covered by TRR?	Scheme –specific assumptions							
	Pension schemes (Country-specific)	(Y/N - Comments)	Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
				2010	2050					
					Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?
	* Public pensions:									
		Yes	Contribution-funded	22,8% (Employer 12,55%; Employee 10,25%)		Current legislation	1,50%	Assumption in line with the EPC-Ageing Report-Assumptions	2%	Legislation: CPI-Indexation; Assumption in line with the EPC-Ageing Report-Assumptions
AT	* Occupational pensions:	No								
	* Private pensions:	No								

	AWG: Benefit Ratio (BR) and Gross Average Replacement Rates (GARR)									
	Covered by BR / GARR?		Scheme –specific assumptions							
Pension schemes (Country-specific)	(Y/N -Comments)		Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
				2010	2050					
	BR	GARR			Assumptions used for BR/GARR projectionss	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?
* Public pensions:	Yes	Yes	Contribution-funded	Private sector: 19%; Public sector: 11,2%	Private sector: 19,1%; Public sector: 8,6%	Legislated	Wages (2010 - 2050 average: 3,5%)	Legislated	CPI (2010 - 2050 average: 2%)	Legislated
* Occupational pensions:	No	No								
* Private pensions:	No	No								

PL

Pension schemes (Country-specific)	ISG: Theoretical Replacement Rates									
	Covered by TRR? (Y/N - Comments)	Scheme -specific assumptions								
		Funding source	Contribution rates			Valorization of pensionable earnings		Indexation of pensions in payment		
			2010	2050						
				Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?
Public pensions:	Y	Contributions to old-age pension insurance (19,52%) are financed in equal parts (9,76%) by employee and employer	19,52%	19,52%	Legislated (assumption of no-policy change)	mixed	Legislated (assumption of no-policy change)	CPI + 20% real wage growth	Legislated (assumption of no-policy change)
National Scheme:			-	-		-			
ZUS			12,22%	12,22%		nominal value of gross written premiums			
Sub-account			-	3,80%		average annual GDP growth rate in current prices from the last 5 years			
Founded Scheme (OPF)			7,30%	3,50%		real (market) interest rate			
Occupational pensions:	N								
Private pensions:	N								

Pension schemes (Country-specific)	AWG: Benefit Ratio (BR) and Gross Average Replacement Rates (GARR)									
	Covered by BR / GARR? (Y/N - Comments)		Scheme -specific assumptions							
			Funding source	Contribution rates			Valorization of pensionable earnings		Indexation of pensions in payment	
				2010	2050					
	BR	GARR			Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?
Public pensions:	Y	Y	Contributions to old-age pension insurance (19,52%) are financed in equal parts (9,76%) by employee and employer	19,52%	19,52%	Legislated (assumption of no-policy change)	mixed	Legislated (assumption of no-policy change)	CPI + 20% real wage growth	Legislated (assumption of no-policy change)
National Scheme	Y	Y		-	-		-			
ZUS	Y	Y		12,22%	12,22%		nominal value of gross written premiums			
Sub-account	Y	Y		-	3,80%		average annual GDP growth rate in current prices from the last 5 years			
Founded Scheme (OPF)	Y	Y		7,30%	3,50%		real (market) interest rate			
Occupational pensions:	N	N								
Private pensions:	N	N								

PT

Pension schemes (Country-specific)	ISG: Theoretical Replacement Rates								
	Covered by TRR? (Y/N - Comments)	Scheme –specific assumptions							
		Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
			2010	2050					
				Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?
*** Public pensions:**									
Social security general scheme: old-age pensions	Y	Contribution-funded	34.75% (23.75% employers; 11% employees) (a)	34.75% (23.75% employers; 11% employees) (a)	Legislated	Reference earnings are projected according with labour productivity growth and adjusted according to the Consumer Price Index (CPI)	Legislated	According with CPI and GDP growth	Legislated
*** Occupational pensions:**									
*** Private pensions:**									

(a) General contribution rate

	Pension schemes (Country-specific)	AWG: Benefit Ratio (BR) and Gross Average Replacement Rates (GARR)									
		Covered by BR / GARR? (Y/N -Comments)		Scheme –specific assumptions							
				Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
					2010	2050					
		BR	GARR			Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?
PT	*** Public pensions:**										
	Pension scheme for civil servants hired until Dec. 2005 (CGA) [a]: old-age and disability pensions	Yes	Yes	Contribution-funded [b]	38.4% [c]	38.4% [c]	Ad-hoc assumption	Wage freezing in 2010, 2012 and 2013 and an average wage cut of 5% in 2011. From 2014 onwards wages are updated by inflation rate plus 25% of total factor productivity growth rate	2010 to 2011 (legislated); 2012 to 2013 (according to the Adjustment Programme for Portugal); from 2014 onwards (ad-hoc assumption)	Pensions are frozen between 2010 and 2013, except minimum pensions [d]. From 2014 onwards pensions are updated according with CPI and GDP growth	Legislated, except for 2012 and 2013 (according to the Adjustment Programme)
	Pension scheme for civil servants hired until Dec. 2005 (CGA) [a]: survivors' pensions	No	No	Contribution-funded [b]	38.4% [c]	38.4% [c]	Ad-hoc assumption	Idem as CGA old-age and disability pensions [e]	Idem as CGA old-age and disability pensions	Idem as CGA old-age and disability pensions	Idem as CGA old-age and disability pensions
	Social security general scheme: old-age and disability pensions	Yes	Yes	Contribution-funded	34.75% (23.75% employers; 11% employees) [c]	34.75% (23.75% employers; 11% employees) [c]	Legislated	Reference earnings are projected according with labour productivity growth and adjusted according to the Consumer Price Index (CPI)	Legislated	According with CPI and GDP growth	Legislated
	Social security general scheme: survivors' pensions	No	No	Contribution-funded	34.75% (23.75% employers; 11% employees) [c]	34.75% (23.75% employers; 11% employees) [c]	Legislated	According with wage growth and average social security general scheme old-age pensions growth	Ad-hoc assumption	According with CPI and GDP growth	Legislated
	Special social security scheme for agricultural activities (RESSAA) [f]: old-age and disability pensions	Yes	Yes	Mixed (mostly tax-funded)	Not applicable	Not applicable		Not applicable		According with CPI and GDP growth	Legislated (except for 2012 and 2013, according to the Adjustment Programme)
	Special social security scheme for agricultural activities (RESSAA) [f]: survivors' pensions	No	No	Mixed (mostly tax-funded)	Not applicable	Not applicable		According with CPI and GDP growth	Ad-hoc assumption	According with CPI and GDP growth	Legislated
	Non-contributory scheme (means-tested): old-age, and disability pensions	Yes	Yes	Tax-funded	Not applicable	Not applicable		Not applicable		According with CPI and GDP growth	Legislated (except for 2012 and 2013, according to the Adjustment Programme)
	Non-contributory scheme (means-tested): survivors' pensions	No	No	Tax-funded	Not applicable	Not applicable		According with CPI and GDP growth	Ad-hoc assumption	According with CPI and GDP growth	Legislated
	Social supplement for the elderly (means-tested)	Yes	Yes	Tax-funded	Not applicable	Not applicable		Not applicable		According with CPI and GDP growth	Ad-hoc assumption
	*** Occupational pensions:**										
	First pillar DB plans	Yes	No [g]	Contribution-funded	50% [h]	25.48%	Ad-hoc assumption	For the projection of pensionable salary, the average salary growth underlying the given macroeconomic scenarios was considered [i]		0.5%	Ad-hoc assumption
	Other DB plans	Yes	No [g]	Contribution-funded	11% [h]	10.20%	Ad-hoc assumption	Idem as First pillar DB plans		0%	Ad-hoc assumption
	DC plans	Yes	No [g]	Contribution-funded	4.87% [h]	5.37%	Ad-hoc assumption	Idem as First pillar DB plans		0%	Ad-hoc assumption
	*** Private pensions:**										

Notes:
(a) CGA is a closed regime. Civil servants hired from Jan. 2006 onwards are covered by the social security general scheme
(b) In the case of CGA, the gap between pension expenditures and contributions is financed by State transfers. The employee pays a contribution rate of 11% (8% for old-age and disability pensions and 3% for survivor pensions) and the
(c) General contribution rate
(d) In 2010 and 2011, pensions equal or below €628.83 were increased by 1.25% and pensions between €628.83 and €1500 in 2010 and €1515 in 2011 by 1%, not exceeding the respective upper limit of these brackets.
(e) According to the law, each new survivor's pension is equivalent to 50% of the old age pension that originate it. In the AWG model, it was assumed the average new survivors pensions to be around 40% of the ceased old age pensions
(f) The Special Social Security Scheme for Agricultural Activities (RESSAA) is a closed regime
(g) The replacement rate was not determined due to unavailability of information
(h) These values correspond to assumptions made for the year 2010 and not the values actually observed
(i) DB plans are commonly final salary pension plans. Therefore, is most cases, it is not necessary to establish a rule for valorisation of pensionable earnings

RO

Pension schemes (Country-specific)	ISG: Theoretical Replacement Rates								
	Covered by TRR? (Y/N - Comments)	Scheme –specific assumptions							
		Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
			2010	2050					
				Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?
*** Public pensions:**									
	Yes	contribution funded	a) 31,3% for normal working conditions, of which 10,5% for the employee and 20,8% for the employer; b) 36,3% for difficult working conditions, of which 10,5% for the employee and 25,8% for the employer; c) 41,3% for special working conditions, of which 10,5% for the employee and 30,8% for the employer;	a) 31,3% for normal working conditions, of which 10,5% for the employee and 20,8% for the employer; b) 36,3% for difficult working conditions, of which 10,5% for the employee and 25,8% for the employer; c) 41,3% for special working conditions, of which 10,5% for the employee and 30,8% for the employer;	Legislated Law 263/2010			a) starting on 1/1/2012, the pension point value will be annually indexed at 100% of inflation rate plus 50% of real increase of the average gross wage of the previous year. If one of these is negative, only the positive value will be considered; b) starting on 2021, the pension point value will be annually indexed with 100% inflation rate plus 45% of the real increase of the average gross wage of the previous year. The percentage attached to the real increase of the average gross wage will be gradually reduced by 5% each year; starting on 2030, the pension point value will be indexed annually by 100% inflation rate	Legislated Law 263/2010
*** Occupational pensions:**	No								
*** Private pensions:**	No								

	Pension schemes (Country-specific)	AWG: Benefit Ratio (BR) and Gross Average Replacement Rates (GARR)									
		Covered by BR / GARR? (Y/N -Comments)		Scheme –specific assumptions							
				Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
					2010	2050					
		BR	GARR			Assumptions used for BR/GARR projectionss	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?
	* Public pensions:										
RO		Yes	Yes	contribution funded	a) 31,3% for normal working conditions, of which 10,5% for the employee and 20,8% for the employer; b) 36,3% for difficult working conditions, of which 10,5% for the employee and 25,8% for the employer; c) 41,3% for special working conditions, of which 10,5% for the employee and 30,8% for the employer;	a) 31,3% for normal working conditions, of which 10,5% for the employee and 20,8% for the employer; b) 36,3% for difficult working conditions, of which 10,5% for the employee and 25,8% for the employer; c) 41,3% for special working conditions, of which 10,5% for the employee and 30,8% for the employer;	Legislated Law 263/2010			a) starting on 1/1/2012, the pension point value will be annually indexed at 100% of inflation rate plus 50% of real increase of the average gross wage of the previous year. If one of these is negative, only the positive value will be considered; b) starting on 2021, the pension point value will be annually indexed with 100% inflation rate plus 45% of the real increase of the average gross wage of the previous year. The percentage attached to the real increase of the average gross wage will be gradually reduced by 5% each year; starting on 2030, the pension point value will be indexed annually by 100% inflation rate	Legislated Law 263/2010
	* Occupational pensions:	No	No								
	* Private pensions:	No	No								

SI

Pension schemes (Country-specific)	ISG: Theoretical Replacement Rates									
	Covered by TRR? (Y/N - Comments)	Scheme –specific assumptions								
		Funding source -2	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment		
			2010	2050						
				Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?
* Public pensions:									
	Yes	Contribution-funded	8,85% employer; 15,50% employee	8,85% employer; 15,50% employee	Legislated	Growth of average age and pensions	Legislated	Wage growth	50% of wage growth in 2010, 25% of wage growth in 2011, withouth indexation until 30/6/2012 (temporarily legislated)
* Occupational pensions:	No								
* Private pensions:	No								

Pension schemes (Country-specific)	AWG: Benefit Ratio (BR) and Gross Average Replacement Rates (GARR)									
	Covered by BR / GARR? (Y/N -Comments)		Scheme –specific assumptions							
			Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
				2010	2050					
	BR	GARR			Assumptions used for BR/GARR projectionss	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?
* Public pensions:										
	Yes	Yes	Contribution-funded	8,85% employer; 15,50% employee	8,85% employer; 15,50% employee	Legislated	Growth of average age and pensions	Legislated	Wage growth	50% of wage growth in 2010, 25% of wage growth in 2011, withouth indexation until 30/6/2012 (temporarily legislated)
* Occupational pensions:	No	No								
* Private pensions:	No	No								

SK

Pension schemes (Country-specific)	ISG: Theoretical Replacement Rates								
	Covered by TRR? (Y/N - Comments)	Scheme –specific assumptions							
		Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
			2010	2050					
				Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?
*** Public pensions:**									
1) Mandatory PAYG, earnings related scheme (2010 and 2050)	Yes	Mixed (contributions + state budget)	28,75%	19,75%	Legislated	Wage growth	Legislated	Combination wage growth and price index (50%:50%)	Legislated
*** Occupational pensions:**									
*** Private pensions:**									
2) Mandatory fully funded, DC scheme	Yes	Contributions	n. a.	9%	Legislated	Market rate of return	Ad-hoc: WG assumption (3 % for	Price index	Ad-hoc: Assumption used by OECD in the APEX
3) Voluntary supplementary pension savings DC private scheme	No								

Pension schemes (Country-specific)	AWG: Benefit Ratio (BR) and Gross Average Replacement Rates (GARR)									
	Covered by BR / GARR? (Y/N -Comments)		Scheme –specific assumptions							
			Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
				2010	2050					
	BR	GARR			Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?
*** Public pensions:**										
1) Mandatory PAYG earnings related scheme (2010 and 2060)	Yes	Yes	Mixed (contributions + state budget)	28,75%	19,75%	Legislated	Wage growth	Legislated	Combination wage growth and price index (50%:50%)	Legislated
*** Occupational pensions:**										
*** Private pensions:**										
2) Mandatory fully funded, DC private scheme (2060)	Yes	Yes	Contributions	n. a.	9%	Legislated	3%	Ad-hoc: AWG assumption	0% (*)	Ad-hoc: Assumption
3) Voluntary supplementary pension savings DC private scheme	No	No								

* Currently, the Act on Old-age Pension Saving defines only general principles for pay out phase in the form of annuity and does not cover the question of indexation of the annuity in payment. Hence the calculations by AWG assume no

FI

Pension schemes (Country-specific)	ISG: Theoretical Replacement Rates								
	Covered by TRR? (Y/N - Comments)	Scheme –specific assumptions							
		Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
			2010	2050					
				Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?
*** Public pensions:**									
Earnings-related old-age (Private sector employees TyEL	Yes	Contributions	16.9 Employers 4.5(18-52) /5.7 (53-68) employees	As in 2010	`(1)	80% wages and 20% prices	Legislated	20% wages and 80% prices	Legislated
National old-age pension	Yes	Tax-funded						50% wages and 50% prices (No effect in TRR cases)	Ad-hoc assumption (legislated index is 100% prices)
Guarantee pension (No effect in TRR cases)	Yes	Tax-funded							
*** Occupational pensions:**	No								
*** Private pensions:**	No								

(1) OECD model APEX could use only the present contribution rate. This has not been changed when FI moved to do calculations in a national model. Normaly the pension contribution is decided separately for each year and it will rise

Pension schemes (Country-specific)	AWG: Benefit Ratio (BR) and Gross Average Replacement Rates (GARR)									
	Covered by BR / GARR? (Y/N -Comments)		Scheme –specific assumptions							
			Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
				2010	2050					
	BR	GARR			Assumptions used for BR/GARR projectionss	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?
*** Public pensions:**										
Earnings related	Yes	Yes	Contributions	21,6	28,0		80% wages and 20% prices	Legislated	20% wages and 80% prices	Legislated
National pensions	Yes	Yes	Tax-funded						50% wages and 50% prices	Ad-hoc assumption (Legislated index is 100% prices)
*** Occupational pensions:**	No	No								
*** Private pensions:**	No	No								

SE

Pension schemes (Country-specific)	ISG: Theoretical Replacement Rates								
	Covered by TRR? (Y/N - Comments)	Scheme –specific assumptions							
		Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
			2010	2050					
				Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?
*** Public pensions:**									
Income pension	Yes	Contribution	16%	16%	Legislated	Average income	Legislated	Average income-1.6%	Legislated
Supplementary pension (born before 1954)	Yes	Contribution**		n/a	Legislated	Points system	Legislated	Average income-1.6%	Legislated
Premium pension	Yes	Contribution	2.5%	2.5%	Legislated	Rate of return		Rate of return	
Guarantee pension	Yes	Tax-funded	n/a	n/a	Legislated	n/a	n/a	Prices	Legislated
Housing supplement	Yes	Tax-funded	n/a	n/a	Ad-hoc assumption	n/a	n/a	Prices	Ad-hoc assumption
*** Occupational pensions:**									
ITP	Yes	Employer contributions	n/a	4.5, 30%	Collective agreement	Rate of return	n/a		n/a
*** Private pensions:**	No								

** The supplementary pension is integrated as part of the income pension system.

Pension schemes (Country-specific)	AWG: Benefit Ratio (BR) and Gross Average Replacement Rates (GARR)									
	Covered by BR / GARR? (Y/N -Comments)		Scheme –specific assumptions							
			Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
				2010	2050					
	BR	GARR			Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?
*** Public pensions:**										
Income pension	Yes	Yes	Contribution	16%	16%	Legislated	Average income	Legislated	Average income -1.6%	Legislated
Supplementary pension (born before 1954)	Yes	Yes	Contribution**		n/a	Legislated	Points system	Legislated	Average income -1.6%	Legislated
Premium pension*	Yes	Yes	Contribution	2.5%	2.5%	Legislated	Rate of return		Rate of return	
Guarantee pension	Yes	Yes	Tax-funded	n/a	n/a		n/a	Legislated	Average income	Ad-hoc assumptions
Housing supplement	Yes	Yes	Tax-funded	n/a	n/a		n/a	Legislated	Average income	Ad-hoc assumptions
*** Occupational pensions (all major plans)**	Yes	Yes	Employer contributions	2,5-30%	2.5-30%	Collective agreement				
*** Private pensions:**	No	No	Tax deductible private savings	n/a	n/a	n/a	Rate of return		Rate of return	

** The supplementary pension is integrated as part of the income pension system.

UK

Pension schemes (Country-specific)	ISG: Theoretical Replacement Rates									
	Covered by TRR? (Y/N - Comments)	Scheme –specific assumptions								
		Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment		
			2010	2050						
				Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?	Assumptions used for TRR projections	Legislated or ad-hoc assumption?
* Public pensions:	Yes	Tax Funded	23,8% (1)	23.8%	Legislated	Average Wage growth	Ad-hoc Assumption	4.95%	Ad-hoc Assumption
* Occupational pensions:	Yes	Contribution funded	8%	8%	Ad-hoc Assumption	Average Wage growth	Ad-hoc Assumption	Prices (3.2%)	Ad-hoc Assumption
* Private pensions:	No								

(1) The contribution to the statutory scheme stands at 23.8 (12.8% from employers and 11% from employees) in 2010/11. However income below the primary/secondary threshold is exempt and different rates would apply to any income above the Upper Earnings Limit. The contribution covers some social benefits other than pensions such as the National Health Service.

Pension schemes (Country-specific)	AWG: Benefit Ratio (BR) and Gross Average Replacement Rates (GARR)									
	Covered by BR / GARR? (Y/N -Comments)		Scheme –specific assumptions							
			Funding source	Contribution rates			Valorisation of pensionable earnings		Indexation of pensions in payment	
				2010	2050					
	BR	GARR			Assumptions used for BR/GARR projectionss	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?	Assumptions used for BR/GARR projections	Legislated or ad-hoc assumption?
* Public pensions:	Yes	Yes	Tax Funded	23,8% (2)	23,80%	Legislated	Average Wage growth	Ad-hoc Assumption	4,95%	Ad-hoc Assumption
* Occupational pensions:	No	No								
* Private pensions:	No	No								

(1) The contribution to the statutory scheme stands at 23.8 (12.8% from employers and 11% from employees) in 2010/11. However income below the primary / secondary threshold is exempt and different rates would apply to any income above the Upper Earnings Limit. The contribution covers some social benefits other than pensions such as the National Health Service.

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Annex 7. Country profiles

EUROPEAN COMMISSION

ANNEX
Country Profiles

Pension Adequacy
in the European Union
2010–2050

23 May 2012

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Austria (AT)

Country profile for the Pension Adequacy Report 2012

General description of the pension system

The most important source for the provision of retirement income in Austria is the so-called "statutory pension system" ("*Gesetzliche Pensionsversicherung*"). It provides old-age pensions, surviving dependants' pensions, as well as invalidity pensions.

Today, the statutory pension system includes, in principle, all people in gainful employment[1] (including most categories of self-employed), with the exception of civil servants, who have traditionally been covered by their own systems. However, under the Act on the "Harmonisation of Austrian Pension Systems", which took effect on 1 January 2005, uniform pension laws were created for all gainfully employed people, including federal civil servants.[2]

The Austrian statutory pension system is an earnings-related unfunded scheme, organised on a PAYG-basis and at first instance financed by insurance contributions, amounting to 22.8% of gross earnings up to a ceiling[3].

The current statutory retirement age is 65 years for men and 60 years for women. According to the current legal framework, between 2024 and 2033 the pensionable age for women will gradually be increased by 0.5 year-steps per year to equal the pensionable age for men. Early retirement is possible on the grounds

- of disability: different eligibility-criteria are existing for self-employed, white collar and blue-collar workers; concerning the latter there is a further differentiation between skilled and unskilled workers;
- of long-term insurance periods[4] (currently an insurance period of 37.5 insurance years or more is required);
- of long-term insurance contributions[5](currently a contribution period of 40 (women) / 45 (men) contributory years or more is required);
- of physically hard work[6] combined with long-term insurance periods (45 insurance years or more);

[1] Employees with wages below the so-called marginal earnings threshold (currently EUR 5,267.64 per year gross) may opt into the old-age insurance on a voluntary basis.

[2] This means that pensions for newly employed federal civil servants are calculated according to the same regulations as those of other persons (for those being younger than 50 in the year 2005, pension entitlements are calculated as a mix of old and new provisions on a pro rata temporis basis, while those older than 50 were exempted from the new system). Furthermore, it should be noted that the federal provinces (*Bundesländer*) run their own systems for their civil servants. However, most federal provinces enacted related reforms during recent years as well, aligning respective regulations towards the rules in place in the normal "statutory pension system".

[3] Gross earnings above the ceiling (2012: EUR 59,220 per year gross) are not part of the contribution base

[4] "*Vorzeitige Alterspension bei langer Versicherungsdauer*" (phased out in 2017: retirement age in July 2012: 63 years and 8 months for men, 58 years and 8 months for women).

[5] "*Langzeitversichertenpension*" (with increasingly aggravated access as from 2014; current retirement age: 60 for men, 55 for women; as from 2014: 62 for men, 57 for women).

[6] *"Schwerarbeiterpension"* (retirement age: 60 for men, 55 for women).

- and the so called corridor-pension at the age of 62 for both sexes, when having 37.5 insurance years or more[7]; in addition to the overall deduction of 4.2% per pre-retirement year, there is an additional deduction of 2.1 % per year of pre-retirement before 65.

For all pre-retirement schemes there is a deduction of 4.2 % per pre-retirement year (exception: for the physically hard work – scheme the deduction is 1.8 % per year), there also exists a bonus of 4.2 % per year for a retirement after 60/65. Both – deduction and bonus – are subject to a limitation of 12.6 %.

Pension benefits are – in principle – indexed according to the consumer price index (CPI). However, decisions are often taken within legislature to index pensions according to a model which is only indirectly linked to the consumer price index, leading to different levels of indexation for different benefit levels.

Since the early 2000s, the calculation of the pension-benefit underwent several reforms:

- In 2004 according to the old calculation system, the annual accrual rate has been reduced stepwise from 2% in 2003 to 1.78% by 2009, and the assessment period will be increased from the best 15 to the best 40 years by 2028.
- In 2005 the pension system was harmonised through the introduction of a uniform pension law covering people in all occupations (including civil servants) born on 1 January 1955 or later. Those who enter the labour market after 1 January 2005 are only affected by the new Pension account: this means an annual accrual rate of 1.78%, lifetime earnings as basis for the pension calculation and 4.2% bonus for deferred and 4.2% malus for early pension take up. People born on 1 January 1955 or later and who have already pension contributions are part of both the old and the new pension system: the pension is calculated as the weighted sum of the two pensions according to the contribution periods in these two systems ("parallel calculation").

The Austrian statutory pension system does not provide for an unconditional minimum pension for people beyond a certain age. However, the so-called "means-tested equalisation supplement" ("*Ausgleichszulage*") may - on a partly means-tested basis - apply for people 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. Thereby, apart from the pensioner's income, the income of spouses or partners is taken into account (but not assets). The overall net yearly equalisation supplement reference rate (taking into account insurance contributions for health insurance) currently amounts to EUR 10,826 for singles and to EUR 16,231 for couples.

Private schemes have a rather limited role in overall provisions, although coverage and the accumulated funds have increased somewhat in recent years. In 2010 about 696,000 persons (or ca. 22% of the dependent employees) were entitled to receive an additional pension from an occupational scheme in the future, and about 66,000 persons (which equals about 4.5% of the population aged 65 and above) were already beneficiaries.[8]

The second pillar was somewhat strengthened by the introduction of the new severance pay scheme in 2003. Employers are obliged to pay 1.53% 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

[7] *„Korridorpension"* (retirement age: 62 for both men and women).

[8] Data provided by FMA (retrieved 03.02.2012) at: http://www.fma.gv.at/typo3conf/ext/dam_download/secure.php?u=0&file=5900&t=1328725330&hash=68779eae3fe2c8bf9a6b1ce2b4a752b0

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*). The impact of the "premium-aided pension savings scheme" on the level of future pensions is likely to be rather limited. About 1,541,000 of such contracts on savings plans existed at the end of 2010, 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 2010, the average premium amounted to about EUR 640 to 780 per year (depending on the type of provider of the scheme) (see FMA 2011).

Reform trends

The Austrian statutory pension system was subject of several reforms since the early 2000s.

The most significant changes in the decade 2000/2009 were decided in 2001, 2003 and 2004. These reforms:

- harmonised the different traditional strands of the Austrian pension system (i.e. especially regarding the differentiation between employees in the private sector and civil servants);
- abolished a number of early retirement schemes (early retirement due to "reduced capacity to work" and "on account of unemployment"), but left others in place - although stepwise phasing out till 2017 (early retirement on account of "long-term insurance periods") and even introduced new ones (the "corridor pension" and early retirement due to "physically hard work" and especially of "long-term contribution periods");
- aimed at long-term cost containment by introducing a lower annual accrual rate of 1.78% (instead of 2%) and a stepwise implementation of lifetime earnings as basis for the pension calculation (instead of the best 15 years according to the former scheme in place for the private sector). However, the latter measures are subject to a number of different transitional arrangements, like parallel accounting for those who entered the labour market before 1.1.2005 and temporal ceiling of benefit reductions deriving from the reform.

It is worth noting that 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, in the first instance deriving from the extension of the assessment base from the "best" 15 years to lifetime earnings, and to compensate for the disadvantages of women on the labour market to a certain extent. The minimum number of contribution years due to gainful work required for an old-age pension was reduced to 7 years (formerly 15 years), when having 8 years of child-credits (the time spent for bringing up children credited as pensionable years is up to 4 years per child). Furthermore, the assessment base for time spent with bringing up children was differentiated concerning the splitted pension-benefit calculation formula: in the "oldest" branch of the so called parallel-calculation this amount is connected to the formerly mentioned "Ausgleichszulage" (currently EUR 814,82 per month (in 2012)), in the other branch of the parallel-calculation – the new individual (notional defined benefit) pension account - this amount was raised to EUR 1,570.35 per month (in the year 2012).

The more recent reform 2010 was – when compared with the ones of the early 2000s – of only gradual character. The reform legislated in 2010 at first instance dealt with a) an adaptation of different forms of early retirement and with b) indexation of benefits.

Regarding the first point, the following reform-measures are the most important:

- In 2010, changes were decided regarding early retirement due to "long-term contribution periods" (so-called "*Langzeitversichertenregelung*") and invalidity pensions: Regarding the first, access was substantially tightened by increasing the respective minimum age, more rigid rules regarding the recognition of "substitutional insurance periods" (*Ersatzzeiten*), the abolishment of the opportunity of post-purchasing insurance periods (for times of school and university studies) and deductions for this type of early retirement (to be implemented as from 2014) were introduced (4.2 % per year of early retirement).
- Concerning invalidity pensions, access may now only be granted if the working ability could not be restored by preceding rehabilitation measures, which are now mandatory, but which were of optional character before. Furthermore, within the scheme of invalidity pensions, regulations on so-called "vocational protection" (*Berufsschutz*) have been changed to some degree, 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 via the introduction of "hardship provision" ("*Härtefallregelung"*), which is, however, planned to expire in 2015.

Concerning indexation following decisions were taken:

- In 2009 pensions where valorised according to the pensioners price index, which was slightly above the consumer price index.
- In 2010, pensions were valorised according to the consumer price index, but pensioners eligible to rather low benefits also received an additional one-time lump sum payment of up to a maximum of 4.2% of the monthly benefit.
- In 2011, only pensions up to a level of EUR 2,000 gross per month were valorised according to the consumer 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 consumer price index. Only for very high pensions above the level of EUR 3,300 gross per month a reduced indexation applies.

One other reform worth mentioning (decided already in 2009) is that the state now covers contributions to old-age insurance of caring family members who decide to opt-in to old age insurance as from level three of long-term care benefits[9]. Before, this only applied in case of long-term care benefits of level five and above. This means that the group of caring family members whose contributions for old-age insurance are covered by the state (if they opt-in to old-age insurance) has been expanded.

Regarding the second ("new severance pay scheme") and the third pillar (occupational pensions and "premium-aided pension savings scheme") no or only minor changes occurred. Regarding the "premium-aided pension savings scheme" (where –rather limited - public subsidies are planned to encourage investment in private pension schemes), respective schemes originally had to invest at least 40% of the savings in the stock market. In 2009, this share was reduced to a level between 15% and 30% (depending on the age of the account holder). The intention was to offer the option of less risky investments within this scheme

[9] Long-term care benefit is a seven-levels-category, needs-compliant benefit. It is granted at seven different benefit levels – the higher the amount of care needed, the higher the level of benefits.

(especially for older people) by reducing the minimum quota of investment in the stock market.

In March 2012 a further major pension-reform was passed by the Austrian parliament: this reform undertook on the one hand further incremental steps that are in line with the reforms of the last decade and which will lead to the following new legislation:

- The valorisation of the pensions is still according to the overall consumer price indexation, but the valorisation will be substantially lower than this index in the years 2013 and 2014;
- The contribution – rates for self-employed persons will be stepwise increased in the years 2012 till 2015. The ceiling for the gross earnings, up to which contributions have to be paid, will be additionally increased in one incremental step in 2013;
- The yearly deduction for the so called pre-retirement scheme "corridor-pension" will be raised from 4.2 % to 5.1 % from 2017 onwards;
- The eligibility criteria for the so-called "corridor-pension" and the phased out "long-term insurance pension" will be stepwise increased from 37.5 to 40 years in the period 2013 until 2017;
- Concerning the disability – pensions the eligibility criteria for skilled blue-collar workers and for self-employed persons are worsened: the privileged entry-age of 57 years will stepwise increase to 60 in 2017.

But on the other hand the most important legislative changes of the reform 2012 concern the new calculation formula for the pension – benefits:

- The 2005 harmonized pension system brought a new individual pension – account, which is more or less a notional account of a defined benefit-type: according to the formula 80/65/45 it should guarantee a gross replacement-rate of 80% of the lifetime-average earnings at the age of 65 when having 45 insurance years: but this new formula applies only to persons, born 1.1.1955 and later, and having no contributory – periods prior to 2005.
- On the other side, persons born prior to 1.1.1955 are completely in the "old-system" due to the reform 2004: the have no parallel-calculation concerning the benefit formula.
- The generation in between, born 1.1.1955 and later and having insurance periods before 2005, is subject of the so-called parallel-calculation: this means that the old-regime would be – at least partly – in effect up to the year 2050: this complex benefit – calculation formula prohibits clear individual information of the accrued pension-entitlements and their future prospects.

The 2012 reform abolishes the "parallel-calculation" and shifts the corresponding – group solely into the individual pensions –account scheme:

- All pensions – rights accrued until 31.12.2013 are calculated per 1.1.2014 according to the parallel-calculation and this (fictitious) pension is transferred as a "starting – entry" to the individual account.
- From 2014 on, 1.78% of the yearly contribution-base is added to this amount; additionally a yearly valorisation according to the increase of the overall average contribution – base takes place.
- When retiring, the yearly pension equals the accrued amount of the pension-account.

The aim of this reform is to give the clear and transparent signal and regular information to the insured person, that working longer gives a substantial rise of the accrued pension entitlement. As an important by–product, this reform should decrease the gap in pensions between white-collar and blue-collar workers and also between male and female pensioners.

Concerning the second-pillar pensions, special regulations had to be enforced in the tax-system too: a special tax regulation will compensate the current pensioners and persons retiring in the near future, for the decrease of their pension benefits (or their future pension entitlements) due to the negative performance of the capital-markets. This regulation will lead to an overall higher net second-pillar pension, if and only if, the pensioner pays a part of the future tax in advance ("Vorwegbesteuerung").

Assessment of adequacy and sustainability indicators

Current adequacy

Regarding core indicators for social inclusion, as agreed upon at EU-level, the Austrian pension system performs rather well at first sight from an international comparative perspective. When compared to the average of EU-27, in Austria a considerably lower share of people in the age 65+ is at risk of poverty or faces social exclusion (EU-2020 indicator; Austria: total: 15.8%, men: 11%, women: 19.4%; EU-27: total: 19.8%, men 16.2%: women: 22.6%). The latter is at first instance caused by very low average rates of severe material deprivation in the age 65+ (for both sexes) in Austria (Austria: total: 2%; men: 1.3%; women: 2.5%; EU-27: total: 6.4%; men 5.1%: women: 7.4%). Apart from that, the at-risk-of poverty rate of Austrian elderly men aged 65+ (10.4%) and 75+ (13.6%) is somewhat below average of EU-27 (65+: 12.9%, 75+: 14.3%), whereas the at-risk-of-poverty rates of elderly Austrian women (both for the age-groups 65+: 18.7% and 75+: 20.5%) are at about the average level of EU-27 (65+: 18.2%; 75+: 20.5%).

When compared to the at-risk-of-poverty rate of the population in the age below 65 (total: 11.5%, men: 10.7%, women: 12.3%), at-risk-of poverty rates of elderly people (aged 65+ and especially aged 75+) are generally higher in the case of Austria. At average of EU-27 a related phenomenon only applies to women. Severe material deprivation in Austria is a much less common phenomenon in the age groups 65+ (total: 2%) and 75+ (total: 1.5%), than it is regarding the ones in the age below 65 (total: 4.8%). Data on averages of EU-27 point to the same direction, however with a much lower degree of relative differentiation (below 65, total: 8.5%; 65+, total: 6.4%).

In Austria, income inequality (S80/S20) is considerably below average of EU-27 for people in the age below 65 years, but only slightly below average of EU-27 regarding elderly people aged 65 and over.

Overall, it appears that the Austrian pension system shows a high degree of adequacy in terms of severe material deprivation, especially for men but to a large degree as well for women. However, when a more relative indicator like being at-risk-of poverty is used, the performance of the Austrian pension system (in terms of social inclusion) is less favourable. The latter especially holds for women (but to lesser degree as well for men), whereby inequalities within the labour market (in terms of earned income and continuity of employment/insurance contributions) get reproduced within the pension system.

Regarding indicators measuring the income replacement role of pensions, the median relative income ratio for people 65+, as a ratio of income of the age group 0-64, at 91% is higher than the EU-27 average (88%) and so is the aggregate replacement ratio (median individual

pensions of 65-74 year olds relative to median individual earnings of 50-59 years old) (Austria: 64%; EU-27 average of 53% in 2010).

The gender break-up of all these indicators show that old-age women currently present higher risk of poverty or social exclusion and severe material deprivation and in general enjoy lower standards of living that old-age men in Austria. This is mainly a result of women who receive only a survivor's pensions and have no pension entitlement of their own, but also of high gender pay gap and gender difference in the retirement age. Despite some improvements in the last years (e.g. child care periods count for the pension calculation as well as for the entitlement of a pension), there is a need to raise employment rates of women, to further facilitate the reconciliation of work and family, and to improve women's life-time earnings. Furthermore, the equalisation of the pensionable age for women with that for men (currently foreseen to increase from 60 to 65 only between 2024 and 2033) is important, not only in the light of financial sustainability, but very much to avoid that women are exposed to a disproportionate risk of poverty in old age.

Future adequacy

Regarding future developments, the net theoretical replacement rate (NRR) for a hypothetical male worker retiring at 65 after 40-years career is projected to grow slightly from 85% in 2010 to 88.7% in 2050. The gross theoretical replacement rate is however set to decrease slightly from 69.9% in 2010 to 68.8% in 2050. The different trends in net and gross replacement rates reflect positive effects of the tax system on pension benefits.

The negative effect of 3 years of unemployment which came to 0.6 p.p. of the base case NRR in 2010 will be three times larger in 2050 (1.9 p.p. smaller NRR with respect to the base case). In the same period the negative effect of a 3 year childcare break would be reduced from 2 p.p. to just 0.8 p.p. (with respect to the base case).

The TRR for low earners would be slightly increased from 83.7% to 83.8% between 2010 and 2050, but it stands out that the TRR for a low income worker is lower than for the average earner, and will remain so in the future, which is questioning the adequacy of the pension system for that group. Furthermore, negative effects of unemployment and of career breaks (other than ones due to childcare) will possibly increase in the future (when compared to the base scenario). 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.

It appears that future cost-containment – regarding reforms already in place - is at first instance planned to be reached by cuts on comparatively high pensions (as evident from the above average reduction of TRRs for high income earners, that would drop from 77.2% to 72.1%, the largest drop of all variant cases). But as the situation of low income earners will not improve simultaneously, challenges regarding the adequacy of the pension system (especially regarding relative indicators as being at-risk-of-poverty) remain.

The effect of a 10 year career break on the TRR would increase from a loss of about 14.9 p.p. to a loss of 18 p.p. (with respect to the full career base-case). Indexation rules seem to protect better pensions after retirement since the "10 years after retirement" variant case presents the most favourable developments over time.

As for the incentives to working longer the extension of the working career by two years would bring the largest increases in TRR over time (9.8 p.p. increase between 2010 and 2050).

Overall, the Austrian pension system is – from an international comparative perspective – rather cost-intensive. However, regarding specific indicators for adequacy and social inclusion, the performance of the Austrian pension system is average. This is mainly caused by the fact that the Austrian pension system reproduces inequalities on the labour markets to a considerable degree, given the dominance of the principles of insurance (regarding access) and of equivalence (regarding benefit levels). The 2012 reform might be a step in the direction of reforming the pension system to address these issues.

SUSTAINABILITY

Demography

The old-age dependency ratio[10] (population aged 65 and over as a percentage of the population aged 20-64) in AT is projected to increase from 28.6% in 2010 (EU-27: 28.4%) to 52.9% in 2050 (EU-27: 55.0%) and 55.4% in 2060 (EU-27: 57.7%).

AT belongs to the group of Member States where the increase in old-age dependency ratio is projected to be below the EU-27 average. Over the period 2010 to 2060, the old-age dependency ratio is projected to increase by 26.8 percentage points (EU-27: 29.2 percentage points).

The share of working-age population (15-64) (67.6% of the total population in 2010) is projected to drop by 10.3 percentage points by 2060 (to 57.3% of the total population), compared with 10.7 percentage points for the EU as a whole by 2060.

Employment

The labour market participation rate[11] (15-64) in AT was above the EU-27 average in 2010 (AT: 75.0%, EU-27: 71.1%), and is projected to remain higher also in 2060 (AT: 77.6 %, EU-27: 73.8%). Over the period 2010 to 2060, the participation rate of older workers (55-64) is it projected to increase by 12.9 percentage points (from 43.1% in 2010 to 56.1% in 2060), but less than in the EU-27 (16.8 percentage points: from 49.7% in 2010 to 66.5% in 2060).

According to the 2012 Ageing Report, employment rate (15-64) is projected to increase from 71.7% in 2010 (EU-27: 64.1%) to 74.4% in 2050 (EU-27: 68.9%) and is projected to remain in that position also in 2060 (EU-27: 69.0%). The share of older (55-64) in employment is projected to change from 10% in 2010 to 16% in 2060 (EU-27: from 13% in 2010 to 19% in 2060).

The employment rate for older workers (55 to 64 years)[12] in AT in 2010 was below the EU-27 average: 42.4% (51.6% - males, 33.7% - females) versus 46.3% at EU-27 level (54.6% - males, 38.6% - females).

The average effective exit age from the labour force in 2010 was 60.7 (61.3 – for men, 60.2 – for women) and it is below the EU-27 average (62.1 – total, 62.5 – for men, 61.7 – for women).

The effective retirement age at 60.7 (2010) is significantly below the statutory retirement age and also still below the EU average, despite of recent increases. The employment rate for older workers and the effective retirement age are still well below the EU average, despite of recent increases. This causes additional pressure on the sustainability of the system and it is extremely important to reduce the gap between effective pension take up and the pensionable

[10] The 2012 Ageing Report

[11] The 2012 Ageing Report

[12] EUROSTAT

age and points at the urgent need to review policies to promote employment for older workers.

Expenditure

According to the 2012 Ageing Report, the gross public pension expenditure will increase from 14.1% of GDP in 2010 to 16.4% of GDP in 2050 and 16.6% in 2060.

In 2010 the gross old-age and early pension expenditure was 9.7% of GDP, above the EU-27 average of 9.2%. The 2012 Ageing Report projects an increase to 12.8% of GDP by 2050, which is above the EU-27 projected average of 11.0% of GDP.

Main drivers of pension expenditure

In accordance with the 2012 Ageing Report the demographic factor has the strongest downward effect (+11.0 p.p. of GDP) on gross public pension expenditure over 2010-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and labour intensity[13]). The lowering effect of coverage ratio (-2.9 p.p.) and benefit ratio (-4.5 p.p.) on the public pension expenditure are more pronounced than the employment rate effect (-0.6 p.p.).

[13] As a result of the macroeconomic assumptions used in the projections, the labour intensity contribution has more or less no impact on the change in the pension expenditure/GDP ratio (EU-27 average: +0.1 p.p.). Only Greece, Spain, Luxembourg, Malta and Austria project an increasing effect of 0.1 p.p. of GDP. In all other Member States, the labour intensity effect is negligible.

Background Statistics

	Austria			EU-27		
Current adequacy (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Median relative income of people 65+ as a ratio of income of people 0-64	91	96	88	88	92	86
Aggregate replacement ratio	64	68	59	53	56	52
At-risk-of-poverty rate: 65-	11,5	10,7	12,3	16,5	16,2	16,8
65+ / 75+	15,2 / 17,9	10,4 / 13,6	18,7 / 20,5	15,9 / 18,0	12,9 / 14,4	18,1 / 20,5
Severe material deprivation: 65-	4,8	4,4	5,1	8,5	8,4	8,5
65+ / 75+	2 / 1,5	1,3 / 1,1	2,5 / 1,7	6,4 / 6,5	5,1 / 5,0	7,3 / 7,5
At risk of poverty or social exclusion (EU2020): 65-	16,7	15,3	18,1	24,2	23,5	25,0
65+ / 75+	15,8 / 18,5	11 / 14,5	19,4 / 20,9	19,8 / 22,1	16,2 / 17,7	22,6 / 25,0
Income distribution (S80/S20): 65- / 65+	3,7 / 3,6	3,7 / 3,5	3,8 / 3,7	5,2 / 4	5,2 / 4	5,2 / 3,9
Adequacy projections: AT						
Theoretical replacement rates (TRR):	**Net 2010**	**Net 2050**	**Difference**	**Gross2010**	**Gross2050**	**Difference**
40 years career: average income earner (basecase)	85	88,7	3,7	69,9 (100/0/0)*	68,8 (100/0/0)*	-1,1
Low income	83,7	83,8	0,1	69,9 (100/0/0)*	68,8 (100/0/0)*	-1,1
High income	77,2	72,1	-5,1	63,9 (100/0/0)*	51,8 (100/0/0)*	-12,1
Lower / higher future rates of return		88,7 / 88,7			68,8 / 68,8	
Lower / higher future wage growth		87 / 89,4			69,1 / 68,2	
38 years career: average income	77,2	79,3	2,1	60,7	59,5	-1,2
Low / high income	73 / 68,2	75 / 64,8	(- 2 / -3,4)	59,7 / 54	59,9 / 45,5	(0,2 / -8,5)
42 years career: average income	87,9	97,7	9,8	73,4	78,3	4,9
Low / high income	88 / 80,4	95,5 / 80,4	(- 7,5 / 0)	71,9 / 66,5	78,3 / 59,2	(- 6,4 / -7,3)
10 years after retirement	75,2	80,3	5,1	60,4	59,4	-1,0
Female worker with 3 years of career break for childcare	83	87,9	4,9	67,5	67,9	0,4
3 years of career break for unemployment	84,4	86,8	2,4	69,2	66,8	-2,4
10 years out of the labour market	70,1	70,7	0,6	52,5	51,6	-0,9
	2010	**2050**	**Difference**	**EU27 2010**	**EU27 2050**	**Difference**
Benefit ratio (Public pensions)	42,3	36,5	-5,8	44,7	37,0	-7,7
Gross replacement rate at retirement (Public pensions)	47,7	40,3	-7,5	48,0	39,1	-8,9
	Austria			**EU-27**		
Current sustainability (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Employment rates: 15-64	71,7	77,1	66,4	64,1	70,1	58,2
55-64	42,4	51,6	33,7	46,3	54,6	38,6
Effective labour market exit age****	60,7	61,3	60,2	62,1	62,5	61,7
Remaining life expectancy at 65	19,8	17,6	20,9	19,3°	17,2	20,7
Economic old-age dependency ratio[3]	36,6			39,8		
Pension expenditure, %GDP (ESSPROS)	15,1°			13,1°		
Budget balance	-4,4			-6,6		
Public debt	71,8			80,1		
Sustainability projections ***	**Austria**			**EU-27**		
Old-age dependency ratio**	**2010**	**2020**	**2030**	**2010**	**2020**	**2030**
	29	32	43	28	34	42
	2040	**2050**	**2060**	**2040**	**2050**	**2060**
	51	53	55	50	55	58
	2010	**2050**	**Difference**	**2010**	**2050**	**Difference**
Public pensions, gross (% of GDP)	14,1	16,4	2,3	11,3	12,8	1,5
Old-age and early pensions, gross (% of GDP)	9,7	12,8	3,2	9,2	11,0	1,7

*: Share of statutory DB-NDC / statutory funded / occupational and other supplementary pensions

°: 2009

¹: 2008

²: 2007

[3]: Economic old-age dependency ratio (20-64)

** Old-age dependency ratio = Population aged 65 and over as a percentage of the population aged 20-64. Source: The 2012 Ageing Report

***Source: EC-EPC (AWG) 2012 projections

****Source: The 2012 Ageing Report

Belgium (BE)

Country profile for the Pension Adequacy Report 2012

General description of the pension system

Belgian has as statutory (first pillar) pension schemes 3 different systems of retirement pension and survivor's pension for employees, for self-employed and for civil servants, reflecting the Bismarckian character of the Belgian social security system. Next to these schemes, a residual scheme guaranteeing a subsistence minimum to the elderly is also in place.

Since 2009 the legal retirement age is 65, both for men and women. For both, a career length of 45 years gives right to a full pension. For the private sector, the legal retirement age is not compulsory: working longer is possible, (on a basis of an agreement between employee and employer). If retired, the retirement pension can be combined with income derived from professional activity to a legally defined extent.[14]

Early retirement is possible from the age of 60. For now, early pension take up is possible without penalisation from age 60 but only on the condition of a 35-year career. As a result of recent reforms, however, these eligibility conditions will be tightened progressively between 2012 and 2016 (cf. *infra*). Employees and self-employed persons need to prove a 35-year career in order to enter early retirement; civil servants need to have been in service for at least five years. An actuarial reduction in the pension calculation is only implemented in the scheme for self-employed persons, not in the other schemes. Financial incentives to work longer include a "pension supplement" for civil servants after the age of 60 and a "pension bonus" for employees and self-employed after the age of 62 or after a career of 44 years.

The statutory pension scheme is an unfunded pay-as-you go scheme with defined benefits. For employees and self-employed, pension benefits are calculated as a percentage of the capped average wage or business income over the contributory career. Because the calculation base is capped, no formal maximum pension is defined. For civil servants, the amount of the pensions is calculated not on the whole career, but on the basis of the average wage of the last five years in service. From 2012 onwards, the calculation will be carried out on the basis of the average of the last 10 years of career. In this scheme, a maximum pension amounting to 3/4ths of the final wage does apply. In all three systems, periods for which no contributions have been paid can be taken into account (so-called 'assimilated periods'). This is arranged differently in the different systems.

To eliminate adverse effects of low wages (e.g. due to part-time work) and to make sure that the amount of the pension reaches a certain level, a calculation mechanism ensures that a minimum right is taken into account per year of career if the pension beneficiary has worked for at least 30 years in a position that corresponds to at a least half of a full time equivalent employment. For each year of the career for which the minimum wage threshold has not been reached, the minimum calculation basis will be applied, under the condition that the so obtained pension amount does not exceed a given yearly limit.

If a worker has a career of at least 30 active years, he will be entitled to a minimum pension. The pension attributed under this provision will be in proportion with his/her real career length and the 45years condition.

[14] This limitation is foreseen to be lifted with the pension reforms, planned by the government agreement of December 2011.

When income resources for elderly (65+) are not sufficient, a person has a right to a means-tested minimum income guarantee. This supplement is eventually paid on top of whatever pension right is acquired.

Second pillar pensions in Belgium encompass supplementary pension rights in connection to professional activity. These are pension arrangements (other than the first pillar system) in which one can or must participate on the grounds of his or her professional activity (on enterprise or on sectoral level). Second pillar pensions are funded, and can be both of the defined-benefit or defined-contribution type (depending on what has been agreed upon between employers and employees). A special scheme exists for self-employed persons.

The third pillar of the pension system includes different savings schemes with different fiscal treatment and incentives, such as individual life insurance and savings-based pension schemes.

Reform trends

Pension reforms in Belgium have been incremental, characterised by parametric changes that take place within the existing framework. On 2 December 2011, a new government took the stage, with an agreement of different reforms to be done in the pension systems. Tabled on 15 December 2011, the changes were enacted on 28 December 2011, with some measures taking effect from the 1 January 2012 onwards[15]. Transitory measures were negotiated with trade unions and employer organizations.

Summarised, part of the changes focus on limiting the possibilities to enter retirement before the legal age of 65, while not changing the legal age itself. Putting the focus squarely on length of career instead of on age, more people should work for longer before retirement, resulting in more contributions collected and better acquisition of pension entitlements by the worker. For example, the possibility to enter early retirement will, from 2015 onwards, be open only for those who reach the age of 62 (instead of 60 today) after a career of at least 40 years (instead of 35 today). Periods of inactivity that were previously taken into account for the calculation of pension rights will be considered differently and less advantageously, giving more weight to periods of work and contribution payment.

Within the different pension systems, a move is made towards a more homogeneous treatment. In the pension schemes for civil servants, a move is made toward longer contributory conditions and the calculation formula is integrating longer career conditions

In terms of financing, the emphasis remains on strengthening the first pillar pension system. The coalition agreement moreover reveals plans to generalise a second pillar professional pensions.

Summarised, the main objective of the reform has been to add 2 years to the effective retirement age without touching the pensionable age itself by revising the early retirement conditions and progressively rolling back early exit systems such as the "pre-pension" system – i.e. unemployed benefits for dismissed elderly workers topped up with employer contributions.

[15] Wet 28 december 2011 houdende diverse bepalingen (I), BS 30 december 2011, 4de uitgave.

Assessment of adequacy and sustainability indicators

Current adequacy

Several indicators in the EU are used to measure poverty. The aggregate indicator of risk of poverty and social exclusion is based on three sub-indicators: (1) at-risk-of-poverty, which measures relative monetary poverty, (2) severe material deprivation, which is a more absolute measure of poverty, and (3) people living in households with low work intensity (which is not applied to older population). For more analysis, please refer to the Pensions Adequacy Report.

According to data collected in 2010, 19.4% of those over the age of 65 were at risk of poverty: they had to get by with an income of less than 60% of the median. This is a rather high percentage compared to the EU average of 15.9%. Nevertheless, the indicators show a gradual improvement of the economic situation of pensioners. This evolution can be tracked back to 2007, when the means-tested income guarantee raised by almost 14% and a set of adaptations was decided upon that were meant to let pension benefits keep track of the evolution of wages.

While the erosion of social benefits through price inflation is prevented through a system of automatic indexation by which all social security benefits (including pensions) are adapted in line with the evolution of consumer prices, a problem subsists as pension benefits still tend to lose their value over time in terms of purchasing power (so-called 'pension erosion'). In other words, indexation alone does not allow for benefits to keep track of the evolution of wages in real terms. A pension that was calculated years ago on a low wage will, without correction, gradually diminish when compared to the current evolved living standards.

The 2010 19.4% at-risk-of-poverty rate measured in terms of income represents a 3.8 percentage point drop compared to the year 2006, when the risk of poverty for those over the age of 65 stood at 23.2%. In respect to the risk of poverty or social exclusion, where 22.8% of those aged over 65 were at risk in 2005, that percentage had dropped to 20.2% in 2009 and stands at 20.8% in 2010.

However, behind this general improvement are important differences between separate categories of people[16]. The periodic adaptation of benefits to the evolution of wages does not take place equally for all pension benefits. Priorities are set in agreement between government and social partners, with more attention paid to the oldest pensions (those for which the gap was the largest), the lowest pension and to benefits for self-employed pensioners. Indeed, the amount of pension benefits is quite diverse, in line with the different systems for employees, self-employed and civil servants and the possible combinations between the systems. In general, first pillar pensions for civil servants are more generous than in the other schemes. Minimum pensions in the private sector pension schemes are situated just above the relative poverty line. Moreover, the current setting in which second pillar pensions are not universally adopted tends to increase internal inequalities.

When compared with other EU countries, the Belgian pension system seems to leave more people in poverty. However, other indicators show the depth of the poverty is less profound than the raw figures suggest. Home-ownership, for example, is not counted as an income but nevertheless means that no rent payments are necessary (About 3 out of 4 is home-owner in BE). In part, factors such as these are reflected in the indicators concerning severe material deprivation – standing at 2.8% for those above 65 and 2.9% for those above 75, compared to 6.4% overall. Where the at-risk-of-poverty percentages are worse, these figures by contrast

[16] For details, see STUDY COMMITTEE ON AGEING (2011), chapter 4, 59-77.

are significantly better than the EU averages. The difference between the Belgian overall percentage and that of pensioners also shows that pensioners, in general, are less at risk of severe material deprivation than other categories of the population.

The general proximity of pension benefits to poverty lines implicates that figures concerning pensioners' poverty need to be treated with caution[17]. Any measures can easily trigger important migrations below or above these lines.

Future adequacy

The gross and net theoretical replacement rates for an average-wage worker with a 40-year career are projected to increase by around 1.4 and 1.9 percentage points between 2010 and 2050, due to the maturing of the 2nd pillar pensions. In 2050 the absolute values for a full 40-year career average earner retiring at 65 will amount to 75.9% (net) and 52.7% (gross). Projections concerning the future adequacy of pension benefits show an increased share of second pillar pensions in the total benefit (from a 90/10 ration in 2010 to a 78/22 division in 2050). This is thought to lead to a roughly stable overall gross replacement ratio (from 51.3 in 2010 to 52.7 in 2050).

Second pillar pensions in Belgium are still not completely generalised or compulsory, which means that a part of new pensioners do not benefit from the scheme, even if they are foreseen in collective agreements, covering around 70% of the workforce of the private sector.

In its budgetary and adequacy projections, the Study Committee on Ageing[18] expects the poverty risk amongst pensioners to decrease to 3% by 2030, in part due to the fact that more women will have gained higher benefits on the basis of longer careers.

SUSTAINABILITY

Demography

The old-age dependency ratio[19] (population aged 65 and over as a percentage of the population aged 20-64) in BE is projected to increase from 28.7% in 2010 (EU-27: 28.4%) to 46.9% in 2050 (EU-27: 55.0%) and 48.5% in 2060 (EU-27: 57.7%).

BE belongs to the group of Member States where the increase in old-age dependency ratio is projected to be below the EU-27 average. Over the period 2010 to 2060, the old-age dependency ratio is projected to increase by 19.8 percentage points (EU-27: 29.2 percentage points).

The share of working-age population (15-64) (65.9% of the total population in 2010) is projected to drop by 7.7 percentage points by 2060 (to 58.2% of the total population), compared with 10.7 percentage points for the EU as a whole by 2060.

Employment

The labour market participation rate[20] (15-64) in BE was below the EU-27 average in 2010 (BE: 67.7%, EU-27: 71.1%), and is projected to remain lower also in 2060 (BE: 68.5 %, EU-27: 73.8%). Over the period 2010 to 2060, the participation rate of older workers (55-64) is it projected to increase by 9.6 percentage points (from 39.1% in 2010 to 48.7% in 2060), but less than in the EU-27 (16.8 percentage points: from 49.7% in 2010 to 66.5% in 2060).

[17] For more on this subject, see BERGHMAN et al (2010).

[18] STUDY COMMITTEE ON AGEING (2011).

[19] The 2012 Ageing Report

[20] The 2012 Ageing Report

According to the 2012 Ageing Report, employment rate (15-64) is projected to increase from 62.0% in 2010 (EU-27: 64.1%) to 63.4% in 2050 (EU-27: 68.9%) and to 63.5% in 2060 (EU-27: 69.0%). The share of older (55-64) in employment is projected to change from 11% in 2010 to 14% in 2060 (EU-27: from 13% in 2010 to 19% in 2060).

The employment rate for older workers (55 to 64 years)[21] in BE in 2010 was below the EU-27 average: 37.3% (45.6% - males, 29.2% - females) versus 46.3% at EU-27 level (54.6% - males, 38.6% - females).

The average effective exit age from the labour force in 2010 was 61.4 (61.4 – for men, 61.5 – for women) and it is below the EU-27 average (62.1 – total, 62.5 – for men, 61.7 – for women).

Expenditure

According to the 2012 Ageing Report, the gross public pension expenditure will increase from 11.0% of GDP in 2010 to 16.7% of GDP in 2050 and decrease to 16.6% in 2060.

In 2010 the gross old-age and early pension expenditure was 8.9% of GDP, below the EU-27 average of 9.2%. The 2012 Ageing Report projects an increase to 15.4% of GDP by 2050, which is above the EU-27 projected average of 11.0% of GDP.

Main drivers of pension expenditure

In accordance with the 2012 Ageing Report, the demographic factor has the strongest downward effect (+7.6 p.p. of GDP) on gross public pension expenditure over 2010-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and labour intensity[22]). The lowering effect of coverage ratio (-0.9 p.p.) and benefit ratio (-0.6 p.p.) on the public pension expenditure are more pronounced than the employment rate effect (-0.3 p.p.).

[21] EUROSTAT

[22] As a result of the macroeconomic assumptions used in the projections, the labour intensity contribution has more or less no impact on the change in the pension expenditure/GDP ratio (EU-27 average: +0.1 p.p.). Only Greece, Spain, Luxembourg, Malta and Austria project an increasing effect of 0.1 p.p. of GDP. In all other Member States, the labour intensity effect is negligible.

Background Statistics

	Belgium			EU-27		
Current adequacy (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Median relative income of people 65+ as a ratio of income of people 0-64	75	77	74	88	92	86
Aggregate replacement ratio	46	46	47	53	56	52
At-risk-of-poverty rate: 65-	13,7	13,1	14,2	16,5	16,2	16,8
65+ / 75+	19,4 / 20,9	18,7 / 20,7	20 / 21	15,9 / 18,0	12,9 / 14,4	18,1 / 20,5
Severe material deprivation: 65-	6,4	6,2	6,7	8,5	8,4	8,5
65+ / 75+	2,8 / 2,9	2,9 / 2,8	2,8 / 2,9	6,4 / 6,5	5,1 / 5,0	7,3 / 7,5
At risk of poverty or social exclusion (EU2020): 65-	20,8	19,9	21,7	24,2	23,5	25,0
65+ / 75+	21 / 22,6	20,1 / 22,1	21,6 / 22,9	19,8 / 22,1	16,2 / 17,7	22,6 / 25,0
Income distribution (S80/S20): 65- / 65+	3,9 / 3,7	3,8 / 4,2	4 / 3,3	5,2 / 4	5,2 / 4	5,2 / 3,9
Adequacy projections: BE						
Theoretical replacement rates (TRR):	**Net 2010**	**Net 2050**	**Difference**	**Gross2010**	**Gross2050**	**Difference**
40 years career: average income earner (basecase)	74	75,9	1,9	51,3 (90/0/10)*	52,7 (78/0/22)*	1,4
Low income	85,2	82,1	-3,1	59,2 (91/0/9)*	57,8 (80/0/20)*	-1,4
High income	54,2	53,1	-1,1	34,3 (87/0/13)*	33,34 (75/0/25)*	-1,0
Lower / higher future rates of return		74,3 / 77,8			51,6 / 54,1	
Lower / higher future wage growth		84,4 / 52,6			58,7 / 36,5	
38 years career: average income	72,9	69,41	-3,5	50,1	47,85	-2,3
Low / high income		74,7 / 48,3			52.1 / 31.13	
42 years career: average income	76,7	77,82	1,1	54,2	55,73	1,5
Low / high income		86,1 / 56.81			60,7 / 35.5	
10 years after retirement	67,5	70,5	3,0	46,8	47,9	1,1
Female worker with 3 years of career break for childcare	73,7	74,2	0,5	51,1	51,6	0,5
3 years of career break for unemployment	69	72,5	3,5	46,3	49,0	2,7
10 years out of the labour market	67,2	66,3	-0,9	40,8	40,7	-0,1
	2010	**2050**	**Difference**	**EU27 2010**	**EU27 2050**	**Difference**
Benefit ratio (Public pensions)	39,2	38,3	-0,9	44,7	37,0	-7,7
Gross replacement rate at retirement (Public pensions)	:	:	:	48,0	39,1	-8,9
	Belgium			EU-27		
Current sustainability (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Employment rates: 15-64	62	67,4	56,5	64,1	70,1	58,2
55-64	37,3	45,6	29,2	46,3	54,6	38,6
Effective labour market exit age****	61,4	61,4	61,5	62,1	62,5	61,7
Remaining life expectancy at 65	19,5°	17,4	20,9	19,3°	17,2	20,7
Economic old-age dependency ratio[3]	41,8			39,8		
Pension expenditure, %GDP (ESSPROS)	12,1°			13,1°		
Budget balance	-4,1			-6,6		
Public debt	96,2			80,1		
Sustainability projections* **	Belgium			EU-27		
Old-age dependency ratio**	**2010**	**2020**	**2030**	**2010**	**2020**	**2030**
	29	33	41	28	34	42
	2040	**2050**	**2060**	**2040**	**2050**	**2060**
	45	47	49	50	55	58
	2010	**2050**	**Difference**	**2010**	**2050**	**Difference**
Public pensions, gross (% of GDP)	11,0	16,7	5,7	11,3	12,8	1,5
Old-age and early pensions, gross (% of GDP)	8,9	15,4	6,5	9,2	11,0	1,7

*: Share of statutory DB-NDC / statutory funded / occupational and other supplementary pensions

°: 2009

¹: 2008

²: 2007

3: Economic old-age dependency ratio (20-64)

: Data not available

** Old-age dependency ratio = Population aged 65 and over as a percentage of the population aged 20-64. Source: The 2012 Ageing Report

***Source: EC-EPC (AWG) 2012 projections

****Source: The 2012 Ageing Report

Bulgaria (BG)

Country profile for the Pension Adequacy Report 2012

General description of the pension system

In 1999, Bulgaria started a large-scale pension reform, radically changing the philosophy of the pension model. It was transformed from a single pillar to a three pillar pension system, consisting of:

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

2) Mandatory supplementary pension insurance with universal pension funds for those born after 31 December 1959 and with work place based professional[23] pension funds for persons working in the first and second category of work[24], functioning on the basis of the funded principle (2nd pillar);

3) Supplementary voluntary pension insurance, functioning on the basis of the funded principle (3rd pillar).

The main aim of the reform was to improve the overall level of pension protection in order to provide the pensioners with a better standard of living.

The pension reform introduced a new formula for calculating pensions which directly linked the rate of pensions to the insurance contribution expressed by duration of length of service and income for the whole working life, not only the income for chosen 3 best years as up to 2000. The insurance basis on which the insurance contributions are calculated was also enlarged. After 2000 a national maximum threshold and minimum branch thresholds of insurance income as well as registration of employment contracts were introduced. The possibility for early retirement was sharply restricted. In 2000 by the re-categorisation of labour the number of those who belong to I and II category of labour and are entitled to early retirement was reduced from 700,000 to 150,000-160,000.

The second pillar *(supplementary mandatory pension insurance*) was launched by two types of funds: professional funds – for working people belonging to I and II labour category entitled to early retirement, and universal funds where those born after 1959 accumulate contributions in pension fund selected by the insured.

The pay-as-you-go first pillar and the capital components of the pension model (II and III pillar) are financed by contributions by employees and employers.[25]

[23] The term „professional“ is used in order to distinguish this type of pension fund from the regular occupational schemes. Professional Pension Funds in BG provide early retirement pensions.

[24] According to the ordinance for the categorisation of work for pension calculation all works and activities are divided into three categories, depending on their nature and difficulty and based on the working conditions where they are performed by the insured person. The first category includes those employed in the hardest and most hazardous production and activity conditions. Such are for example: underground and underwater works. The second category of work includes work of those employed in hard and hazardous production and activity conditions. Such are: ferrous and non-ferrous metals production, cement production, chemical industry, transport, etc. The third category of work covers all other works and activities not included in the first and second category. This category involves a normal degree of strain in normal working conditions.

[25] The social insurance contributions for Pension Fund for 2012 are:

The separation of the state public insurance budget from the state budget, the establishment of specialized funds by social risks and the introduction of tripartite management of the state insurance system are other important elements of the pension reform.

The pension system launched in 2000 included the recalculation of all earnings-related pensions granted until 31.12.1999 under the new pension formula that takes into account the duration of contributory periods for the entire period since 1997 and the income of three best consecutive years from the past 15 years before that year. In order to adjust the already granted pensions to the cost of living, the law provides an annual update using an index, which is determined by the increase in contributory income for the country and the consumer price index during the preceding calendar year. Consequently, this rule allowing more flexibility depending on the economic opportunities in the country, but at the same time allowing subjectivity, was changed. The index for pensions update is formed by 75 % of the consumer price index and 25 % of the increase in the contributory income during the previous calendar year. Later on the rule of indexation was changed to 50 % of the consumer price index and 50% of the growth of the contributory income. Along with the indexation of pensions, on an annual basis the guaranteed minimum amounts of different types of pensions were changed with the same or nearly the same ratio.

The ultimate goal of the new architecture of the pension system was, in a long run, when the insured that started contributing to the second pillar since 2002 would have the complete insured period until retirement, i.e. about 40 years, to achieve a sum of the three pensions - from the public social security, the universal fund and from the voluntary insurance - of somewhere around 75-80% of the salary, which the employee was receiving before retirement.

The goal was to achieve 45% income replacement rate from public social security, i.e. average pension from NSSI compared to the salary to be 45% and to obtain about 20 % more from the universal fund. Initially, of course, this rate would be lower because the accumulation period is shorter - from 2002 to 2022 there are 20 and not 40 years. The supplementary voluntary insurance had to provide about 10-15 % and thus the targeted rate would be achieved.

Reform trends

In 2011 the second stage of the pension reform was enacted. As of 2012 the retirement age started to increase by 4 months in the beginning of every calendar year till reaching the age of

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For persons born before 1 January 1960:

17.8% for workers in III category of labour; 20.8% for workers in I or II category of labour.

For persons born after 31 December 1959:

- 12.8% for workers in III category of labour; - 15.8% for workers in I or II category of labour.

The distribution of contributions to the Pension Fund for 2012 is, as follows:

For persons born before 1 January 1960: - 7.9% to be paid by the insured; - 9.9% to the paid by the employer for workers in III category of labour, and 12.9% to the paid by the employer for workers in I or II category of labour.

For persons born after 31 December 1959:

- 5.7% to be paid by the insured; - 7.1% to the paid by the employer for workers in III category of labour, and 10.1% to the paid by the employer for workers in I or II category of labour.

Since 2009 the State has become a “third insurer” and pays contributions equal to 12 % of the total contributory base.

65 for men and 63 for women. In 2011 they were able to retire at the ages 63 and 60 respectively.

As of January 2012 the length of service started to increase by 4 months per year. This increase will continue till 2020. By that date men will retire after 40 years at work and women – after 37. In 2011 the required length of service was 37 years for men and 34 years for women.

The retirement age of people with an insufficient length of service stared to increase by 4 months per year. In 2011 they were able to retire at the age of 65 if they have worked at least 15 years. It is envisaged to increase their retirement age to 67 in 2017. The requirement for 15 years at work remains.

Eligibility criteria for those working under difficult working conditions will be tightened. From 2012 the retirement age for first labour category started to increase by 4 months per year till reaching in 2014 48 years for women and 53 years for men (I category), and 53 years for women and 58 years for men (II category), respectively. Starting on 1 January 2015, early retirement pensions for these workers (I and II category) will be paid from the Professional Fund.

Policemen and the military get pension after 27 years at work, not after 25 as it was in 2011. Starting on 1 January 2017, the accrual rate applied in the pension formula will be raised from 1.1 % to 1.2 % per insurance year.

Assessment of adequacy and sustainability indicators

Current adequacy

Eleven years after the start of the reform, the analysis shows that the purpose of the reform - raising the overall level of social protection of pensioners – is only partly achieved. Concurrently to the significant improvement of the income replacement, the poverty among elderly remains very high.

The poverty risk for elderly people 65+ in Bulgaria reaches 32.2 %, and for 75+, 38.4 % (which compares to EU averages of 15.9% for 65+ and 18% for 75+). Among the EU-27 this indicator is higher only in Cyprus.

Severe material deprivation among the elderly is widespread with 44.3 % (65+) and 48.3 % (75+) of the elderly population severely materially deprived, values way higher than the EU averages (6.4% for 65+ and 6.5% for 75+).

The at-risk of poverty or social inclusion rate (EU2020 indicator) among the elderly is considerably higher than the one of the working age population with 55.9 % (65+) and 60.9% (75+). For the age group 65+, this is the highest indicator in EU-27 (EU averages are 19.8% for 65+ and 22.1% for 75+).

Elderly women are affected more than men in all three dimensions: poverty, severe material deprivation or poverty and social inclusion. The most vulnerable group are elderly living alone, in particular women. Pensioners from ethnic minorities and people with disabilities can also be attributed to groups with serious risk of poverty and social exclusion.

Regarding indicators measuring the income replacement role of pensions, the median relative income ratio for people 65+, as a ratio of income of the age group 0-64, at 74% is lower than the EU-27 average (88%) and so is the aggregate replacement ratio (median individual

pensions of 65-74 year olds relative to median individual earnings of 50-59 years old) (Bulgaria: 43%; EU-27 average of 53% in 2010).

Future adequacy

On the other hand, projections for the relative income position of pensioners in the future are rather optimistic. Theoretical replacement rates (TRR) for an average earner are projected to increase from 2010 until 2050 by 5.2 percentage points (from 62.3 to 67.5). In 2050, the second mandatory pillar is expected to contribute with 26% to the income of an average income earner. TRR for a high income earner will decrease by 5.7 percentage points from 56.3% to 50.6 %. Other variants of the base case are however expected to benefit from the pension reform: The TRR of a low income earner will increase by 5.1 percentage points, the income of a pensioner 10 years after retirement age will increase from 52.8 % (2010) to 59.3% (2050) by 6.5 percentage points. A female worker with 3 years of career break for childcare is projected to have an increase in the projection of TRR by 17.8 percentage points in 2050. A person with a 3 years break for unemployment or 10 years out of the labour market will also benefit by higher replacement rates in 2050 with a plus of 13.2 percentage points and 8.1 percentages points, respectively.

Since the projections in 2010 did not include the 2011 legislated increase in the retirement age, this recently adopted reform will further increase theoretical replacement rates.

TRR calculations reveal that while currently the bonus/malus effect of retiring 2 years later would improve Net Replacement Rates (NRR) to 112.8% / 85% of the base case NRR (for the average income retiring at 65), in the future late retirement will be relatively rewarded at the same level (with respect to the case of retirement at 65). On the other hand, in the 2 years earlier retirement case there will be a lower loss compared to the base case (individuals retiring two years earlier would get up to 96% of the NRR in the base case in 2050).

The biggest challenge of the Bulgarian pension system is the inability of the public insurance (I pillar) to ensure sufficient resources for the insured after retirement. The current demographic processes, problems caused by an aging population and an aggravating ratio between working people and pensioners represent a serious test for the financial stability of the pay-as-you-go part of the pension system. The financial crisis that led to reduced economic activity and low income for a considerable part of population in the country also place a number of challenges for the pension system.

Presently, the mandatory pay-as-you-go system (I pillar) is strongly dependent on the state budget. Due to the reduction of the insurance contribution rate in the course of years (since 2000 when pension contributions were 35% for I and II category of labour and 32% for III category, until present the contributions were reduced by ca. 14 percentage points) and the continuing economic decline more than 60 % of expenditures in the current year are financed by transfers and subsidies from the state budget. The increasing role of the state in financing pension insurance – mostly by tax revenues - questions its financial stability now and for the future. The substantial share of state subsidies in the social insurance funds strongly de-motivates workers and their employers to pay contributions.

Indexation of pensions was done annually until 2009. Practically in 2010, 2011 and 2012 the pensions were "frozen" and their amounts have not being updated. In the context of adequacy, the II and III pillars do not have yet a major influence. The funds of the II pillar have not yet started paying out pensions, and only a very small number is currently getting pensions from the III pillar. The regulation of the pay-out phase in the private pension funds still needs to be detailed. Annuities are the best option from the point of view of protection against poverty in

the old-age. In designing details of the pay-out phase, the authorities should take into account gender preoccupations (e.g. unisex mortality tables).

Steps in the coming ten years, which may improve the pension adequacy in Bulgaria include:

- Including the goal for the financial strengthening of the first pillar of the pension system and the improvement of pension adequacy among the priorities of economic and financial policy, employment policy and income policy.
- Improving the efficiency of the control mechanism in order to raise the collection rates of social insurance revenues. Eliminating the maximum ceiling on insurable income could bring in resources from the higher income deciles. Limiting the abuse of paying contributions on the minimum wage level in the private sector could also improve social security revenues. Another key challenge is the inclusion within the social security scheme of a high number of people not paying social security contributions. Bulgaria's further attention is needed to improve law enforcement and promote joint activities between tax and labour inspectorates as part of the overall effort against undeclared work and income.
- In the context of an aging population and increasing life expectancy, introducing stricter criteria for access to pension. They should achieve (a) proper handling of expenses and provision of more revenues; (b) creating "active aging" opportunities.
- Limit the early retirement options.
- Looking for solutions to limit the disability pensions and improve the control on the medical assessment of working capacity. Better administration of the bodies in charge of the medical assessment of working capacity by introducing the principle “the payer assesses permanent disability”.
- Continuing the modernisation of the supplementary pension insurance by revising the amount of the contribution to the universal pension funds. The proposed changes will help fulfil the strategic objective of providing additional pension, guaranteeing a replacement ratio in the range of 15-20%.
- Stimulating the supplementary voluntary pension insurance, by increasing the existing tax relief.
- An important contribution to sustainability and adequacy could be made by increasing participation rates and encouraging people to work longer. For that, it is essential to continue the gradual increase of the retirement age, especially of women, to overcome the discriminatory element of the retirement conditions between women and men and before population ageing becomes more visible.

SUSTAINABILITY

Demography

The old-age dependency ratio[26] (population aged 65 and over as a percentage of the population aged 20-64) in BG is projected to increase from 27.8% in 2010 (EU-27: 28.4%) to 61.6% in 2050 (EU-27: 55.0%) and 65.9% in 2060 (EU-27: 57.7%).

BG belongs to the group of Member States where the increase in old-age dependency ratio is projected to be above the EU-27 average. Over the period 2010 to 2060, the old-age dependency ratio is projected to increase by 38.1 percentage points (EU-27: 29.2 percentage points).

[26] The 2012 Ageing Report

The share of working-age population (15-64) (68.7% of the total population in 2010) is projected to drop by 14.4 percentage points by 2060 (to 54.3% of the total population), compared with 10.7 percentage points for the EU as a whole by 2060.

Employment

The labour market participation rate[27] (15-64) in BG was below the EU-27 average in 2010 (BG: 67.7%, EU-27: 71.1%), and is projected to remain lower also in 2060 (BG: 69.4 %, EU-27: 73.8%). Over the period 2010 to 2060, the participation rate of older workers (55-64) is it projected to increase by 10.5 percentage points (from 49.3% in 2010 to 59.8% in 2060), but less than in the EU-27 (16.8 percentage points: from 49.7% in 2010 to 66.5% in 2060).

According to the 2012 Ageing Report, employment rate (15-64) is projected to increase from 60.0% in 2010 (EU-27: 64.1%) to 63.7% in 2050 (EU-27: 68.9%) and to 64.4% in 2060 (EU-27: 69.0%). The share of older (55-64) in employment is projected to change from 15% in 2010 to 17% in 2060 (EU-27: from 13% in 2010 to 19% in 2060).

The employment rate for older workers (55 to 64 years)[28] in BG in 2010 was below the EU-27 average: 43.5% (50.3% - males, 37.7% - females) versus 46.3% at EU-27 level (54.6% - males, 38.6% - females).

The average effective exit age from the labour force in 2010 was 61.7 (62.7 – for men, 61.0 – for women) and it is below the EU-27 average (62.1 – total, 62.5 – for men, 61.7 – for women).

Expenditure

According to the 2012 Ageing Report, the gross public pension expenditure will increase from 9.9% of GDP in 2010 to 11.1% of GDP in 2050 and will stay 11.1% of GDP in 2060.

In 2010 the gross old-age and early pension expenditure was 8.3% of GDP, below the EU-27 average of 9.2%. The 2012 Ageing Report projects an increase to 9.2% of GDP by 2050, which remains below the EU-27 projected average of 11.0% of GDP.

Main drivers of pension expenditure

In accordance with the 2012 Ageing Report, the demographic factor has the strongest downward effect (+8.8 p.p. of GDP) on gross public pension expenditure over 2010-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and labour intensity[29]). The lowering effect of coverage ratio (-3.9 p.p.) and benefit ratio (-2.1 p.p.) on the public pension expenditure are more pronounced than the employment rate effect (-0.8 p.p.).

[27] The 2012 Ageing Report

[28] EUROSTAT

[29] As a result of the macroeconomic assumptions used in the projections, the labour intensity contribution has more or less no impact on the change in the pension expenditure/GDP ratio (EU-27 average: +0.1 p.p.). Only Greece, Spain, Luxembourg, Malta and Austria project an increasing effect of 0.1 p.p. of GDP. In all other Member States, the labour intensity effect is negligible.

Background Statistics

	Bulgaria			EU-27		
Current adequacy (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Median relative income of people 65+ as a ratio of income of people 0-64	74	80	70	88	92	86
Aggregate replacement ratio	43	51	40	53	56	52
At-risk-of-poverty rate: 65-	18,2	18	18,5	16,5	16,2	16,8
65+ / 75+	32,2 / 38,4	24,9 / 28	37,2 / 44,7	15,9 / 18,0	12,9 / 14,4	18,1 / 20,5
Severe material deprivation: 65-	32,9	32,7	33,2	8,5	8,4	8,5
65+ / 75+	44,3 / 48,3	40,4 / 44,7	47 / 50,5	6,4 / 6,5	5,1 / 5,0	7,3 / 7,5
At risk of poverty or social exclusion (EU2020): 65-	38,5	38,0	39,0	24,2	23,5	25,0
65+ / 75+	55,9 / 60,9	50 / 54,1	60 / 65	19,8 / 22,1	16,2 / 17,7	22,6 / 25,0
Income distribution (S80/S20): 65- / 65+	5,9 / 4,5	5,9 / 4,2	6 / 4,6	5,2 / 4	5,2 / 4	5,2 / 3,9
Adequacy projections: BG						
Theoretical replacement rates (TRR):	**Net 2010**	**Net 2050**	**Difference**	**Gross2010**	**Gross2050**	**Difference**
40 years career: average income earner (basecase)	62,3	67,5	5,2	48,8 (100/0/0)*	52,4 (74/26/0)*	-3,6
Low income	62,9	68,0	5,1	49,3 (100/0/0)*	52,8 (74/26/0)*	-3,5
High income	56,3	50,6	-5,7	44,1 (100/0/0)*	39,3 (74/26/0)*	-4,8
Lower / higher future rates of return		65,5 / 70,5			50,4 / 54,7	
Lower / higher future wage growth		71,7 / 64,3			55,6 / 49,9	
38 years career: average income	53,1	65,1	12,0	42,7	50,5	7,8
Low / high income	56,9 / 53,1	65,6 / 48,8	8,7 / -4,3	48,5 / 39,1	50,9 / 37,9	2,3 / -1,2
42 years career: average income	70,3	75,7	5,4	55,1	58,7	3,6
Low / high income	71,1 / 62,7	76,3 / 57	4,8 / -5,7	55,7 / 49,1	59,2 / 44,2	3,5 / -4,9
10 years after retirement	52,8	59,3	6,5	40,9	46	5,1
Female worker with 3 years of career break for childcare	42,7	60,5	17,8	33,8	46,9	13,1
3 years of career break for unemployment	50,3	63,5	13,2	40,5	49,3	8,8
10 years out of the labour market	43	51,1	8,1	33,7	39,7	6,0
	2010	**2050**	**Difference**	**EU27 2010**	**EU27 2050**	**Difference**
Benefit ratio (Public pensions)	46,1	38,6	-7,5	44,7	37,0	-7,7
Gross replacement rate at retirement (Public pensions)	49,8	50,8	1,0	48,0	39,1	-8,9
	Bulgaria			**EU-27**		
Current sustainability (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Employment rates: 15-64	59,7	63,0	56,4	64,1	70,1	58,2
55-64	43,5	50,3	37,7	46,3	54,6	38,6
Effective labour market exit age****	61,7	62,7	61,0	62,1	62,5	61,7
Remaining life expectancy at 65	15,4	13,8	17,0	19,3°	17,2	20,7
Economic old-age dependency ratio[4]	42			39,8		
Pension expenditure, %GDP (ESSPROS)	8,8°			13,1°		
Budget balance	-3,1			-6,6		
Public debt	16,3			80,1		
Sustainability projections ***	**Bulgaria**			**EU-27**		
Old-age dependency ratio**	**2010**	**2020**	**2030**	**2010**	**2020**	**2030**
	28	35	43	28	34	42
	2040	**2050**	**2060**	**2040**	**2050**	**2060**
	50	62	66	50	55	58
	2010	**2050**	**Difference**	**2010**	**2050**	**Difference**
Public pensions, gross (% of GDP)	9,9	11,1	1,2	11,3	12,8	1,5
Old-age and early pensions, gross (% of GDP)	8,3	9,2	1,0	9,2	11,0	1,7

*: Share of statutory DB-NDC / statutory funded / occupational and other supplementary pensions

°: 2009

¹: 2008

²: 2007

³: 2006

[4]: Economic old-age dependency ratio (20-64)

* Data source for **Average labour market exit age**: Administrative pension data base of the National Social Security Institute.

** Old-age dependency ratio = Population aged 65 and over as a percentage of the population aged 20-64. Source: The 2012 Ageing Report

***Source: EC-EPC (AWG) 2012 projections

****Source: The 2012 Ageing Report

Cyprus (CY)

Country profile for the Pension Adequacy Report 2012

General description of the pension system

The Cypriot pension system comprises two pillars. The first pillar incorporates the General Social Insurance Scheme (GSIS) and the Social Pension Scheme (SPS). The General Social Insurance Scheme is compulsory and earnings-related that covers every person gainfully employed in Cyprus, both in public and private sector, including self-employed. The Social Pension Scheme is income-tested and covers each residents of Cyprus with no of low pension income. The second pillar consists of occupational pension plans, which constitutes a supplementary benefit to their members. The second pillar includes Government Employees' Pension, Semi-government Sector Employees' Pension, and Voluntary Provident Funds and other collective arrangements.

1.1. The General Social Insurance Scheme (GSIS)

The General Social Insurance Scheme (GSIS) was introduced in 1957 and since the 1964 reform extends compulsory insurance to every person gainfully employed in Cyprus, including all categories of self-employed. A major reform in 1980 introduced an earnings-related insurance scheme, replacing the previous scheme of flat-rate contributions and benefits. It comprises of two parts: a basic and a supplementary component. Each January, basic pensions are indexed to the rate of annual increase of the average gross insurable earnings over the two preceding years, while supplementary pensions increase in accordance to the consumer price index.

The increase of the supplementary pension at the beginning of the year cannot exceed the increase of the basic pension. Each July, both basic and supplementary pensions are indexed to the cost of living index, if higher than 1%, but this increase is taken into consideration when determining the increase of the rates of pension at the beginning of the year.

The system is funded by tripartite contributions (13.6% of gross insurable earnings – up to a ceiling of €1,025 per week and €4,442 per month since January 2012- shared equally by the employee and the employers and 4.3% by the state). The contribution rate for the self-employed people amounts to 12.6%.[30]

Under the GSIS pensionable age is 65 years for both men and women; yet early retirement, without any actuarial reduction, at the age of 63 is rather common, provided that certain qualifying conditions are satisfied. Incentives for postponing retirement consist in a 0.5% increase in the pension benefit for every month remaining in employment, from the age the person is eligible to an old-age pension to a maximum of 68 years.

A minimum pension is paid to insured persons who are eligible for a pension and their total basic and supplementary pension is less than that amount of minimum pension. The minimum pension is equal to 85 % of the full basic pension. The minimum pension is adjusted every year in the same way as the basic pension[31].

1.2. The Social Pension Scheme (SPS)

[30] Imputed earnings for self-employed increased by 2.29% since January 2012.

[31] In 2012 the monthly amount is €348.60 (13 monthly payments).

The Social Pension Scheme (SPS) closes the gap in accessibility to pensions by providing income-tested pensions to those residents, of 65 years or more who, for any reason did not participate enough in the labour market and as a consequence have no or low pension income. For the purposes of the test, the total individual pension income coming from the GSIS or any other source is taken into account. The SPS ensures universality in pension provision.

SPS is financed by the Consolidated Fund. The beneficiaries are mostly women (about 97%), especially of older generations with relatively low labour force participation rates. The rate of the Social Pension is equivalent to 81% of the full basic pension under the GSIS, and as a consequence, is automatically indexed to earnings. [32]

With the aim to tackle the comparatively high poverty incidence among the elderly, in December 2009 the "Scheme for the Support of Low-Income Pensioners" was introduced. It provides a means-tested benefit to pensioners whose household income is below the poverty threshold.

1.3. Occupational Pension Plans

In the 2nd pillar, currently, around 45% of employed persons are covered by an occupational employer-sponsored pension plan, a supplementary provision to the General Social Insurance Scheme.

Government Employees Pension Scheme

The Government Employees Pension Scheme (GEPS) provides retirement and survivors pensions to civil servants, members of the educational service, the police and the armed forces. It is financed by employee contributions of 5 % of pensionable emoluments and the remaining by general taxation. Effective October 1, 2011, GEPS became closed to newcomers of the public sector.

The compulsory retirement age is 63 years for civil servants, but for the armed forces, the police and educational service it is much lower, ranging between 55 to 60 years. Early retirement can be drawn at the age of 55 years (or 58 for entrants into public service after 1st July 2005) without any actuarial reduction of benefits. In 2009, the effective retirement age for the entire working population was 62.8 years.

GEPS pension is integrated to that provided under the GSIS. In particular, the GEPS pension is reduced by the amount of supplementary GSIS pension from the time the retiree is awarded such pension.

Semi-government Sector Employees Pension Schemes

There are other occupational 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 civil servants. These pension schemes, which operate under special laws, are financed by employee contributions of 5 % of pensionable emoluments and by employer on a balanced cost basis. The benefits and the entitlement conditions are the same as for central government employees.

Voluntary Provident Funds

Provident Funds are arrangements that are agreed within the framework of the system of free collective bargaining either on a single-employer basis or industry-wide basis.[33] They operate on a funded basis and provide lump sum payments at retirement (as well as for invalidity,

[32] The social pension increased to €332.19 in January 2012 (13 monthly payment).

[33] Legislation for the establishment of provident funds entered into force in 1982. There are about 120 provident funds with more than one hundred members, as well as a number of smaller ones.

termination of employment, unemployment and death). Existing regulations do not highly facilitate transposition of rights across employers and often employment termination leads to cashing in of lump sum benefits. This condition neither provides incentives for accumulation of rights over the entire working life and nor secures a pension annuity solution.

Reform trends

In Cyprus the increase in the old-age dependency ratio (65+/20-64) over the coming decades will remain markedly lower that the EU average. From 21.0% in 2010 it is projected to reach 52.0% in 2060, while the respective rates for EU are 28% and 58%). Nevertheless the ratio of contributors to pensioners will deteriorate (in 2060 it is estimated that there will be 1.2 contributors per pensioner)[34], a condition exerting high pressures on public pension expenditure. In 2010, gross public pension spending amounted to 7.6% of GDP (GSIS: 5.3%, GEPS: 1.8% and other public sector schemes: 0.5%). However, by 2060 expenditure is poised to leap to among the highest in the EU (16.4% of GDP, compared to an EU-27 average of 12.9%).

In order to address the long-term sustainability of the public pension system, an amended Social Insurance Law was enacted in 2009, which included a number of reform measures to be phased-in gradually. This Law also includes the procedure to be followed by the Government, concerning the upgrading of the investment framework and policy of the General Social Insurance Scheme (GSIS) and the effective investment management of the GSIS' assets. Policy reform measures that were adopted included: (i) the progressive increase of contribution rates (seven increases by 1.3 percentage points every five years – last increase in 2039), which will increase significantly the future revenues of the GSIS, and (ii) the tightening of eligibility criteria to pension benefits, which is expected to improve considerably the future labour force participation rates, especially the female older worker ones. This means that the effective retirement age, which currently stands at 63.5 years, considerably above the EU-27 average, is expected to increase further in the future.[35]

More recently, during the second half of 2011, a number of new measures were adopted, which include the following: (i) the closure of the occupational Government Employee Pension Scheme (GEPS) to new members and the provision that any newcomers join GSIS under the same terms and conditions as those of salaried employees in the private sector, eliminating therefore any inequalities in the level of contributions and pensions entitlements between public sector newcomers and those in the private sector, and (ii) the increase in employee contribution rate towards retirement and survivors' pension benefits, in respect of the existing members of the GEPS, by approximately 4 percentage points of pensionable emoluments, in particular from c.1% to 5% of pensionable emoluments. The 2011 GEPS' legislative amendments will have a significant downward effect on the public pension expenditures, especially in the longer term. In particular, in 2060 it is projected that the GEPS pension expenditure decreases by more than 2 p.p. of GDP.

[34] As shown in the 2012 Ageing Report, unlike in the majority of member states, in Cyprus "the relative number of pensioners to population aged 65 and more is projected to increase adding close to 2 percentage points of GDP to pension expenditure (in addition to about 10.8 percentage points due to demographic ageing).

[35] Though, in short term, it may have an impact against women, given the higher frequency of interrupted or very short employment careers, a condition that leaves them dependent upon the non-contributive social pension, as indicated above. To stress, however, that the employment rate for people 55 to 64 years is comparatively high in Cyprus (56.8% in 2010; corresponding rate for EU-27, 46.3%).

In addition a temporary levy on gross monthly incomes, over a certain threshold, of public sector employees and pensioners was imposed (ranging from 1.5% to 3.5%).

Assessment of adequacy and sustainability indicators

Current adequacy

The current median income of people 65 years and over as a ratio of income of the age group 0-64 amounted to 61% in 2010, much lower than the respective rate for the EU-27 average (88% in 2010). Equally low is also the aggregate replacement ratio in Cyprus (35% in 2010, compared to 53% in the EU-27). In addition, the rate of poverty risk of elderly people has persistently been among the highest in the EU, although Cyprus recorded a downward trend in the poverty risk over the last five years (2006-10) which resulted in a drop in the value of the indicator of 6.7 percentage points. The most recent available data refer to 2010 and are based on 2009 incomes. As the global financial crisis reached Cyprus with some delay, these data do not reflect the crisis impact.

The poverty risk in 2010 stood at 45.2% for people 65 years and over, and 61.3% for 75 years and over. In 2010, the at-risk-of-poverty or social exclusion rate reached 47.2% for people 65 years and over and 62.6% for people 75 years and over (well above the EU-27 average of 19.8% and 22.1% respectively).

When interpreting the above indicators, it is important to note that Cyprus has the second highest poverty threshold in the EU, primarily due to its tax system. That factor represents an important driver of the low relative income ratio of elderly, high risk of poverty for elderly and the high combined risk of poverty and social exclusion (EU2020) for elderly in Cyprus. In addition, the above indicators are influenced by the fact that the GSIS has not matured yet since the supplementary part of it was introduced in 1980.

Furthermore, severe material deprivation is slightly above the EU average and is particularly acute among elderly women. The launching of the "Scheme for the Support of Low-Income Pensioners" (in December 2009) as well as the measures for offsetting hardship among households as a result of price hikes following the 5% VAT increase in January 2011, constitute significant developments in respect to tackling the high poverty incidence among the elderly. They are clearly targeted measures benefiting about 46,000 pensioner households.

The current net theoretical replacement rate for an average income earner with a 40-year long career at the age of 65 is 57%, but it is expected that with the maturation of the supplementary part of the GSIS scheme, replacement rates will gradually rise.

Future adequacy

By 2050 the net theoretical replacement rate (NRR) is projected to reach 70%. Equally, the NRR for low earners will increase from 60% in 2010, to 66% in 2050; and for high earners from 48% to 55%.

Under the assumptions used in the case of average earner, a person is eligible to a pension at the age of 63 in Cyprus (under GSIS). If the same person continues to work until the age of 65, then the pension is granted at the age of 63 and increased at the age of 65 according to the contributions paid. After the age of 65 there is no obligation for contributions and the only case to first grant a pension at the age of 67 is deferment as mentioned above. So, the three cases used under different career lengths is 38 years of work up to the age of 63 (early retirement), 40 years of work up to the age of 65 (pension is granted from the age of 63 and revised at 65) and 42 years of work up to the age of 65 (pension is granted again from the age

of 63; postponed retirement). For low income and average earners the above cases have no significant effect while for high earner the third case has a bonus of 3% currently. However, in 2050, the first case has a 2% malus for low and high earners and a 3% for average earners while the third case has a 2% bonus for low and average earners and a 3% bonus for high earners.

Three years of unemployment result in a decrease of the NRR from 57% to 53% at present; while a 10-year career break further decreases the NRR to 42%. Projections for 2050 indicate that the effects on the NRR for a 3-year or 10-year career break remain stable. For female workers a 3-year career break for childcare will slightly worsen the NRR in 2050. Furthermore, ten years after retirement the decrease of the NRR will widen from one percentage point currently to two percentage points in 2050.

In the short-term the means-tested grant to low-income pensioners and the measures introduced in 2011 in order to offset VAT increases in foodstuffs and pharmaceuticals are policies in the right direction for improving pension adequacy. Close monitoring is essential for tracking the effectiveness of these measures in reducing old-age poverty and social exclusion.

In the medium- to long-term, policy options that bear upon pension adequacy are closely linked to securing sustainability. Most importantly, strengthening incentives to stay longer in employment will considerably increase (net) replacement rates and also boost revenues of pension funds.

SUSTAINABILITY

Demography

The old-age dependency ratio[36] (population aged 65 and over as a percentage of the population aged 20-64) in CY is projected to increase from 21.0% in 2010 (EU-27: 28.4%) to 43.7% in 2050 (EU-27: 55.0%) and 52.4% in 2060 (EU-27: 57.7%).

CY belongs to the group of Member States where the increase in old-age dependency ratio is projected to be above the EU-27 average. Over the period 2010 to 2060, the old-age dependency ratio is projected to increase by 31.4 percentage points (EU-27: 29.2 percentage points).

The share of working-age population (15-64) (70.0% of the total population in 2010) is projected to drop by 12.4 percentage points by 2060 (to 57.6% of the total population), compared with 10.7 percentage points for the EU as a whole by 2060.

Employment

The labour market participation rate[37] (15-64) in CY was above the EU-27 average in 2010 (CY: 73.2%, EU-27: 71.1%), and is projected to remain higher also in 2060 (CY: 78.0 %, EU-27: 73.8%). Over the period 2010 to 2060, the participation rate of older workers (55-64) is it projected to increase by 9.2 percentage points (from 59.6% in 2010 to 68.8% in 2060) and will stay higher than in the EU-27 (49.7% in 2010; 66.5% in 2060).

According to the 2012 Ageing Report, employment rate (15-64) is projected to increase from 68.3% in 2010 (EU-27: 64.1%) to 74.5% in 2050 (EU-27: 68.9%) and is projected to remain in that position also in 2060 (EU-27: 69.0%). The share of older (55-64) in employment is

[36] The 2012 Ageing report

[37] The 2012 Ageing Report

projected to change from 13% in 2010 to 17% in 2060 (EU-27: from 13% in 2010 to 19% in 2060).

The employment rate for older workers (55 to 64 years)[38] in CY in 2010 was above the EU-27 average: 56.8% (71.2% - males, 43.0% - females) versus 46.3% at EU-27 level (54.6% - males, 38.6% - females).

The average effective exit age from the labour force in 2010 was 64.4 (65.0 – for men, 63.5 – for women) and it is above the EU-27 average (62.1 – total, 62.5 – for men, 61.7 – for women).

Expenditure

According to the 2012 Ageing Report, the gross public pension expenditure will increase from 7.6% of GDP in 2010 to 14.4% of GDP in 2050 and to 16.4% of GDP in 2060.

In 2010 the gross old-age and early pension expenditure was 6.1% of GDP, well below the EU-27 average of 9.2%. The 2012 Ageing Report projects an increase to 12.0% of GDP by 2050, which is above the EU-27 projected average of 11.0% of GDP.

Main drivers of pension expenditure

In accordance with the 2012 Ageing Report, the demographic factor has the strongest downward effect (+10.6 p.p. of GDP) on gross public pension expenditure over 2010-2060. Only Cyprus (+2.8 p.p.) projects a substantial increase in the coverage ratio and hence an increasing contribution to the pension expenditure/GDP ratio.[39] The negative budgetary effects are partially offset by other main influencing factors (employment rate, benefit ratio, labour intensity[40]). The lowering effect of benefit ratio (-3.4 p.p.) on the public pension expenditure is more pronounced than the employment rate effect (-0.6 p.p.).

[38] EUROSTAT

[39] Number of pensions are used to calculate CY expenditure drivers. As a result, the coverage ratio effect is overestimated due to double counting effects of pensioners receiving more than one pension.

[40] As a result of the macroeconomic assumptions used in the projections, the labour intensity contribution has more or less no impact on the change in the pension expenditure/GDP ratio (EU-27 average: +0.1 p.p.). Only Greece, Spain, Luxembourg, Malta and Austria project an increasing effect of 0.1 p.p. of GDP. In all other Member States, the labour intensity effect is negligible.

Background Statistics

	Cyprus			EU-27		
Current adequacy (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Median relative income of people 65+ as a ratio of income of people 0-64	64	67	64	88	92	86
Aggregate replacement ratio	36	40	41	53	56	52
At-risk-of-poverty rate: 65-	12,1	11,1	13	16,5	16,2	16,8
65+ / 75+	41,2 / 55,9	38,5 / 54,7	43,5 / 56,7	15,9 / 18,0	12,9 / 14,4	18,1 / 20,5
Severe material deprivation: 65-	10,2	10,5	9,8	8,5	8,4	8,5
65+ / 75+	7,4 / 7,3	5,8 / 6,6	8,7 / 7,9	6,4 / 6,5	5,1 / 5,0	7,3 / 7,5
At risk of poverty or social exclusion (EU2020): 65-	20,7	19,9	21,5	24,2	23,5	25,0
65+ / 75+	43,7 / 57,9	40 / 56,5	46,8 / 59	19,8 / 22,1	16,2 / 17,7	22,6 / 25,0
Income distribution (S80/S20): 65- / 65+	4,1 / 4,6	4,0 / 4,9	4,2 / 4,4	5,2 / 4	5,2 / 4	5,2 / 3,9
Adequacy projections: CY						
Theoretical replacement rates (TRR):	**Net 2010**	**Net 2050**	**Difference**	**Gross2010**	**Gross2050**	**Difference**
40 years career: average income earner (basecase)	57	70	13	50 (100/0/0)*	60 (100/0/0)*	10
Low income	60	66	6	56 (100/0/0)*	59 (100/0/0)*	3
High income	48	55	7	38 (100/0/0)*	44 (100/0/0)*	6
Lower / higher future rates of return		70 / 70			60 / 60	
Lower / higher future wage growth		70 / 70			60 / 60	
38 years career: average income	57	67	10	50	57	7
Low / high income	60 / 48	64 / 53	(4 / 5)	56 / 38	58 / 42	(2 / 4)
42 years career: average income	56	72	16	49	61	12
Low / high income	60 / 51	68 / 58	(8 / 7)	56 / 41	61 / 47	(5 / 6)
10 years after retirement	56	68	12	50	54	4
Female worker with 3 years of career break for childcare	53	64	11	49	56	7
3 years of career break for unemployment	53	66	13	46	56	10
10 years out of the labour market	42	54	12	37	46	9
	2010	**2050**	**Difference**	**EU27 2010**	**EU27 2050**	**Difference**
Benefit ratio (Public pensions)	43,3	45,2	1,9	44,7	37,0	-7,7
Gross replacement rate at retirement (Public pensions)	45,3	52,3	7,0	48,0	39,1	-8,9
	Cyprus			EU-27		
Current sustainability (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Employment rates: 15-64	69,7	76,6	63	64,1	70,1	58,2
55-64	56,8	71,2	43	46,3	54,6	38,6
Effective labour market exit age****	64,4	65,0	63,5	62,1	62,5	61,7
Remaining life expectancy at 65	19,5	17,8	20,0	19,3°	17,2	20,7
Economic old-age dependency ratio[3]	25,3			39,8		
Pension expenditure, %GDP (ESSPROS)	7,4°			13,1°		
Budget balance	-5,3			-6,6		
Public debt	61,5			80,1		
Sustainability projections ***	Cyprus			EU-27		
Old-age dependency ratio**	**2010**	**2020**	**2030**	**2010**	**2020**	**2030**
	21	27	34	28	34	42
	2040	**2050**	**2060**	**2040**	**2050**	**2060**
	37	44	52	50	55	58
	2010	**2050**	**Difference**	**2010**	**2050**	**Difference**
Public pensions, gross (% of GDP)	7,6	14,4	6,7	11,3	12,8	1,5
Old-age and early pensions, gross (% of GDP)	6,1	12,0	5,9	9,2	11,0	1,7

*: Share of statutory DB-NDC / statutory funded / occupational and other supplementary pensions

°: 2009

¹: 2008

²: 2007

3: Economic old-age dependency ratio (20-64)

** Old-age dependency ratio = Population aged 65 and over as a percentage of the population aged 20-64. Source: The 2012 Ageing Report

***Source: EC-EPC (AWG) 2012 projections

****Source: The 2012 Ageing Report

Czech Republic (CZ)

Country profile for the Pension Adequacy Report 2012

General description of the pension system

The Czech pension system is based on the state defined-benefit pay-as-you-go (PAYG) scheme and a voluntary funded scheme, with the PAYG scheme playing the dominant role. The voluntary scheme consists of supplementary pension insurance with a state contribution and other forms of individual security consisting of products offered by commercial insurance companies.

The PAYG scheme is based on social insurance and is universal for the various groups of participants, e.g. employees and self-employed persons. Participation in the basic pension insurance system is compulsory for all economically active persons and allows restricted voluntary participation for the economically non-active. The coverage rate is almost 100%[41]. The scheme covers three main benefits: old age, disability and the survivor´s pension. Contributions are paid by employees, employers and the self-employed.

The principle of equivalence is reflected in the Czech pension system only to a limited extent due to the application of the principle of solidarity. The limited link between contributions and benefits was criticised by the Czech Constitutional Court in March 2010. The value of the pension depends principally on the number of years of contribution, each of which is awarded an accrual component (1.5% of the personal calculation basis), earnings during these years, the income ceiling and earnings thresholds. The value of past earnings is valorised on wages. The pension consists of two elements: the basic amount (flat rate) which is the same for all types of pension, regardless of the insured period and total earnings, and a percentage-based component based on the insured period and earnings reduced in accordance with defined earnings thresholds.

Pensions in payment are indexed on an annual basis each January and in extraordinary cases when inflation reaches 5 %. The value of the index corresponds to 100% of the retail price index and one third of growth in real wages. The exact amount is calculated using a formula set by the Pension Act and announced by the Ministry of Labour and Social Affairs. Both pension elements are increased – the flat rate is increased so that it represents 9 % of national average wage and the percentage element is indexed by a certain proportion. Czech pensions are not subject to taxation[42].

The voluntary funded scheme consists principally of personal pension savings supported by tax incentives and a state contribution. It is run on a defined-contribution basis by supplementary pension insurance funds. Despite the fact that legislation does not guarantee a minimum return, any shortfall must be covered by previous (undistributed) profits. Members of pension insurance funds are allowed to switch between providers – free of charge in specified cases. The average monthly participant contribution (not including employer contributions) for 2011 was only 1.8% of average gross wages.

[41] http://www.mpsv.cz/files/clanky/2235/zaverecna_zprava.pdf.

[42] With the exception of high pensions which yearly exceed a multiple of 36 of the minimum monthly wage.

Reform trends

Parametric changes in the PAYG scheme implemented on 1 January 2010 consisted of (a) limiting credits for some of the non-contributory periods, (b) the gradual extension of the minimum required insurance period to 35 years by 2019, (c) a gradual increase in the pensionable age to 65 years for men, childless women and women who have raised one child up to 2031 (for women who have raised more than one child, the legal retirement age will vary between 62 and 64 according to the number of children raised) and (d) changes in the pension formula. At the same time the early retirement period will gradually be extended to five years prior to reaching the pensionable age (not earlier than at 60 years), but the penalty for early retirement was increased[43].

The so called "small pension reform" came into force on 30 September 2011 as a response to the recent Constitutional Court ruling regarding the strengthening of the contributory principle within the social insurance pension system. The second earnings threshold was increased with the aim of strengthening the link between the contributions and benefits in the pension formula. In order to avoid a consequent steep decrease in the amount of pensions a transition period of five years was scheduled. This measure is complemented by a decrease in the ceiling for paying social insurance contributions to four times the annual average wage (from six times in 2010 and 2011).

With the aim of improving sustainability, the reform has revised indexation of pensions so that the government can no longer index pensions in excess of the amount described above. Moreover, the pension age of women is being increased more quickly than that of men so that an equal age of 67 years is reached in 2044. From 2044 the pensionable age will increase continuously by two months every year for both sexes without any upper limit. It is envisaged that these measures will fundamentally follow life expectancy development and that the period spent in retirement should not sink below 20 years on average. Together with these measures, the gradual extension of the reference period from the last 30 years of earnings to lifelong earnings has been introduced and stricter rules for the calculation of early retirement have been adopted.

In December 2011 the Parliament approved the Retirement Savings Act, which will come into force on 1 January 2013, and which will fundamentally change the current system of pension insurance in the Czech Republic. The Act creates a funded defined contribution scheme which would partially replace the current PAYG scheme. Decision on participation in the funded scheme will be voluntary and irreversible. The pension contributions levied will be managed by pension institutions licenced by the Czech National Bank. Each pension company will be required to offer four pension funds involving different levels of risk and investment strategies. Participants will be able to change their strategies over time.

Contributions of those who decide to join the funded scheme, currently at 28% of gross wage, will slightly increase and will be distributed 25% in favour of PAYG and 5% for the funded scheme. The capital accumulated in the funded scheme will have to be used to purchase retirement plans from life insurance companies. There will be three types of pension – a life-type annuity, a life-type annuity with a 3-year survivor's pension and a 20-year annuity. The capital accumulated in the savings phase and the unspent 20-year annuity will be inheritable. Participation in the funded scheme will affect the pension benefit received from the PAYG scheme. For every year of the full contribution to the PAYG scheme the contributor will earn an accrual rate of 1.5% of the personal calculation basis – while for those who participate in

[43] For more details see the Annual Report 2010 available at: http://www.socialprotection.eu/files_db/887/asisp_ANR10_Czech_Republic.pdf.

the funded part, the accrual rate will be 1.2%. The reforms aim principally to diversify the sources of income in old age.

In December 2011, reform of the existing voluntary funded scheme was approved by the Parliament with the aim of increasing the security of the capital of participants and of encouraging people to increase their contributions. Moreover, from 1 January 2013 the accumulated capital of participants will be separated from the assets of pension institutions. For contracts signed after 1 January 2013 the guarantee of at least zero returns will no longer exist. Finally, the thresholds for the minimum and maximum state contributions (subsidies) will be increased to encourage participants to save more.

Assessment of adequacy and sustainability pension indicators

Current adequacy

According to the figures provided, just 10.1% of the population over the age of 65 years was at risk of poverty or social exclusion in 2010 which represents an improvement on 2009 (11.7%). The low rate of income disparity and the relatively high level of effectiveness of social transfer mechanisms in combination with a low income median level represent significant factors in the low rate of relative poverty in the Czech Republic. The at-risk-of-poverty or social exclusion (EU2020) rate for people aged 65 and over in the Czech Republic is 9.7 percentage points lower than the EU 27 average and the Czech Republic is in the top 3 countries with the lowest risk of poverty or social exclusion in the EU.

The aggregate indicator of risk of poverty and social exclusion is based on three sub-indicators: (1) at-risk-of-poverty, which measures relative monetary poverty, (2) severe material deprivation, which is a more absolute measure of poverty, and (3) people living in households with low work intensity (which is not applied to older population).

The at-risk-of-poverty rate for people 65 and over dropped by 0.2 p.p. from 7% in 2008 to 6.8% in 2010. The drop might partially reflect a rise in unemployment which contributed to a lower income level and thus lowered the poverty threshold. According to this criterion the Czech Republic remains one of the top five in the EU 27 with an average of 15.9%. The main reason for this consists principally of the generally low level of wages.

The difference between men and women aged 65 and over in the Czech Republic in terms of the risk of monetary poverty remains substantial with men at only 2.1% and women at 10.3% and is the result of the generally lower level of the female pension because of life-long lower incomes and fewer years spent in work. The at-risk-of-poverty rate for people aged 0-64 is 2.6 p.p. higher than for those aged 65 reflecting effective protection of older people by the pension system. The at-risk-of-poverty rate for people aged 75 or over is 1.9 p.p. higher than the 65 and over group the reason being that newly granted pensions are higher than those granted 10 years ago or earlier.

The at-risk-of-poverty rate for the population aged 0 – 64 is higher than that of the population aged 65 and over, resulting from the low incomes of the unemployed, the non-complete families, the younger population aged 18-25 and families with several children. Only 4.3% of the population aged 65 and over suffered from severe material deprivation in 2010 which represents a decrease of 1.4 p.p. on 2009 (5.7%). The severe material deprivation indicator has decreased continuously since 2005 which is the result especially of the more rapid increase in the income levels of those aged 65 plus than in the general price level. In this area the Czech Republic should focus particularly on the area of housing, since housing conditions

are the most frequent factor contributing to material deprivation for the population aged 65 and over.

The median relative income of people aged 65 plus as a ratio of the income of people aged 0-64 grew in 2010 (to 82%) by 3 p.p. on 2008 (79%) but still did not reach the level of 2005 (83%). This indicator in terms of the Czech Republic is still 6 p.p. below the EU-27 average, as it was in 2008. On the other hand, gender differences are lower than the EU-27 average.

Ageing of population remains the main threat to Czech pension system sustainability. The Czech Republic is one of the most rapidly ageing countries in the EU, so it is reasonable to expect, based on the projections of the 2012 Ageing Report, that there will be a steep increase in the old-age dependency ratio from 22% in 2010 to 50% in 2050.

Future adequacy

Regarding the adequacy projections, net replacement rates (NRR) are expected to fall over the long-run (these projections do not take into account the latest reforms – namely the Retirement Savings Act). For the base case of a worker retiring at 65 after 40 years of career at the average wage, NRR would fall from 70.6% in 2010 to 43.1% in 2050. The GRR declines from 55.1% to 33.4% over the same period. This means drops of 27.5 p.p. (NRR) and 21.6 p.p. (GRR) in the next 40 years. The drop in both NRR and GRR is primarily caused by increases in retirement age.[44] People with higher incomes will suffer smaller decreases than low-wage earners: respectively 15.9 p.p. and 32.3 p.p. in 40 years. This difference is mainly caused by lower NRR for higher earners and to lesser extent it reflects measures approved in the wake of the ruling of the Constitutional Court to strengthen the principle of equivalence in the pension system.

The fall over time shown by these 2010 – 2050 calculations of theoretical replacement rates does not reflect the fact that the pensionable age would increase to 67 already in 2044. But even retirement at 67 in 2050 compared to retirement at 65 in 2010 would lead to a drop in NRR from 70.6% to 53.9%.

The drop in replacement rate would occur not only for the base case male worker, who retires at the age of 65 after 40 years career, but also for some of the "variant" cases careers, e.g. people with 10 years out of the labour market (drop in NRR of 21.2 p.p.). The TRR 10 years after retirement imply that pension levels at the moment of retirement will be eroded by indexation rules.

Labour market discontinuities due to unemployment or childcare (in both cases for a maximum of three years) will be better protected in the future. In the case of unemployment break (1.2 p.p.) this will be probably caused by the fact that the pensionable age for men is being increased continuously by 2 months per year and therefore future pensioners will be able to earn more pension rights than in 2010. The reason for a large increase (8 p.p.) in the childcare protection is that the pensionable age for women will grow twice as fast as that for men.

The relative bonus/malus effect of retiring 2 years after or before the age of 65 is almost the same in 2050 as in 2010 (+/- 10 p.p.). The reason again is the construction of the TRR indicator with a retirement age of 65 as the base case.

SUSTAINABILITY

Demography

[44] In 2010 a man retiring at the age of 65 enjoyed bonuses for almost 3 years of deferred retirement while in 2050 the same man will draw his pension almost 2 years earlier than retirement age.

The old-age dependency ratio[45] (population aged 65 and over as a percentage of the population aged 20-64) in CZ is projected to increase from 23.8% in 2010 (EU-27: 28.4%) to 54.9% in 2050 (EU-27: 55.0%) and 60.2% in 2060 (EU-27: 57.7%).

CZ belongs to the group of Member States where the increase in old-age dependency ratio is projected to be above the EU-27 average. Over the period 2010 to 2060, the old-age dependency ratio is projected to increase by 36.5 percentage points (EU-27: 29.2 percentage points). The CZ will be one of the fastest ageing countries in the EU. The share of working-age population (15-64) (70.3% of the total population in 2010) is projected to drop by 14.5 percentage points by 2060 (to 55.8% of the total population), compared with 10.7 percentage points for the EU as a whole by 2060.

Employment

The labour market participation rate[46] (15-64) in CZ was below the EU-27 average in 2010 (CZ: 70.3%, EU-27: 71.1%), and is projected to remain lower also in 2060 (CZ: 73.1 %, EU-27: 73.8%). Over the period 2010 to 2060, the participation rate of older workers (55-64) is it projected to increase by 22.5 percentage points (from 50.1% in 2010 to 72.6% in 2060) and stay higher than in the EU-27 (49.7% in 2010; 66.5% in 2060).

According to the 2012 Ageing Report, employment rate (15-64) is projected to increase from 65.1% in 2010 (EU-27: 64.1%) to 68.7% in 2050 (EU-27: 68.9%) and decrease to 68.6% in 2060 (EU-27: 69.0%). The share of older (55-64) in employment is projected to change from 14% in 2010 to 19% in 2060 (EU-27: from 13% in 2010 to 19% in 2060).

The employment rate for older workers (55 to 64 years)[47] in CZ in 2010 was above the EU-27 average: 46.5% (58.4% - males, 35.5% - females) versus 46.3% at EU-27 level (54.6% - males, 38.6% - females).

The average effective exit age from the labour force in 2010 was 61.1 (62.5 – for men, 59.9 – for women) and it is below the EU-27 average (62.1 – total, 62.5 – for men, 61.7 – for women).

Expenditure

According to the 2012 Ageing Report, the gross public pension expenditure will increase from 9.1% of GDP in 2010 to 11.0% of GDP in 2050 and to 11.8% of GDP in 2060.

In 2010 the gross old-age and early pension expenditure was 7.2% of GDP, below the EU-27 average of 9.2%. The 2012 Ageing Report projects an increase to 8.8% of GDP by 2050, which remains below the EU-27 projected average of 11.0% of GDP.

Main drivers of pension expenditure

In accordance with the 2012 Ageing Report, the demographic factor has the strongest downward effect (+9.3 p.p. of GDP) on gross public pension expenditure over 2010-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and labour intensity[48]). The lowering effect of coverage ratio (-4.6 p.p.) and employment rate (-0.6 p.p.) on the public pension expenditure are more pronounced than the benefit ratio effect (-0.2 p.p.).

[45] The 2012 Ageing report
[46] The 2012 Ageing Report
[47] EUROSTAT
[48] As a result of the macroeconomic assumptions used in the projections, the labour intensity contribution has more or less no impact on the change in the pension expenditure/GDP ratio (EU-27 average: +0.1 p.p.). Only Greece, Spain, Luxembourg, Malta and Austria project an increasing effect of 0.1 p.p. of GDP. In all other Member States, the labour intensity effect is negligible.

Background Statistics

	Czech Republic			EU-27		
Current adequacy (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Median relative income of people 65+ as a ratio of income of people 0-64	82	83	80	88	92	86
Aggregate replacement ratio	54	52	55	53	56	52
At-risk-of-poverty rate: 65-	9,4	8,9	9,9	16,5	16,2	16,8
65+ / 75+	6,8 / 8,7	2,1 / 3,2	10,3 / 12,3	15,9 / 18,0	12,9 / 14,4	18,1 / 20,5
Severe material deprivation: 65-	6,5	6,2	6,9	8,5	8,4	8,5
65+ / 75+	4,3 / 4,7	3,7 / 3,6	4,8 / 5,5	6,4 / 6,5	5,1 / 5,0	7,3 / 7,5
At risk of poverty or social exclusion (EU2020): 65-	15,1	13,8	16,4	24,2	23,5	25,0
65+ / 75+	10,1 / 12,2	5,3 / 6,5	13,7 / 16	19,8 / 22,1	16,2 / 17,7	22,6 / 25,0
Income distribution (S80/S20): 65- / 65+	3,6 / 2,4	3,6 / 2,3	3,6 / 2,4	5,2 / 4	5,2 / 4	5,2 / 3,9
Adequacy projections: CZ						
Theoretical replacement rates (TRR):	**Net 2010**	**Net 2050**	**Difference**	**Gross2010**	**Gross2050**	**Difference**
40 years career: average income earner (basecase)	70,6	43,1	-27,5	55,1 (100/0/0)*	33,4 (100/0/0)*	-21,6
Low income	87,2	54,9	-32,3	72,1 (100/0/0)*	45 (100/0/0)*	-27,1
High income	42,5	26,6	-15,9	31,5 (100/0/0)*	19,5 (100/0/0)*	-12,0
Lower / higher future rates of return		43,1 / 43,1			33,4 / 33,4	
Lower / higher future wage growth		43,1 / 43,1			33,4 / 33,4	
38 years career: average income	60,3	34,2	-26,1	47	26,5	-20,5
Low / high income	74,9 / 35,4	44 / 20,8	(-30,8/-14,6)	61,9 / 26,1	36,1 / 15,2	(-25,8/-10,9)
42 years career: average income	80,2	53,9	-26,3	63,1	41,8	-21,3
Low / high income	94,3 / 46,3	68 / 33,6	(-26,3/-12,8)	77,2 / 34,7	55,7 / 24,6	(-21,5/-10,1)
10 years after retirement	61,1	37,9	-23,2	47,3	29,4	-17,9
Female worker with 3 years of career break for childcare	51,5	59,5	8,0	33,8	46,1	12,3
3 years of career break for unemployment	57,6	58,8	1,2	43,8	45,6	1,8
10 years out of the labour market	50,1	28,9	-21,2	39,1	22,4	-16,7
	2010	**2050**	**Difference**	**EU27 2010**	**EU27 2050**	**Difference**
Benefit ratio (Public pensions)	26,2	25,2	-1,0	44,7	37,0	-7,7
Gross replacement rate at retirement (Public pensions)	28,5	25,4	-3,2	48,0	39,1	-8,9
	Czech Republic			**EU-27**		
Current sustainability (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Employment rates: 15-64	65	73,5	56,3	64,1	70,1	58,2
55-64	46,5	58,4	35,5	46,3	54,6	38,6
Effective labour market exit age****	61,1	62,5	59,9	62,1	62,5	61,7
Remaining life expectancy at 65	17,4	15,3	18,7	19,3°	17,2	20,7
Economic old-age dependency ratio[3]	32,3			39,8		
Pension expenditure, %GDP (ESSPROS)	9,1°			13,1°		
Budget balance	-4,8			-6,6		
Public debt	37,6			80,1		
Sustainability projections ***	**Czech Republic**			**EU-27**		
Old-age dependency ratio**	**2010**	**2020**	**2030**	**2010**	**2020**	**2030**
	24	33	38	28	34	42
	2040	**2050**	**2060**	**2040**	**2050**	**2060**
	44	55	60	50	55	58
	2010	**2050**	**Difference**	**2010**	**2050**	**Difference**
Public pensions, gross (% of GDP)	9,1	11,0	1,9	11,3	12,8	1,5
Old-age and early pensions, gross (% of GDP)	7,2	8,8	1,6	9,2	11,0	1,7

*: Share of statutory DB-NDC / statutory funded / occupational and other supplementary pensions

°: 2009

¹: 2008

²: 2007

3: Economic old-age dependency ratio (20-64)

** Old-age dependency ratio = Population aged 65 and over as a percentage of the population aged 20-64. Source: The 2012 Ageing Report

***Source: EC-EPC (AWG) 2012 projections

****Source: The 2012 Ageing Report

Denmark (DK)

Country profile for the Pension Adequacy Report 2012

General description of the pension system

For old age provision Denmark has a multi-pillar pension system. There is also a voluntary early retirement pension scheme, VERP (efterløn), as well as a disability pension scheme (førtidspension).

The first pillar consists of two statutory public old-age pension schemes, i.e. the national old age pension (folkepension) and the smaller supplementary pension (ATP). The national old age pension is a universal, non-contributory, residence-based scheme financed from general taxation on a pay-as-you-go basis. Benefits are taxable and consist of a flat-rate amount (grundbeløb) and an income-tested supplement (pensionstillæg). The flat-rate amount is tested against earned income above a significant level. The income-tested supplement is tested against earned, capital and pension income. There is a supplementary benefit for pensioners (supplerende pensionsydelse, ældrecheck) with low incomes besides the full old age pension.

The ATP is a fully funded defined-contribution scheme financed from mandatory contributions from all employed persons and all working age claimants of social security and social assistance benefits. The ATP 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 cover about 90% of wage earners who finance schemes through contributions of 12% to 17% of their gross wages. The bulk of occupational pensions are fully funded, defined contribution schemes with obligatory annuitisations.

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

The VERP is a voluntary, contributory scheme where the financing involves a subsidy from general taxation. To become entitled one must have been a member of the voluntary unemployment insurance scheme and have paid the special contribution to the scheme for 30 years and 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 disability pension can be claimed by working age persons who, notwithstanding the possibilities of support under the social security and other legislation, cannot provide for themselves by means of a remunerated job, because their work capacity has been permanently reduced. Persons whose work capacity is only temporarily reduced and whose work capacity can be restored or significantly improved through activation, treatment or rehabilitation cannot get a disability pension. This tax-financed pension is granted irrespective of work record and age.

In statutory and occupational schemes the pension eligibility age is presently 65 years and in the early retirement scheme it is 60 years. Both are to be gradually raised and indexed to life expectancy as part of reforms.

Reform trends

Over the next decade the role of private pensions in pension incomes will significantly increase. Primarily because contribution rates to the occupational pension schemes established in the late 1980's and early 1990s have been raised as part of successive collective agreements and schemes now are beginning to mature. But also because there has been a large increase in the prevalence and volume of complementary retirement savings in 3rd pillar a scheme in long growth period from the mid-1990's to 2008.

The Welfare Reform of 2006 increased the pensionable age in the early retirement scheme from 60 to 62 years between 2019 and 2022 and in the national old age pension and the ATP from 65 to 67 years between 2024 and 2027. The Reform of 2006 also meant that the pension age will be indexed with increases in life expectancy from 2027.

On 21 December 2011 a further reform of the early retirement scheme was passed. The main elements of the reform are:

- Implementation of an already enacted gradually increase of the eligible age for public old age pension and VERP with two years is brought forward 5 years. The public old age pension age will be increased from 65 to 67 years in the period 2019-22 (previously 2024-27). The eligible age for VERP will be increased from 60 to 62 in the period 2014-2017 (previously 2019-22).
- The maximum number of years receiving VERP is reduced from 5 to 3 (VERP can only be received until people reach the age for public old age pension). This is done by increasing the eligibility age for VERP by 2 years to 64 years over the periods 2018-19 and 2022-23. Pensionable ages in 2nd and 3rd pillar schemes will align to those in the 1st pillar and early retirement.
- The indexing to gains in life expectancy will begin affecting persons born from 1963 and onwards, so when average longevity goes up pensionable ages in early retirement and the three pension pillars will be raised.
- Stricter income-testing of the early retirement benefit with other pension income making it less attractive for persons with large 2nd and 3rd pillar pensions to retire.
- Continued possibility for persons entitled to early retirement benefit to earn a tax-free premium if retirement is postponed.
- A one off possibility for early retirement scheme members under the age of 60 to withdraw from the scheme (in view of changes) and have their accrued contributions returned tax-free.

In March 2012 the centre-left government presented its proposal for a major reform of the disability scheme (Førtidspension). A broad majority in parliament have indicated that thorough changes are called for since the influx has been higher than expected when the scheme was last reformed, the number of younger entrants has been increasing and entitlements have increasingly been based on mental illnesses that are not necessarily permanent.

Key features of the proposal are:

- Granting a disability pension to persons below the age of 40 will in principle no longer be possible.
- Instead municipalities will be obligated to offer individually tailored rehabilitation and support measures to (re-)integrate persons with reduced workability and employability into the world of work
- Financing will be secured through a reduction of (in-work) subsidies for the better waged so-called flex-jobs and reallocation of funds towards lower-waged jobs for those with particularly severe limitations in their workability and employability.

While the specifics are still for negotiation among the parties a reform of the disability scheme along these lines could be adopted before the summer.

Assessment of adequacy and sustainability pension indicators

Current adequacy

The risk-of-poverty-or-social-exclusion for persons above 65 years of age was 18.3% in 2010 compared to 23.5% for the EU-27. This indicator has increased from 16.3 in 2008 and 17.6 in 2009. With a score of 19.0 women above 65 years have a higher risk-of-poverty-or-social-exclusion than men.

The at-risk-of-poverty rate for persons older than 65 years was 17.7 in 2010 down from 20.1 in 2009 and 18.1 in 2008. The downward trend in poverty risk for pensioners may be explained in part by the maturation of occupational pension schemes and in part by the median income not rising as much as before the crisis

From a Danish perspective it sounds dramatic that more than one in six elderly should be at-risk-of-poverty (and one in eight of the total population). However, there are two potential problems with using the indicator at-risk-of-poverty rate especially for persons above 65 years of age to measure benefit adequacy in a Danish context. First, this measure of adequacy does not take into account the non-monetary benefits that elderly are eligible for. In particular, health care is almost exclusively free of charge as is the encompassing range of social services for the elderly. Secondly, the at-risk-of-poverty line is set at 60% of median income which is almost at the same level as the full national old age pensions. Thus a relatively large number of elderly are counted as at-risk-of-poverty even though they have incomes just below this line and even though they receive a comprehensive package of other benefits in social and health care and subsidised housing. Also the fact that the Eurostat income data do not include imputed rent distorts the picture.

The 17.7% in total masks gender differences with 16.8% for men and 18.5% of women above 65 years of age that are at-risk-of-poverty. Most likely these differences are due to men having better occupational pensions than women in general because men have had better positions during their working years in terms of earnings and occupational pension coverage as well as fewer periods off for family purposes. The differences may also be partly attributed to the greater proportion of women among the "oldest old", cf. below.

There are also differences between the elderly as there is a higher proportion of the 'old old' that are at risk-of-poverty compared to the whole group of elderly. For persons above 75 years of age 24.9% in total, 25.0% of men and 24.8% of women are at-risk-of-poverty. One factor explaining this is the far lower coverage of earnings-related 2nd pillar schemes before 1990. Many occupational pension schemes were only established in 1989-91 meaning that the 'old

old' have had fewer years, if any, covered by such schemes compared to later generations of elderly.

Around 8.3% of persons above 65 years of age in 2009 were at-risk-of-persistent-poverty because they had less than 60% of median earnings in one year and also in at least two of the preceding three years (EUROSTAT, 2012).

Not many elderly report that they suffer from severe material deprivation. Of elderly above 65 years of age 0.9% report they suffer from severe material deprivation. This is about a third of the level for the whole population where 3% of persons below the age of 65 years report they suffer from severe material deprivation. There are less of the older old that report to suffer severe material deprivation, i.e., 0.5% above 75 years compared to 0.9 above 65 years of age report to be materially deprived. This may be explained partly by the wide range of social and health services available to elderly that in large part are taken up by the older old and in part by the older old having fewer demands than other age groups in the population on the items included in the battery of questions that makes up this indicator.

Danish elderly have a smaller share in income than their counterparts in EU-27. The median relative income of person above 65 years as a ratio of people aged 0-64 years is 71 compared to 88 for EU-27. However, there is less inequality among elderly Danes than among elderly in EU-27 and among the Danish population below 65 years.

The national old age pension is an significant source of income even high up in the income deciles. Also the basic package of the national old age pension and the ATP makes up the largest source of income for pensioners in 93 out of 98 municipalities (ATP, 2011).

In a comparative perspective the Danish pensions are not particularly generous. The aggregate replacement ratio was 0.44 in 2010 compared to 0.53 for EU-27 (EUROSTAT, 2012). This reflect that significant earnings-related defined contribution supplements only were generalised two decades ago with the extension of occupational schemes and that these schemes therefore only are beginning to mature. The aggregate replacement ratio for women (0.46) is higher than for men (0.42). Indeed, presently the national old age pension contributes to equality both between rich and poor and between men and women (Det Økonomiske Råd, 2011). Because the national old age pension flat-rate amount is income-tested with work income above a certain amount low-income pensioners gain more in relative terms than high-income pensioners. Because the supplementary amount is tested against earned, capital and pension income, high income groups with such income have their national old age pension reduced unlike lower income groups without.

Future adequacy

In general, the scenarios using theoretical replacement rates (TTR) display different trends in the gross (increasing) and net replacement rates (decreasing).[49] For an average income earner with a 40 years career the net TTR will decrease by 2.1 percentage points from 69.4 to 67.3 (while gross TTR will increase 7.4 percentage point). For low income earners the net TTR will decrease by more, i.e. 7.4 p.p., albeit from a higher level from 97.3% to 89.9%. For high

[49] This difference has to do with the character of the assumptions. While total income from pensions, including public old age pension, is projected to increase markedly, housing costs are only assumed to increase in line with general price developments. The result of these assumptions is therefore that the value of the tax free, income-tested housing benefit is gradually decreasing in the projection period. It should also be noted, that the basic assumption about a retirement age of 65 years in 2050 implies that the effects of the enacted increase and life expectancy indexing of the pensionable age in Denmark and of the maturing of occupational pensions are precluded from being fully reflected in the replacement rates.

income earners the drop will be smaller at 0.8 percentage points, but this is also from a markedly lower benefit with a net TTR of 44.5% in 2010 and 43.7% in 2050.

Working longer will become more important in the future for benefit adequacy. For example a person with an average income and 38 years of work received 68.8% in TTR in 2010 but 63.3% in 2050. The similar figures for a person with a 42 year career are: 73.2% and 73.4%.

Despite the official pension age of 65 the average exit age from the labour market was 62.3 in 2009. Compared with 61.4 years for the EU17 this looks good, but this is not the case when compared to neighbouring Sweden that has an average exit age of 64.8 Women retire a bit earlier than men. Women's average exit age is 62.4 and men's is 63.2. One factor contributing to the earlier exit of women is that couples tend to retire at the same time and since women are often two-three years younger than their partner, this means that fewer elderly women are at work when compared to other groups (ATP, 2011).

There are no urgent needs to reform the old age pension and the early retirement schemes as these have just been subject to change that will be implemented over the next years. The multi-pillar pension system provides a relatively sound protection against poverty for low income groups through the national old age pension and related benefits while ensuring a reasonable measure of income replacement for middle and higher income groups through occupational pensions.

Pension adequacy obviously depends on the pension system being economically sustainable. The challenges to pension adequacy in Denmark are therefore closely linked with challenges to sustainability.

The main challenges for pension adequacy are ageing populations and the on-going economic crisis. Unless Danes on average manage to work to higher ages and thus significantly increase the effective retirement age ageing population may challenge the financing of social security benefits, including national old age pensions, even if these are not particularly generous and even if reforms have already been introduced that will gradually increase the pension age. Major changes in age management in work places and labour markets are likely to be needed to encourage and enable women and men to extend their working lives in line with gains in longevity. Working with the social partners to achieve such changes will be important to limit the extent to which higher pensionable ages will increase the inflow into disability, unemployment, sickness or social assistance benefit schemes.

The on-going economic crisis is also an important challenge for future pension adequacy. Since contributions to occupational schemes stop when people become unemployed and young people only begin contributing when they have found a regular job, longer term unemployment will reduce income from such pensions for the affected. Moreover, the crisis has lowered interest rates to historically unprecedented levels and the institution managing the ATP pension fund estimates that permanently lower interest rates may mean that young people of today will have to pay twice as much to pre-funded, defined contribution schemes as former generations if they are to receive similar amounts from such pension schemes as former generations (ATP, 2012). Interest rates could increase when the economy rebounds, but if they remain low there will be little possibility to compensate through higher contribution rates as these with 12-17% of gross wages on top of income taxes close to 50% already are rather high.

When assessing pension adequacy it is important to recall the value of free, non-monetary benefits like social and health care as described above. The extent of such benefits could possibly be reduced in the years to come due to shortages of labour and financial constraints on local governments providing most of the social services and on regional governments

providing most the health care. Also many of these in-kind benefits could possibly be subject to user charges. It is thus not quite improbable that pensioners in the future will have to spend more money on such services thus putting pressure on pension adequacy if pensions are not raised, which is unlikely. Reductions in access to free or significantly subsidised health, social and housing services would erode the adequacy of pension benefits. Overall better public finance would contain the need for such entrenchments.

Thus, the potential for win-win outcomes on adequacy and sustainability revolves around increasing employment and reducing working age adult dependency (through more people working more and longer) since this not only would improve the sustainability of pension finances and public budgets, but also increase income from occupational pension schemes.

Finally people need to become more aware of their part of the responsibility for adequate provision. The growing emphasis on 2nd and 3rd pillar private pensions in the overall system makes it important for people to understand better their options and tax-benefit packages. Such knowledge must inform decisions many years ahead of planned retirement. Comprehensive annual statements of pension entitlements may be needed to supplement the present portal where people can consult and track the accrual of their pension entitlements. Adult pension illiteracy could be reduced through programmes of financial education in various media while secondary and tertiary schools could some basic principles of saving and consumption in their teachings.

SUSTAINABILITY

Demography

The old-age dependency ratio[50] (population aged 65 and over as a percentage of the population aged 20-64) in DK is projected to increase from 28.0% in 2010 (EU-27: 28.4%) to 46.2% in 2050 (EU-27: 55.0%) and 48.2% in 2060 (EU-27: 57.7%).

DK belongs to the group of Member States where the increase in old-age dependency ratio is projected to be below the EU-27 average. Over the period 2010 to 2060, the old-age dependency ratio is projected to increase by 20.2 percentage points (EU-27: 29.2 percentage points).

The share of working-age population (15-64) (65.4% of the total population in 2010) is projected to drop by 7.1 percentage points by 2060 (to 58.4% of the total population), compared with 10.7 percentage points for the EU as a whole by 2060.

Employment

The labour market participation rate[51] (15-64) in DK was above the EU-27 average in 2010 (DK: 79.5%, EU-27: 71.1%), and is projected to remain higher also in 2060 (DK: 80.6 %, EU-27: 73.8%). Over the period 2010 to 2060, the participation rate of older workers (55-64) is it projected to increase by 12.1 percentage points (from 61.1% in 2010 to 73.2% in 2060) and stay higher than in the EU-27 (49.7% in 2010; 66.5% in 2060).

According to the 2012 Ageing Report, employment rate (15-64) is projected to increase from 73.5% in 2010 (EU-27: 64.1%) to 76.7% in 2050 (EU-27: 68.9%) and 76.8% in 2060 (EU-27: 69.0%). The share of older (55-64) in employment is projected to change from 16% in 2010 to 19% in 2060 (EU-27: from 13% in 2010 to 19% in 2060).

[50] The 2012 Ageing Report

[51] The 2012 Ageing Report

The employment rate for older workers (55 to 64 years)[52] in DK in 2010 was above the EU-27 average: 58.4% (63.3% - males, 53.6% - females) versus 46.3% at EU-27 level (54.6% - males, 38.6% - females).

Smoothing transitions from education into work and between jobs while reducing career breaks and postponing retirement will be important in the extension of the duration of working life and life time employment.

There is a particular need to increase the employment rate for women above 60 years, which links to a more general need to reduce gender gaps in the labour market concerning recruitment, wages and careers. Presently the gender pension gap in Denmark is among the lowest in the EU. Yet, whereas occupational pension coverage is almost as high for women as for men, women work part-time more often than men and the gender pay gap (17%) resulting from this and other factors will be reflected in lower average benefits for female pensioners.

The average effective exit age from the labour force in 2010 was 62.9 (63.6 – for men, 62.1 – for women) and it is above the EU-27 average (62.1 – total, 62.5 – for men, 61.7 – for women).

Expenditure

According to the 2012 Ageing Report, the gross public pension expenditure will increase from 10.1% of GDP in 2010 to 10.7% of GDP in 2030 and decrease to 9.6% of GDP in 2050 and to 9.5% of GDP in 2060.

In 2010 the gross old-age and early pension expenditure was 7.8% of GDP, below the EU-27 average of 9.2%. The 2012 Ageing Report projects a decrease to 6.6% of GDP by 2050, which remains below the EU-27 projected average of 11.0% of GDP.

Main drivers of pension expenditure

In accordance with the 2012 Ageing Report, the demographic factor has the strongest downward effect (+5.9 p.p. of GDP) on gross public pension expenditure over 2010-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and labour intensity[53]). The lowering effect of coverage ratio (-4.2 p.p.) and benefit ratio (-1.2 p.p.) on the public pension expenditure are more pronounced than the employment rate effect (-0.4 p.p.).

[52] EUROSTAT

[53] As a result of the macroeconomic assumptions used in the projections, the labour intensity contribution has more or less no impact on the change in the pension expenditure/GDP ratio (EU-27 average: +0.1 p.p.). Only Greece, Spain, Luxembourg, Malta and Austria project an increasing effect of 0.1 p.p. of GDP. In all other Member States, the labour intensity effect is negligible.

Background Statistics

	Denmark			EU-27		
Current adequacy (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Median relative income of people 65+ as a ratio of income of people 0-64	71	74	71	88	92	86
Aggregate replacement ratio	44	42	46	53	56	52
At-risk-of-poverty rate: 65-	12,4	12,5	12,3	16,5	16,2	16,8
65+ / 75+	17,7 / 24,9	16,8 / 25	18,5 / 24,8	15,9 / 18,0	12,9 / 14,4	18,1 / 20,5
Severe material deprivation: 65-	3	3	2,9	8,5	8,4	8,5
65+ / 75+	0,9 / 0,5	1,4 / 0,9	0,6 / 0,2	6,4 / 6,5	5,1 / 5,0	7,3 / 7,5
At risk of poverty or social exclusion (EU2020): 65-	18,3	17,7	19,0	24,2	23,5	25,0
65+ / 75+	18,4 / 25,1	17,6 / 25,3	19,1 / 24,9	19,8 / 22,1	16,2 / 17,7	22,6 / 25,0
Income distribution (S80/S20): 65- / 65+	4,4 / 3,6	4,6 / 4,2	4,3 / 3,1	5,2 / 4	5,2 / 4	5,2 / 3,9
Adequacy projections: DK						
Theoretical replacement rates (TRR):	**Net 2010**	**Net 2050**	**Difference**	**Gross2010**	**Gross2050**	**Difference**
40 years career: average income earner (basecase)	69,4	67,3	-2,1	48,8 (72/14/14)*	56,2 (45/8/47)*	7,4
Low income	97,3	89,9	-7,4	70,9 (76/15/9)*	75,1 (56/9/35)*	4,2
High income	44,5	43,7	-0,8	26,5 (64/13/23)*	32,4 (34/7/60)*	5,9
Lower / higher future rates of return		64,1 / 71,2			53,3 / 59,9	
Lower / higher future wage growth		75,4 / 62,8			61,5 / 52,1	
38 years career: average income	68,8	63,3	-5,5	53,1	52,6	-0,5
Low / high income	97,2 / 43,6	89,4 / 38,8	(-7,8 / -4,8)	78,3 / 27,7	74,5 / 28,4	(-3,8 / 0,7)
42 years career: average income	73,2	73,4	0,2	53	61,9	8,9
Low / high income	102,9 / 46,8	97,3 / 48,4	(-5,6 / 1,6)	77,2 / 28,6	82,2 / 36,1	5,0 / 7,5
10 years after retirement	65,9	66,4	0,5	46,5	54,7	8,2
Female worker with 3 years of career break for childcare		68,4			57,3	
3 years of career break for unemployment		68,3			57,1	
10 years out of the labour market		61,9			51,3	
	2010	**2050**	**Difference**	**EU27 2010**	**EU27 2050**	**Difference**
Benefit ratio (Public pensions)	35,8	30,5	-0,9	44,7	37,0	-7,7
Gross replacement rate at retirement (Public pensions)	:	:	:	48,0	39,1	-8,9
	Denmark			**EU-27**		
Current sustainability (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Employment rates: 15-64	73,4	75,8	71,1	64,1	70,1	58,2
55-64	57,6	62,7	52,5	46,3	54,6	38,6
Effective labour market exit age****	62,9	63,6	62,1	62,1	62,5	61,7
Remaining life expectancy at 65	18,4	16,8	19,5	19,3°	17,2	20,7
Economic old-age dependency ratio[3]	34,6			39,8		
Pension expenditure, %GDP (ESSPROS)	12,1°			13,1°		
Budget balance	-2,6			-6,6		
Public debt	43,7			80,1		
Sustainability projections ***	**Denmark**			**EU-27**		
Old-age dependency ratio**	**2010**	**2020**	**2030**	**2010**	**2020**	**2030**
	28	35	41	28	34	42
	2040	**2050**	**2060**	**2040**	**2050**	**2060**
	47	46	48	50	55	58
	2010	**2050**	**Difference**	**2010**	**2050**	**Difference**
Public pensions, gross (% of GDP)	10,1	9,6	5,7	11,3	12,8	1,5
Old-age and early pensions, gross (% of GDP)	7,8	6,6	-1,2	9,2	11,0	1,7

*: Share of statutory DB-NDC / statutory funded / occupational and other supplementary pensions

°: 2009

¹: 2008

²: 2007

: Data not available

[3]: Economic old-age dependency ratio (20-64)

** Old-age dependency ratio = Population aged 65 and over as a percentage of the population aged 20-64. Source: The 2012 Ageing Report

***Source: EC-EPC (AWG) 2012 projections

****Source: The 2012 Ageing Report

Estonia (EE)

Country profile for the Pension Adequacy Report 2012

General description of the pension system

The Estonian pension system consists of three main schemes: a state pension insurance (a defined-benefit pay-as-you-go system); a compulsory funded pension scheme (defined-contribution scheme); and voluntary funded defined-contribution pension 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 ear-marked social tax paid by employers and the self-employed at the rate of 16% or 20% of gross earnings depending on whether the insured person has joined the funded scheme or not. Additional transfers from the general state budget have been necessary in recent years.

The coverage of the state pension insurance system is practically universal. In 2012, the pensionable age was 63 years for men and 61.5 years for women. 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 pensionable 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%. When the pension is deferred the entitlement is increased by 0.9% for every month after the pensionable age.

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 indices 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.

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 introducing additional contributions by employees. The contribution rate is 6% of gross wages – the employee pays 2% from the gross wage and the employer another 4% (as part of the 20% 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 2010, the scheme covers about 71% of the population aged 18 to 63, but not all are active contributors (59% in 2009). 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 50 thousand contributors (about 6% of working age population) and about 70 thousand contracts in the form of life insurances in 2011.

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.

Reform trends

Recent developments and reforms in the Estonian pension system were influenced by several context factors: the economic crisis of 2008-2010 and simultaneous aim to join the Euro area in 2010, general elections in 2011, and concerns about the long-term sustainability of the Estonian social security system. Although the economic crisis itsself did not lead to any qualitative re-orientation in the pension system, it accelerated some reforms that have long-term impact both on the adequacy and sustainability of future pensions. On 7 April 2010 the parliament approved an increase of the statutory pension age. The amendment of the law raises pension age further to 65 by 2026. It will reduce expenditure on old-age pensions, but increases pressure to withdraw from the labour force via other social protection schemes, especially through the work incapacity pension scheme.

In 2009 ad hoc changes to the indexation rule of pensions were made. The changes allowed to smooth the value of nominal pensions during the crisis without having any long-term impact on the sustainability or adequacy. It resulted in smaller increase of pensions in 2009 and predictably in 2012-2015, but no decline of pensions in 2010 and 2011.

Transfers from the social tax 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. A compensation mechanism will transfer additional social tax revenues to the funded scheme in 2014-2017.

In the mandatory 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. On 26 January 2011, as a reaction to mismanagement and large losses that investment funds had during the last real estate boom and the following financial crisis, the parliament adopted an amendment to the Funded Pensions Act and several other related acts to clarify management and reporting rules of the pension funds.[54]

The amendment introduced more transparency and additional requirements for conservative investment funds. It gave fund members more opportunities to change funds (up to three times a year instead of once a year). Additional contributions can be directed to a new pension fund at any time (instead of once a year). Pension funds have to publish their investment reports monthly (instead of quarterly). Investment portfolio of conservative funds (which invest in fixed income assets only) has been restricted to bonds that have investment rating at least Baa3 (Moody's) or its equivalent. The amendment of the Funded Pension Act has also simplified operational rules in the voluntary funded pension scheme.

[54] Vabariigi Valitsus (2010), "Seletuskiri kogumispensionide seaduse ja sellega seonduvalt teiste seaduste muutmise seaduse eelnõu juurde", (*The explanatory memorandum accompanying changes in the Funded Pension Act and other related acts*), retrieved on 6 May 2011 at http://www.riigikogu.ee/?page=eelnou&op=ems&emshelp=true&eid=1241326&u=20110513153951

Several changes were made to the Income Tax Act. First, an upper limit (EUR 6,000 per annum) has been set for the tax-free contributions to the voluntary pension scheme. This makes investment to pension funds more expensive for high income earners. Second, employers can now contribute to the voluntary pension scheme of their employees up to the amount of 15% of annual salary or EUR 6,000, without paying the income tax, but only social tax. These changes are supposed to encourage both individuals and employers to invest more in the voluntary pension scheme, which has suffered severe loss of confidence and popularity among investors in recent years.

The new coalition agreement concluded in April 2011 foresees additional pension supplements for parents who have raised children. Although it would increase pension expenditure, it is targeted to those who potentially suffer most from the career breaks. The government also intends to reform the rules for special pensions and pensions under favourable conditions (e.g. pensions for the police, military, judges, etc.), which allow early retirement, reduce flexibility in the labour market, and hide some long-term fiscal obligations.

There are three other major topics, potentially influencing both the sustainability and adequacy of the pension system, that are being discussed in various interministerial working groups and among social partners. First, the introduction of work accident and occupational disease insurance, possibly together with a major reform of temporary sickness benefits and work incapacity pensions. Second, in order to reduce tax burden on labour, a possible reform of health care financing is being discussed, expanding the tax base of health insurance, optionally including both state and funded pensions in the future. Third, the current legislation stipulates that the government has to decide by 2019 whether to link pensionable age to life expectancy.

Assessment of adequacy and sustainability pension indicators

Current adequacy

The Estonian pensioners' situation relative to the working age population before retirement is comparable to other EU countries. The current adequacy indicators are at the same level that the EU-27 average values in 2010. For example, the aggregate replacement ratio is 55% (EU-27 average is 53%). The at-risk-of-poverty rate of those older than 65 is 15.1% (EU-27 average is 15.9). The severe material deprivation rate of those older than 65 is 6.6% (EU-27 average is 6.4%). The joint EU2020 indicator (either at risk of poverty or social exclusion) is 19.0% (EU-27 average is 19.8%). The median relative income of people 65+ as a ratio of income of people 0-64 is 73% (EU-27 average is 88%).

The current income distribution of Estonian elderly is considerably narrower (S80/S20 ratio is 2.9) than among younger population (5.4) or elderly in EU-27 (4.0). This is because of the redistributive flat rate base amount, which is about 38% 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 (8.0% versus 18.6% respectively in the age group 65 or over, and even greater difference among those aged 75 or more). Worth noting is also that those men and women

who are poor, are equally poor: the relative median poverty gap of both men and women over the age of 65 was 9% in 2009.

Pensioners receiving national pension may have higher risk of poverty, but their numbers are negligible (about 1.6% of all pensioners). The level of national pension fluctuated around 20-27% of the medium income in 2004-2009, below international standard of 40% and also below national subsistence minimum.

Pensioners receiving work incapacity pensions (about 90 thousand, or 22% of all people receiving any state pension) are a large group facing high risk of poverty. The average work incapacity pension was about 60% of average old-age pension in 2011. About half of recipients of work incapacity pensions do work, but their average annual earnings are less than a half of the average wage.[55] Statistics on applications for subsistence benefits[56] confirm that recipients of work incapacity pensions are more likely to be in households that are eligible for subsistence benefits. In the first nine months of 2011, out of 13,643 pensioners with approved applications, 79% were recipients of work incapacity pensions, 11% old-age pensioners, and the remaining 10% in other categories.

In addition, the level of out-of-pocket payments (OOPs) in access to health care (especially purchase of prescribed drugs) is an important factor contributing to pensioners' poverty. Võrk, Saluse, Habicht (2009) show that between 2000 and 2007 about 11% of pensioners in single households fell below the absolute poverty line after making out-of-pocket payments (the population average was 3%, while 5% for pensioners living in couples). The authors also show that the presence of disabled persons in a household considerably increases the risk of high out-of-pocket payments relative to the household income.

As a result of the recent economic crisis the annual deficit of the state PAYG pension scheme has already reached 2.0% of GDP by 2012 and further 2.4% in 2014[57] and both the Ministry of Finance[58] and the study by Aaviksoo et al (2011) has predicted that the annual deficit of the PAYG pension scheme given the current rules could persist at least for 20 years.

Future adequacy

The preliminary projections of the net theoretical replacement rates (NRR) indicate that first pension as compared to the last wage is projected to increase from 46.2% in 2010 to 50.1% in 2050 for a worker with a 40 year career retiring at age 65. However, low and high-wage earners will be affected in different ways. Due to stronger link between contributions and benefits in the reformed system, low-wage earners would see 8.5 p.p. drop in NRR, while high-wage earners a 7.9 p.p. increase. The NRR for low earners would decrease from 64.9% in 2010 to 56.4% in 2050 while the NRR for high earners increases from 26.6% to 34.5%.

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[55] Estonian National Social Insurance Board "Riiklik pensionikindlustus 2011" retrieved on 6 February 2012 at http://www.ensib.ee/public/statistika_ja_eelarve/riiklikpension2011.ppt

[56] Ministry of Social Affairs (2011), "Toimetulekutoetus kohalike omavalitsusüksuste lõikes. 2011. aasta 9 kuu lõikes", Table Tabel 3. Leibkonnaliikmete arv rahuldatud taotluste järgi, 2011. aasta 9 kuud retrieved on 6 February 2012 at http://www.sm.ee/fileadmin/meedia/Dokumendid/Sotsiaalsektori_statistika/Toimetulekutoetuse_maksmine_2011._aasta_9_kuu_jooksul.xls

[57] Ministry of Finance (2011), Riigi eelarvestrateegia 2012-2015 (*State budget strategy 2012-2015*), retrieved on 6 May 2011 at http://www.fin.ee/doc.php?107452

[58] Vabariigi valitsus (2009), "Seletuskiri riikliku pensionikindlustuse seaduse ja sellega seonduvalt teiste seaduste muutmise seaduse eelnõu juurde" (the explanatory memorandum accompanying changes in the State Pension Insurance Act and other related acts), retrieved on 6 May 2011 at http://www.riigikogu.ee/?page=pub_file&op=emsplain&content_type=application/rtf&file_id=888057&file_name=Riikliku%20pensionikindlustuse%20seletuskiri%20(655).rtf&file_size=999436&mnsensk=652+SE&fd=.

The predicted negative effect of 3 years of unemployment or childcare on the NRR would remain unchanged. Compared to the average wage earner the replacement rate is, respectively, 2.1 or 2.3 percentage points lower in 2010 and 2.7 or 1.7 percentage points lower in 2050. The relative bonus/malus effect of retiring 2 years after and 2 years before age 65 (+11.7 percentage points bonus and -5.7 percentage points malus in 2010), would be lower in 2050 to +8.8 percentage points and -5.3 percentage points.

The negative effect of a 10 year career break on the NRR would increase from a 7 percentage point reduction in 2010 to 8.9 percentage points in 2050. The decrease in the NRR 10 years after retirement which in 2020 for workers retired in 2010 amounts to 5.3 percentage points would be at 10.5 percentage points in 2060 for those retired in 2050.

Projections of replacement rates also reflect an increasing role of the defined-contribution mandatory funded pillar. By 2050 the contribution of the funded tier is projected to reach 45% of the gross replacement rate of a worker retiring at 65 after 40 years at the average wage (the share was effectively 0% in 2010 as the system is still in the accumulation phase).

SUSTAINABILITY

Demography

The old-age dependency ratio[59] (population aged 65 and over as a percentage of the population aged 20-64) in EE is projected to increase from 27.5% in 2010 (EU-27: 28.4%) to 53.2% in 2050 (EU-27: 55.0%) and 61.1% in 2060 (EU-27: 57.7%).

EE belongs to the group of Member States where the increase in old-age dependency ratio is projected to be above the EU-27 average. Over the period 2010 to 2060, the old-age dependency ratio is projected to increase by 33.6 percentage points (EU-27: 29.2 percentage points).

The share of working-age population (15-64) (67.7% of the total population in 2010) is projected to drop by 12.6 percentage points by 2060 (to 55.1% of the total population), compared with 10.7 percentage points for the EU as a whole by 2060.

Employment

The labour market participation rate[60] (15-64) in EE was above the EU-27 average in 2010 (EE: 74.1%, EU-27: 71.1%), and is projected to remain higher also in 2060 (EE: 75.6%, EU-27: 73.8%). Over the period 2010 to 2060, the participation rate of older workers (55-64) is it projected to increase by 9.2 percentage points (from 64.4% in 2010 to 73.6% in 2060) and will stay higher than in the EU-27 (49.7% in 2010; 66.5% in 2060).

According to the 2012 Ageing Report, employment rate (15-64) is projected to increase from 61.3% in 2010 (EU-27: 64.1%) to 69.9% in 2050 (EU-27: 68.9%) and 70.1% in 2060 (EU-27: 69.0%). The share of older (55-64) in employment is projected to change from 16% in 2010 to 17% in 2060 (EU-27: from 13% in 2010 to 19% in 2060).

The employment rate for older workers (55 to 64 years)[61] in EE in 2010 was above the EU-27 average: 53.8% (52.2% - males, 54.9% - females) versus 46.3% at EU-27 level (54.6% - males, 38.6% - females).

[59] The 2012 Ageing Report

[60] The 2012 Ageing Report

[61] EUROSTAT

The average effective exit age from the labour force in 2010 was 63.6 (63.2 – for men, 63.9 – for women) and it is above the EU-27 average (62.1 – total, 62.5 – for men, 61.7 – for women).

Expenditure

According to the 2012 Ageing Report, the gross public pension expenditure will decrease from 8.9% of GDP in 2010 to 8.0% of GDP in 2050 and to 7.7% of GDP in 2060.

In 2010 the gross old-age and early pension expenditure was 7.5% of GDP, well below the EU-27 average of 9.2%. The 2012 Ageing Report projects a decrease to 7.1% of GDP by 2050, which remains below the EU-27 projected average of 11.0% of GDP.

Main drivers of pension expenditure

In accordance with the 2012 Ageing Report, the demographic factor has the strongest downward effect (+6.7 p.p. of GDP) on gross public pension expenditure over 2010-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and labour intensity[62]). The lowering effect of coverage ratio (-2.7 p.p.) and benefit ratio (-3.3 p.p.) on the public pension expenditure are more pronounced than the employment rate effect (-1.1 p.p.).

[62] As a result of the macroeconomic assumptions used in the projections, the labour intensity contribution has more or less no impact on the change in the pension expenditure/GDP ratio (EU-27 average: +0.1 p.p.). Only Greece, Spain, Luxembourg, Malta and Austria project an increasing effect of 0.1 p.p. of GDP. In all other Member States, the labour intensity effect is negligible.

Background Statistics

	Estonia			EU-27		
Current adequacy (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Median relative income of people 65+ as a ratio of income of people 0-64	73	79	69	88	92	86
Aggregate replacement ratio	55	47	60	53	56	52
At-risk-of-poverty rate: 65-	16	16,4	15,6	16,5	16,2	16,8
65+ / 75+	15,1 / 16,9	8 / 5,1	18,6 / 21,5	15,9 / 18,0	12,9 / 14,4	18,1 / 20,5
Severe material deprivation: 65-	9,5	10,1	8,9	8,5	8,4	8,5
65+ / 75+	6,6 / 8,8	3,7 / 4,7	8 / 10,4	6,4 / 6,5	5,1 / 5,0	7,3 / 7,5
At risk of poverty or social exclusion (EU2020): 65-	22,3	23,0	21,7	24,2	23,5	25,0
65+ / 75+	19 / 22,3	10,5 / 9	23,1 / 27,4	19,8 / 22,1	16,2 / 17,7	22,6 / 25,0
Income distribution (S80/S20): 65- / 65+	5,4 / 2,9	5,6 / 3	5,2 / 2,9	5,2 / 4	5,2 / 4	5,2 / 3,9
Adequacy projections: EE						
Theoretical replacement rates (TRR):	**Net 2010**	**Net 2050**	**Difference**	**Gross2010**	**Gross2050**	**Difference**
40 years career: average income earner (basecase)	46,2	50,1	3,9	36,4 (100/0/0)*	40,2 (55/45/0)*	3,8
Low income	64,9	56,4	-8,5	52,6 (100/0/0)*	46,3 (61/39/0)*	-6,3
High income	26,6	34,5	7,9	20,4 (100/0/0)*	27,1 (50/50/0)*	6,7
Lower / higher future rates of return		47,8 / 52,6			38,5 / 42,3	
Lower / higher future wage growth		51,6 / 49,9			41,9 / 39,7	
38 years career: average income	40,5	44,8	4,3	31,9	36	4,1
Low / high income	57,5 / 22,9	50,6 / 31,1	(-6,9 / 8,2)	46,6 / 17,5	41,5 / 24,5	(-5,1 / 7)
42 years career: average income	57,9	58,9	1,0	45,6	47,4	1,8
Low / high income	83,5 / 35,3	66 / 40,7	(-17,5 / 5,4)	67,7 / 27,1	54,2 / 31,9	(-13,5 / 4,8)
10 years after retirement	40,9	39,6	-1,3	32,8	32,3	-0,5
Female worker with 3 years of career break for childcare	43,9	48,4	4,5	34,6	38,9	4,3
3 years of career break for unemployment	44,1	47,4	3,3	34,8	38,1	3,3
10 years out of the labour market	39,2	41,2	2,0	30,9	33,1	2,2
	2010	**2050**	**Difference**	**EU27 2010**	**EU27 2050**	**Difference**
Benefit ratio (Public pensions)	38,7	23,0	-15,8	44,7	37,0	-7,7
Gross replacement rate at retirement (Public pensions)	36,0	22,4	-13,6	48,0	39,1	-8,9

	Estonia			EU-27		
Current sustainability (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Employment rates: 15-64	61	61,5	60,6	64,1	70,1	58,2
55-64	53,8	52,2	54,9	46,3	54,6	38,6
Effective labour market exit age****	63,6	63,2	63,9	62,1	62,5	61,7
Remaining life expectancy at 65	17,3	14,1	19,1	19,3°	17,2	20,7
Economic old-age dependency ratio[3]	37,7			39,8		
Pension expenditure, %GDP (ESSPROS)	9,1°			13,1°		
Budget balance	0,2			-6,6		
Public debt	6,7			80,1		
Sustainability projections ***	**Estonia**			**EU-27**		
Old-age dependency ratio**	**2010**	**2020**	**2030**	**2010**	**2020**	**2030**
	28	33	40	28	34	42
	2040	**2050**	**2060**	**2040**	**2050**	**2060**
	44	53	61	50	55	58
	2010	**2050**	**Difference**	**2010**	**2050**	**Difference**
Public pensions, gross (% of GDP)	8,9	8,0	-0,9	11,3	12,8	1,5
Old-age and early pensions, gross (% of GDP)	7,5	7,1	-0,4	9,2	11,0	1,7

*: Share of statutory DB-NDC / statutory funded / occupational and other supplementary pensions

°: 2009

¹: 2008

²: 2007

[3]: Economic old-age dependency ratio (20-64)

** Old-age dependency ratio = Population aged 65 and over as a percentage of the population aged 20-64.
Source: The 2012 Ageing Report

***Source: EC-EPC (AWG) 2012 projections

****Source: The 2012 Ageing Report

Finland (FI)

Country profile for the Pension Adequacy Report 2012

General description of the pension system

In Finland the statutory (1st pillar) pension provision consists of a defined benefit (DB) earnings-related pension which aims to maintain the pre-retirement income level to a reasonable degree, and a national and a guarantee pension which ensure minimum security.

Due to the comprehensive coverage of the statutory schemes and the absence of a pension ceiling (neither income nor pension), the significance of supplementary pension, i.e. 2nd pillar occupational pensions or 3rd pillar individual pension insurance is small.

The earnings-related pension scheme covers all employees and the self-employed. The retirement age is flexible between 62 and 68, with higher accrual rates for the last years of work: 1.9% per year between 53 and 62 years and 4.5% between 63 and 68 years instead of the standard accrual rate of 1.5%. In addition, if the pension is taken before the age of 63, the pension is reduced by 0.6 % per month. Since 2005 the pension is calculated on the basis of career average wages. The benefit formula includes a life expectancy coefficient that reduces the monthly value of the pension benefit in line with the increases in longevity. Individuals from cohorts with higher life expectancy need to work longer to compensate for the impact of the life expectancy coefficient. The financing design which combines pay-as-you-go and prefunding is based on pension contributions from both employers and employees. Approximately four fifths of the earnings-related pensions are financed through PAYG, with the rest covered from the pre-funded part of the scheme. The market value of the pension funds' assets amounted to 77% of GDP in 2010. Earnings-related pensions are indexed with a weighted index comprising 20% of wage and 80% of price developments.

The national pension and the guarantee pension (in effect since March 2011) secure a minimum level of income if the earnings-related pension is small or no earnings-related pension has been accrued. The pension eligibility age for the national and the guarantee pension is 65 but earlier pension take up is possible from age 62. The amount of pension will then be reduced. The national pension, guarantee pension and the earnings-related pension are integrated into one total pension. Every Euro of earnings-related pension reduces the full national pension (EUR 608.63/month for a single person) by 50 cents, until the earnings-related pension reaches such a level (EUR 1,257.96 /month for a single person) that entitlement to a national pension is depleted. A full national pension corresponds to approximately 20% of the average earnings. Approximately 50% of all pensioners receive a national pension. In addition, the pensioner will receive a guarantee pension if his/her total pension remains below the full guarantee pension (713.73€/month in 2012). Every Euro of earnings-related and national pension reduces the guarantee pension in full. Less than 10% of all pension recipients receive the guarantee pension. National and guarantee pensions are financed solely from general taxes and indexed on the consumer prices.

Access to early retirement schemes has been significantly tightened in the recent years. A part-time pension can be claimed from the age of 60. The unemployment pension is abolished (phased out altogether by 2014) but the "unemployment tunnel" with additional days of unemployment allowance still enables older people (aged 60) to stay on unemployment benefits until retirement. Disability is the most frequent cause of early retirement.

Reform trends

The on-going abolishment of the unemployment pension has resulted in a sharp rise in effective retirement age which according to the national indicator has risen from 58.8 in 2000 to 60.4 in 2010. This trend is also documented by the rise in the share of old-age pensioners among new retirees from 27% in 2000 till 56% in 2010. The employment rate of those aged 55 to 64 increased 14 percentage points since 2000, reaching over 56 % in 2010 and well above the EU average.

Recent years have seen an intense debate about how the effective retirement age could be raised and working lives extended through changes in pensions and in work place and labour market practices. In 2009 the government and the social partners agreed that additional measures must be taken to raise the average effective retirement age (of 59.4 years in 2008) by at least three years by 2025. Together they are exploring ways to raise the effective retirement age to ensure a sufficient benefit level and secure the financial sustainability of the earnings-related pension scheme.

Both the government and social partners are concerned that future replacement rates are set to decline. The increase in life expectancy has been more rapid than envisaged. If working lives do not extend, it will cause pensions to be significantly lower than those assumed in the 2005 pension reform. Despite the fact the Social Democrats joined the government in 2011 on condition that the minimum retirement age would not be raised the most heated topic presently under discussion is whether the minimum pension age should in fact be raised from the current level of 63. Another big issue is the prolonged unemployment benefit for the elderly. Employers have called for the abolition of the 'unemployment tunnel', whereas the trade unions want to keep the existing system. An additional major motivation to postpone retirement is the need to strengthen public finances at the times when Europe is facing weak growth prospect and the Finnish population is ageing rapidly.

The Government programme published on 22 June 2011 includes measures for improving well-being at work. Some of these measures (e.g. development of occupational health care, traineeships for all unemployed young adults) have their origin in proposals about quality in working life from the so-called Ahtela working groups, which were established in 2010. One of the reforms for prolonging working life is the tightened requirement for eligibility to sickness allowance. From June 2012 a medical statement by the occupational health service will be required for an employee to continue to be eligible for sickness allowance after a sick leave of 90 days. The occupational health care service shall evaluate the employee's remaining work ability. This early intervention aims to avoid that periods of prolonged sickness lead to disability claims by default.

Private voluntary 3rd pillar pension provision has been growing through the 2000s. According to the Federation of Finnish Financial Services (2010) the number of personal pension plans rose from 320,000 in 2000 till 770,000 in 2009. But recently growth has almost stopped while it has changed character. Legislation on new type of long-term saving (PS-accounts) entered into force in the beginning of April 2010. At the end of 2011 about 18,600 accounts of this type with an average monthly saving amount of EUR120 had been opened. The PS-accounts are voluntary, tax-supported saving accounts aimed for retirement days. Saving options include deposits, funds and securities. PS-accounts are allowed the same tax deduction as those previously envisaged only for voluntary pension insurance. This has influenced the number of new contracts in personal pension insurance which dropped dramatically from almost 50.000 in 2009 till 7,680 in 2011 (incl. contracts made by firms and individuals). Thus PS-accounts have not been popular enough to continue the rapid growth that happened in the

early 00's. Expectations of future changes in tax rules as well as uncertainty about the pensionable age reduce the demand for these insurance products.

Assessment of adequacy and sustainability indicators

Current adequacy / future adequacy

The income level of elderly people has remained stable or on a moderate upward trend during the 2000s. The median relative income of people 65+ as a ratio of income of people 0-64 increased from 70% in 2000 to 78% in 2010, income for women lowering the average. This level is around 10 percentage points lower than the EU average. The aggregate replacement ratios have remained at 50% of and with practically no gender gap.

The at-risk-of-poverty rate of the population 65+ is higher than the EU average (18.3% compared to 15.9%) and for the population under the age of 65 (12.1%). The gender gap in the at-risk-of-poverty rates is large, especially for those older than 75. Women's poverty rate exceeds men's poverty rate by more than 10 percentage points and the gender gap is clearly higher than in most of the EU. The at-risk-of-poverty rate of the population 65+ is higher than the EU average (18.3% compared to 15.9%) and for the population under the age of 65 (12.1%). The gender gap in the at-risk-of-poverty rates is large, especially for those older than 75. Women's poverty rate exceeds men's poverty rate by more than 10 percentage points and the gender gap is clearly higher than in most of the EU.

The higher poverty risk of those 75+ is due to the gradual entry into force of the earnings-related pension scheme, the low labour market participation rate of older cohorts of women and the relatively low national pension. The risk of poverty is greatest for older women in receipt of a national pension with short or no formal working career. Two thirds in this age group are women and one third is men (OSF 2012). With longer periods in retirement women are more exposed to the long term effects of indexing only to prices. Moreover, the majority of these women live alone thus facing a much higher risk of poverty than retired couples.

At-risk-of poverty rates drop significantly when 50% of median income as a cut-off point, settling even women older than 75 at the EU average and men clearly below. This indicates that in Finland a large share of the elderly have an income between 50% and 60% of the median income. Severe material deprivation is clearly below the EU-average and the elderly are better off than younger age groups. The rate indicates that older people can afford necessities considered essential to live a decent life. Income differences have remained among the lowest in the EU.

Gross and net theoretical replacement rates are expected to decline between 2010 and 2050. The NRR would reduce from 68.9% (gross 61.8%) to 62.0% (gross 54.4%). The NRR for low earners would be reduced from 72.3% to 62.7%, and that for high earners from 63.4% to 51.7%. Declines are mainly due to the application of the life-expectancy coefficient. Projections show that by 2050 one has to work more than 2 years longer to reach approximately the same replacement level as the one with a 40 years career in 2010.

The negative impact on pension entitlements of short career breaks and broken careers will diminish significantly. The impact on future pension levels of short career breaks for childcare or unemployment will be very limited compared to the average scenario and to previous rules. Currently, pension credits accrue until the child reaches the age of three. Pension credits also accrue from the earnings-related unemployment benefits, but not from the basic benefit. Except for elderly unemployed the amount of pension credits for unemployment benefit is limited to 500 days (23 months) at a time. If the unemployment begins after the age

of 58, the benefit can be obtained until the pensionable age. At the age of 62 it is possible to receive an old-age pension without actuarial reductions.

Longer absences create bigger gaps in the accrual of pension entitlements. The loss also depends on the wage level. The national pension partly compensates for smaller earnings-related pensions – at least at the lower end of the income scale. The decrease in the NRR 10 years after retirement will amount to approximately 12% in 2050.

The recently established guarantee pension improves the economic welfare of low-income pensioners. However, if it is the only source of income the amount is not sufficient to exceed the poverty threshold measured with the agreed EU indicator. According to Statistics Finland 60% of median income per household consumption unit was EUR 1,228 per month in a one person household in 2010 (OSF 2012). After the advent of the guarantee pension, a recent study shows that pensioners are able to cover computational reasonable minimum living costs by their income. By comparison, the income of other types of households on basic benefits only covers about two thirds of reasonable minimum living costs (THL 2011). On the other hand, according to the survey by Statistics Finland (OSF 2011a) the number of pensioner households with difficulties in making-ends-meet increased from 22.1% in 2009 to around 24.5% in 2010.

The older female age cohorts are likely to gain smaller pensions accruals than their male peers partly because of the gender wage gap, women earn on average 20% less than men. This is explained by sectoral and occupational segregation on the labour market. Women predominate in the public social and health care sectors. Older women have also been more vulnerable than men due to the impact of career breaks on women's pension entitlements. The provisions included in employees' pension legislation since 2005 concerning unpaid periods will promote equality between genders.

Nowadays women's working lives are not significantly shorter than men's. Actually, according to the duration of working life indicator the gap is the smallest among the EU-countries. In 2007, working life expectancy was 34.5 years for 15-year-old persons; 35.1 years for men and 33.8 for women. Likewise, gender differences in employment rates are relatively small and for older workers even negligible. For the 55-64 year old women's employment rate has even surpassed that of men. In addition, women work mostly full-time. While at the same time the number of national pension recipients in the oldest age groups is declining, the pension adequacy in the future should look different for women.

In general, work and work ability is crucial for future pension adequacy. The goal of the 2005 pension reform has improved the incentives for prolonging working life. Working longer will increase the level of earnings-related pensions and impact favourably on the sustainability of pension provision. The higher risk of poverty continues to be a challenge for those who for some reasons are not able to accrue earnings-related pension, e.g. young persons with disabilities as well as young long-term unemployed.

For the future pension adequacy it makes a difference at which age a person becomes unemployed, for how long, and if the person is entitled to earnings-related benefits and pension rights or not. Young people in particular are facing increasing challenges in the transition from school to work. Many become unemployed and long-term unemployment often leads to exclusion from work life. Uncertainty regarding employment also leads to mental and other health problems.

Developments after the 2005 pension reform have been encouraging. The effective retirement age has increased more than projected. But the objective to postpone retirement set in 2009 tripartite negotiations will most likely not be reached without further reforms. The focus in the

tripartite negotiations and in different working groups has been and continues to be on finding ways to extend careers through a multitude of approaches (i.e. at the beginning, middle and end of working lives). A simple rise in the pensionable age is not considered sufficient for safeguarding future pension adequacy.

The goal of extending working life by three years by 2025 calls for intensified cooperation between different policy measures. When unemployment, disability and income problems become a long-term issue, it is increasingly difficult to break the cycle of social exclusion and impossible to affect the duration of working life by means of pension policy. Earlier intervention is needed and at the moment the government together with the social partners are promoting measures for improvements in working life and transitions from school to work.

One of the decisive elements for future pension adequacy is the effect of the life expectancy coefficient and people's reactions to the window of flexible retirement. Would the life expectancy adjustment be sufficient to encourage a longer working life? It is still too early to answer this question as the effect of this mechanism started only two years ago in 2010. However, if people retire immediately when they reach the minimum retirement age it may be worth considering whether the level of minimum retirement age should be higher in order to safeguard the adequacy of future pensions.

SUSTAINABILITY

Demography

The old-age dependency ratio[63] (population aged 65 and over as a percentage of the population aged 20-64) in FI is projected to increase from 28.8% in 2010 (EU-27: 28.4%) to 49.5% in 2050 (EU-27: 55.0%) and 52.6% in 2060 (EU-27: 57.7%).

FI belongs to the group of Member States where the increase in old-age dependency ratio is projected to be below the EU-27 average. Over the period 2010 to 2060, the old-age dependency ratio is projected to increase by 23.8 percentage points (EU-27: 29.2 percentage points).

The share of working-age population (15-64) (66.2% of the total population in 2010) is projected to drop by 9.3 percentage points by 2060 (to 56.9% of the total population), compared with 10.7 percentage points for the EU as a whole by 2060.

Employment

The labour market participation rate[64] (15-64) in FI was above the EU-27 average in 2010 (FI: 74.6%, EU-27: 71.1%), and is projected to remain higher also in 2060 (FI: 76.2%, EU-27: 73.8%). Over the period 2010 to 2060, the participation rate of older workers (55-64) is it projected to increase by 5.3 percentage points (from 60.5% in 2010 to 65.8% in 2060) but will stay lower than in the EU-27 in 2060 (EU-27: 49.7% in 2010; 66.5% in 2060).

According to the 2012 Ageing Report, employment rate (15-64) is projected to increase from 68.2% in 2010 (EU-27: 64.1%) to 71.2% in 2050 (EU-27: 68.9%) and is projected to remain in that position also in 2060 (EU-27: 69.0%). The share of older (55-64) in employment is projected to change from 18% in 2010 to 17% in 2060 (EU-27: from 13% in 2010 to 19% in 2060).

[63] The 2012 Ageing Report

[64] The 2012 Ageing Report

The employment rate for older workers (55 to 64 years)[65] in FI in 2010 was above the EU-27 average: 56.2% (55.6% - males, 56.9% - females) versus 46.3% at EU-27 level (54.6% - males, 38.6% - females).

To a certain degree the increase of the employment rate of people between 55 and 64 in FI is the result of a cohort effect, as the baby boom generation gets closer to the retirement age. More numerous cohorts of people aged 55 replace less numerous cohorts of those aged 64. It is also due to changes in legislation (e.g. raising the lower age limit to the unemployment pipeline) and cyclical reasons.

The average effective exit age from the labour force in 2010 was 62.6 (62.8 – for men, 62.4 – for women) and it is below the EU-27 average (62.1 – total, 62.5 – for men, 61.7 – for women).

Despite increasing employment rate of older workers, the average exit age from the labour market at 62.6 has not progressed in recent years and is relatively low compared to the lowest pensionable age of 63 in the earnings-related pension or 65 in the national basic pension.

Expenditure

According to the 2012 Ageing Report, the gross public pension expenditure will increase from 12.0% of GDP in 2010 to 14.9% of GDP in 2050 and to 15.2% of GDP in 2060.

In 2010 the gross old-age and early pension expenditure was 9.5% of GDP, above the EU-27 average of 9.2%. The 2012 Ageing Report projects an increase to 13.2% of GDP by 2050, which remains above the EU-27 projected average of 11.0% of GDP.

Main drivers of pension expenditure

In accordance with the 2012 Ageing Report, the demographic factor has the strongest downward effect (+8.6 p.p. of GDP) on gross public pension expenditure over 2010-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and labour intensity[66]). The lowering effect of coverage ratio (-3.2 p.p.) and benefit ratio (-0.9 p.p.) on the public pension expenditure are more pronounced than the employment rate effect (-0.5 p.p.).

[65] EUROSTAT

[66] As a result of the macroeconomic assumptions used in the projections, the labour intensity contribution has more or less no impact on the change in the pension expenditure/GDP ratio (EU-27 average: +0.1 p.p.). Only Greece, Spain, Luxembourg, Malta and Austria project an increasing effect of 0.1 p.p. of GDP. In all other Member States, the labour intensity effect is negligible.

Background Statistics

	Finland			EU-27		
Current adequacy (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Median relative income of people 65+ as a ratio of income of people 0-64	78	84	74	88	92	86
Aggregate replacement ratio	50	51	49	53	56	52
At-risk-of-poverty rate: 65-	12,1	12,4	11,7	16,5	16,2	16,8
65+ / 75+	18,3 / 24,4	12,2 / 16,7	22,7 / 28,8	15,9 / 18,0	12,9 / 14,4	18,1 / 20,5
Severe material deprivation: 65-	3,1	2,9	3,3	8,5	8,4	8,5
65+ / 75+	1,7 / 2,6	1,2 / 1,4	2,1 / 3,3	6,4 / 6,5	5,1 / 5,0	7,3 / 7,5
At risk of poverty or social exclusion (EU2020): 65-	16,4	16,6	16,1	24,2	23,5	25,0
65+ / 75+	19,5 / 26,4	12,7 / 17,7	24,3 / 31,4	19,8 / 22,1	16,2 / 17,7	22,6 / 25,0
Income distribution (S80/S20): 65- / 65+	3,7 / 3,1	3,7 / 3,2	3,6 / 2,9	5,2 / 4	5,2 / 4	5,2 / 3,9
Adequacy projections: FI						
Theoretical replacement rates (TRR):	**Net 2010**	**Net 2050**	**Difference**	**Gross2010**	**Gross2050**	**Difference**
40 years career: average income earner (basecase)	68,9	62	-6,9	61,8 (100/0/0)*	54,4 (100/0/0)*	-7,4
Low income	72,3	62,7	-9,6	66,7 (100/0/0)*	54,4 (100/0/0)*	-12,3
High income	63,4	51,7	-11,7	55,8 (100/0/0)*	42,8 (100/0/0)*	-13,0
Lower / higher future rates of return		62 / 62			54,4 / 54,4	
Lower / higher future wage growth		63,3 / 60,8			55,8 / 53,1	
38 years career: average income	60,8	55,3	-5,5	53,2	47,4	-5,8
Low / high income	66,3 / 56,6	57,2 / 46,1	(-9,1/-10,5)	58,9 / 48,4	47,4 / 36,7	(-11,5/-11,7)
42 years career: average income	74,7	68,5	-6,2	68,1	61,4	-6,7
Low / high income	77,5 / 69,4	68,2 / 57,8	(-9,3/-11,6)	73,1 / 62,2	61,4 / 49,8	(-11,7/-12,4)
10 years after retirement	60,2	54,7	-5,5	52,5	46,3	-6,2
Female worker with 3 years of career break for childcare	64,7	61,3	-3,4	57,2	53,7	-3,5
3 years of career break for unemployment	65,9	60,3	-5,6	58,5	52,7	-5,8
10 years out of the labour market	54,4	51,3	-3,1	46,3	42,8	-3,5
	2010	**2050**	**Difference**	**EU27 2010**	**EU27 2050**	**Difference**
Benefit ratio (Public pensions)	49,4	45,3	-4,1	44,7	37,0	-7,7
Gross replacement rate at retirement (Public pensions)	51,8	45,1	-6,7	48,0	39,1	-8,9
	Finland			EU-27		
Current sustainability (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Employment rates: 15-64	68,1	69,4	66,9	64,1	70,1	58,2
55-64	56,2	55,6	56,9	46,3	54,6	38,6
Effective labour market exit age****	62,6	62,8	62,4	62,1	62,5	61,7
Remaining life expectancy at 65	19,7	17,3	21,3	19,3°	17,2	20,7
Economic old-age dependency ratio[3]	37,8			39,8		
Pension expenditure, %GDP (ESSPROS)	12,6°			13,1°		
Budget balance	-2,5			-6,6		
Public debt	48,3			80,1		
Sustainability projections ***	Finland			EU-27		
Old-age dependency ratio**	**2010**	**2020**	**2030**	**2010**	**2020**	**2030**
	29	40	48	28	34	42
	2040	**2050**	**2060**	**2040**	**2050**	**2060**
	48	50	53	50	55	58
	2010	**2050**	**Difference**	**2010**	**2050**	**Difference**
Public pensions, gross (% of GDP)	12,0	14,9	2,9	11,3	12,8	1,5
Old-age and early pensions, gross (% of GDP)	9,5	13,2	3,7	9,2	11,0	1,7

*: Share of statutory DB-NDC / statutory funded / occupational and other supplementary pensions

°: 2009

¹: 2008

²: 2007

3. Economic old-age dependency ratio (20-64)

** Old-age dependency ratio = Population aged 65 and over as a percentage of the population aged 20-64. Source: The 2012 Ageing Report

***Source: EC-EPC (AWG) 2012 projections

****Source: The 2012 Ageing Report

France (FR)

Country profile for the Pension Adequacy Report 2012

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* covers all private-sector wage-earners (around 60% of the workforce) and provides a basic defined-benefit pension which replaces a maximum of 50% of the 25 years of highest pay under ceiling. It is complemented by non-statutory but mandatory supplementary PAYG pension schemes (*régimes complémentaires obligatoires*) established by two national collective agreements (employees and "cadres"). These are point schemes in which benefits are tightly linked with the amount of contributions paid into the system.

Civil servants and employees of public-sector companies are covered by special schemes and receive defined-benefit pensions which offer without possible extra allowances a maximum of 75% of the wage level in the last six months of the worker's career.

To be eligible for a pension, employees need to reach the minimum statutory retirement age. Except for some special schemes, since July 2011, the minimum retirement age was set at 60 years and 4 months and is due to gradually increase to 62 years by 2017.

A full pension is only provided to those workers who have reached the full rate of insurance. In most schemes, this duration was set at 41 years in 2012 and is due to increase to 41.5 years for workers born in 1955 and will continue to evolve later in parallel with gains in life expectancy. For those workers who are past the minimum retirement age but who retire before reaching the full rate of insurance, benefit levels are lowered proportionally to the number of missing trimesters (*décote*). However, a full benefit is offered whatever the duration of insurance from 65 years and four months (to be increased to 67 years for workers born in 1955). Symmetrically, when people have contributed more than required, they get a pension bonus (*surcote*).

Workers with long careers – i.e. those who started working before age 18 and who have a long contribution record (at least the full rate duration of insurance) – can retire early (age 56 at the earliest) under specific conditions (at least 2 years more of employment and the full rate) and draw a full pension from the *régime général* (and aligned schemes). This possibility was introduced with the 2003 pension reform, but eligibility rules will gradually become stricter following the 2010 reform (43 years in 2012).

Next to these contributory schemes, the French pension system offers two types of minimum pensions. One is a non-contributory minimum pension (*minimum vieillesse* or *allocation de solidarité aux personnes âgées*) for which all residents above the age of 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 extensive role of PAYG schemes in France leaves little room for the development of funded pension plans, although such schemes have traditionally benefited from tax incentives. The 2003 reform introduced two new defined-contribution pension products whose coverage has been expanding ever since. These are respectively voluntary personal pension plans

(PERP – *Plans d'épargne retraite populaires*) and voluntary occupational pension plans (PERCO – *Plans d'épargne retraite collectifs*).

Given its impact on the financing of the pension system, increasing labour market participation of older workers has become a government priority. Most public early retirement schemes and disincentives to work longer have been gradually phased out. However, early retirement options for workers with long careers remain and the 2010 reform introduced a right to retire at the age of 60 instead of the age of 62 for workers employed in "hard working conditions" who have at least 10% of permanent disability resulting from accident at work or occupational diseases.

Reform trends

Important changes have been introduced in the French pension system. After a 2007-2012 reform gradual increase of 25% of the "minimum vieillesse" and a 2009 reform of pension bonuses offered by the régime général to compensate women for maternity[67], a major reform of statutory pension schemes has been passed in November 2010. The most publicised outcome of the reform has been the gradual increase of the statutory retirement age from 60 to 62 years by 2018. The reform included a series of other measures such as an increase in the full rate age for a pension from 65 to 67 years by 2023, a gradual harmonisation of contribution rates between the public- and private-sector schemes, and the creation of a right to early retirement (from age 60) for workers with a permanent disability to work. In order to accelerate the reform to amplify its sustainability effects for the years 2012-2018, an additional reform in December 2011 increased the retirement ages to 62 years by 2017 instead of 2018 and 67 years by 2022 instead of 2023.

In March 2011, the social partners have agreed to align the retirement age in the mandatory supplementary, PAYG schemes with that of statutory schemes and to harmonise the "rate of return"[68] in the AGIRC with that of the ARRCO. The rate of return has been regularly reduced by the social partners over the last two decades. With the new agreement, the social partners have decided to stabilise it between 2012 and 2015. The agreement also changes pension bonuses for mothers in the two schemes. While the AGIRC traditionally offered higher bonuses than ARRCO, the agreement harmonised these bonuses for new pensions from 2012: a bonus of 10% for three children and more.

The 2010 reform marked a break with earlier pension reforms, because for the first time it increased the minimum retirement age which had been decreased from 65 to 60 years in 1982. The 1993 and 2003 reforms of statutory schemes – as well as a 2008 reform of special retirement schemes in state-owned companies – had concentrated inter alia on increasing the full rate of insurance. These increases are still being implemented, since the 2003 reforms stipulated that the full rate of insurance would be raised in line with increases in life expectancy.

The 2010 reform has been introduced in the context of on-going discussions about the unification of the different PAYG schemes that are part the French pension system. A discussion about the introduction of a NDC system has in fact been on the agenda of the main stakeholders in the pension system since 2008. The 2010 reform stipulates that a new

[67] See Palier, B., Naczyk, M., and Morel, N. (2010) *Annual National Report: Pensions, Healthcare and Long-Term Care. France.* pp. 7-9.

[68] This indicator is used by the social partners to assess the effects of changes in indexation mechanism. The formula is: value of the point/(price of the point)*(call-up contribution rate). For more details see Naczyk and Palier (2010) Complementing or replacing old-age insurance, Recwowe working paper, 08/10.

discussion about a "systemic" pension reform is to be held in 2013. The 2010 reform has not substantially changed regulations on funded pension plans, except for a provision stipulating that, from 2012, 50 % of the income received by workers through profit-sharing will have to be automatically transferred to their PERCO, unless they decide to opt-out. Hence, PERCO will become quasi-mandatory for some workers and should boost participation in these plans which covered 1.6 million private-sector workers by 2009[69], although only 557,000[70] (i.e. 25% of them) actively contributed.

Assessment of pension adequacy and sustainability

Current adequacy / Future adequacy

In comparison with other European countries, the French pension system has continued to be relatively successful at ensuring a high level of income for retired workers and at preserving a low level of poverty among pensioners. While in other countries, the elderly (65+) have generally a lower relative median income than the rest of the population (0-64 years) (ratio of 88% in EU-27 countries in 2010) in France this is not the case (ratio of 100). While in EU, gross pensions of retirees aged 64-75 represent on average 53% of gross wages of workers aged 50-59 (indicator of the aggregate replacement ratio) this ratio is higher (67%) in France. France also scores better than the European average on different indicators of poverty among people aged 65 and more, such as the at-risk-of-poverty-rate (9.7% compared to 15.9%), the at-risk-of-poverty-or-social-exclusion-rate (12% compared to 19.8%) and severe material deprivation of people (3.4% compared to 6.4%). All three indicators also show that pensioners have a lower risk to be in poverty than the rest of the population. Although this is the case in most European countries, the difference in these indicators is more pronounced in France. The relatively low level of poverty among the elderly in France can be attributed to the fact that current pensioners have benefited from a matured PAYG system, enabling income maintenance, in particular through two types of minimum pensioners (*minimum vieillesse* and *minimum contributif*). Current pensioners also belong to cohorts that during their working careers benefited from relatively stable employment.

However, indicators such as the at-risk-of-poverty-rate and the at-risk-of-poverty-or-social-exclusion-rate show that people aged 75 or more are more likely to be poor than people aged 65+ (respectively 12% compared to 9.7% and 14% compared to 12%). Moreover, there is a gap between levels of poverty among men and women (e.g. at-risk-of-poverty-rate of 8.0% for men aged 65 years or more compared to 10.8% for women). The high level of poverty among pensioners aged over 75 years has to do with the high number of older women who have had very uneven contribution records during their working lives and also had lower wages. The same reasons largely account for the gender gap regarding poverty[71].

[69] Cour des Comptes (2011) Rapport sur l'application des lois de financement de la sécurité sociale. Paris: Cour des Comptes, p. 355.

70 DREES (2011) Les retraités et les retraites en 2009. Paris: Direction de la recherche, des études, de l'évaluation et des statistiques (coll. Etudes et statistiques), p. 99

71 See e.g. DREES (2011) Les retraités et les retraites en 2009. Paris: Direction de la recherche, des études, de l'évaluation et des statistiques (coll. Etudes et statistiques), pp. 84-85.

The gross theoretical replacement rate (GRR) for a hypothetical average income earner with a 40 year career is projected to decrease from 62% in 2010 to 46.5% in 2050. This decrease can largely be explained by reforms introduced over the past two decades:

- in the *régime général* where past wages are valorised according to price inflation and the full rate insurance period required to receive a full pension is gradually increasing;
- in the PAYG supplementary schemes where in recent years the acquisition cost of a pension point has increased with wages, while the take up points have increased with prices.

The employment impact is low. This is due to the fact that the pension system grants pension credits for periods of unemployment. In the same period, the negative effect of a 3 years childcare break will be reversed from 1 percentage point loss to a 2.4 percentage point gain. The effect of a 10 years career break on the Net TRR will decrease from 21.1 percentage points to 16.5. The drop in replacement rates will be a little more acute for low income earners than for high income earners since the GRR for low earners would be reduced from 15 percentages points while the NRR for high earners would drop from 19.5 percentage points. The decrease in the GRR 10 years after retirement which in 2010 amounts to 12.3 percentage points would decrease to 7.8 percentage points.

As demonstrated by the projections of future gross replacement rates, the adequacy of pensions could become a more important issue in the long run. Over the last two decades, pension reforms have increased the minimum contributory period required to get a full pension. Benefit levels are also increasingly linked to contributions. Official projections[72] have so far assumed that future pensioners will have a 40 year contribution record at retirement. This seems relatively unrealistic for a growing proportion of workers who enter the labour market relatively late or are employed under temporary contracts. If the rise in the full rate retirement age does not result in an increase in the effective retirement age, future pensioners may have difficulties to reach the minimum contributory period required to be eligible for a full pension. This will be increased to 41.5 years for workers born in 1955. Given individuals' increasingly late entry to the labour market, high unemployment rates among youths and careers breaks, e.g. due to maternity, this requirement may become increasingly difficult to reach for future cohorts.

SUSTAINABILITY

Demography

The old-age dependency ratio[73] (population aged 65 and over as a percentage of the population aged 20-64) in FR is projected to increase from 28.5% in 2010 (EU-27: 28.4%) to 50.5% in 2050 (EU-27: 55.0%) and 51.7% in 2060 (EU-27: 57.7%).

FR belongs to the group of Member States where the increase in old-age dependency ratio is projected to be below the EU-27 average. Over the period 2010 to 2060, the old-age dependency ratio is projected to increase by 23.2 percentage points (EU-27: 29.2 percentage points). The share of working-age population (15-64) (64.8% of the total population in 2010) is projected to drop by 7.7 percentage points by 2060 (to 57.0% of the total population), compared with 10.7 percentage points for the EU as a whole by 2060.

Employment

[72] CONSEIL D'ORIENTATION DES RETRAITES, "Retraites: 20 fiches d'actualisation pour le rendez-vous de 2008", *Cinquième rapport*, November 2007

[73] The 2012 Ageing Report

The labour market participation rate[74] (15-64) in FR was below the EU-27 average in 2010 (FR: 70.4%, EU-27: 71.1%), but it is projected to by higher in 2060 (FR: 74.7%, EU-27: 73.8%). Over the period 2010 to 2060, the participation rate of older workers (55-64) is it projected to increase by 20.8 percentage points (from 42.5% in 2010 to 63.3% in 2060) but will stay lower than in the EU-27 (49.7% in 2010; 66.5% in 2060).

According to the 2012 Ageing Report, employment rate (15-64) is projected to increase from 63.8% in 2010 (EU-27: 64.1%) to 69.1% in 2050 (EU-27: 68.9%) and to 69.2% in 2060 (EU-27: 69.0%). The share of older (55-64) in employment is projected to change from 12% in 2010 to 17% in 2060 (EU-27: from 13% in 2010 to 19% in 2060).

The employment rate for older workers (55 to 64 years)[75] in FR in 2010 was below the EU-27 average: 39.7% (42.1% - males, 37.4% - females) versus 46.3% at EU-27 level (54.6% - males, 38.6% - females).

The average effective exit age from the labour force in 2010 was 60.1 (60.1 – for men, 60.1 – for women) and it is below the EU-27 average (62.1 – total, 62.5 – for men, 61.7 – for women).

Expenditure

According to the 2012 Ageing Report, the gross public pension expenditure will increase from 14.6% of GDP in 2010 to 15.1% of GDP in 2050 and will stay 15.1% of GDP in 2060.

In 2010 the gross old-age and early pension expenditure was 11.8% of GDP, above the EU-27 average of 9.2%. The 2012 Ageing Report projects an increase to 12.3% of GDP by 2050, which remains above the EU-27 projected average of 11.0% of GDP.

The sustainability of the French pension system is sensitive to the economic dependency ratio. Another reason for the relative sustainability has to do with the rules in the indexation and the valorisation of pensions, which since 1993 are based on price inflation instead of wage inflation. As a consequence, the purchasing power of pensions diminishes with time.

Main drivers of pension expenditure

In accordance with the 2012 Ageing Report, the demographic factor has the strongest downward effect (+9.1 p.p. of GDP) on gross public pension expenditure over 2010-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and labour intensity[76]). The lowering effect of coverage ratio (-3.5 p.p.) and benefit ratio (-3.1 p.p.) on the public pension expenditure are more pronounced than the employment rate effect (-1.2 p.p.).

[74] The 2012 Ageing Report

[75] EUROSTAT

[76] As a result of the macroeconomic assumptions used in the projections, the labour intensity contribution has more or less no impact on the change in the pension expenditure/GDP ratio (EU-27 average: +0.1 p.p.). Only Greece, Spain, Luxembourg, Malta and Austria project an increasing effect of 0.1 p.p. of GDP. In all other Member States, the labour intensity effect is negligible.

Background Statistics

	France			EU-27		
Current adequacy (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Median relative income of people 65+ as a ratio of income of people 0-64	100	106	95	88	92	86
Aggregate replacement ratio	67	71	61	53	56	52
At-risk-of-poverty rate: 65-	14,2	13,6	14,8	16,5	16,2	16,8
65+ / 75+	9,7 / 12	8,0 / 10	10,8 / 13,2	15,9 / 18,0	12,9 / 14,4	18,1 / 20,5
Severe material deprivation: 65-	6,3	6,2	6,3	8,5	8,4	8,5
65+ / 75+	3,4 / 2,7	3,1 / 2,3	3,7 / 3	6,4 / 6,5	5,1 / 5,0	7,3 / 7,5
At risk of poverty or social exclusion (EU2020): 65-	20,7	19,9	21,5	24,2	23,5	25,0
65+ / 75+	12,0 / 14	10,1 / 11,6	13,4 / 15,5	19,8 / 22,1	16,2 / 17,7	22,6 / 25,0
Income distribution (S80/S20): 65- / 65+	4,5 / 4,4	4,4 / 4,5	4,5 / 4,3	5,2 / 4	5,2 / 4	5,2 / 3,9
Adequacy projections: FR						
Theoretical replacement rates (TRR):	**Net 2010**	**Net 2050**	**Difference**	**Gross2010**	**Gross2050**	**Difference**
40 years career: average income earner (basecase)	77,6	58,8	-18,8	63,9 (100/0/0)*	47,3 (100/0/0)*	-16,6
Low income	78,5	59,0	-19,5	64,3 (100/0/0)*	47,3 (100/0/0)*	-17,0
High income	63	48,0	-15,0	47,9 (100/0/0)*	37,4 (100/0/0)*	-10,5
Lower / higher future rates of return		58,8 / 58,8			47,3 / 47,3	
Lower / higher future wage growth		69,4 / 50,8			56,7 / 40,2	
38 years career: average income	66,3	51,3	-15,0	53,9	40,9	-13,0
Low / high income	66,9 / 54,5	50,5 / 43,6	(-16,4 /-10,9)	54,4 / 41,4	40,6 / 32,6	(-13,8/-8,8)
42 years career: average income	80,9	65,4	-15,5	66,9	53,2	-13,7
Low / high income	82 / 66,1	66,9 / 55,1	(-15,1 /-11)	67,5 / 50,5	53,7 / 41,7	(-13,8 /-8,8)
10 years after retirement	65,3	51	-14,3	53,6	40,4	-13,2
Female worker with 3 years of career break for childcare	76,4	61,2	-15,2	62,9	49,4	-13,5
3 years of career break for unemployment	76,9	58,5	-18,4	63,3	46,8	-16,5
10 years out of the labour market	56,5	42,3	-14,2	45,2	33,3	-11,9
	2010	**2050**	**Difference**	**EU27 2010**	**EU27 2050**	**Difference**
Benefit ratio (Public pensions)	39,8	32,3	-7,5	44,7	37,0	-7,7
Gross replacement rate at retirement (Public pensions)	58,8	53,2	-5,6	48,0	39,1	-8,9
	France			EU-27		
Current sustainability (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Employment rates: 15-64	63,8	68,1	59,7	64,1	70,1	58,2
55-64	39,7	42,1	37,4	46,3	54,6	38,6
Effective labour market exit age	60,1	60,1	60,1	62,1	62,5	61,7
Remaining life expectancy at 65	21,4	18,5	22,7	19,3°	17,2	20,7
Economic old-age dependency ratio[3]	40,5			39,8		
Pension expenditure, %GDP (ESSPROS)	14,5°			13,1°		
Budget balance	-7,1			-6,6		
Public debt	82,3			80,1		
Sustainability projections ***	France			EU-27		
Old-age dependency ratio**	**2010**	**2020**	**2030**	**2010**	**2020**	**2030**
	28	37	44	28	34	42
	2040	**2050**	**2060**	**2040**	**2050**	**2060**
	49	51	52	50	55	58
	2010	**2050**	**Difference**	**2010**	**2050**	**Difference**
Public pensions, gross (% of GDP)	14,6	15,1	0,6	11,3	12,8	1,5
Old-age and early pensions, gross (% of GDP)	11,8	12,3	0,5	9,2	11,0	1,7

*: Share of statutory DB-NDC / statutory funded / occupational and other supplementary pensions

°: 2009

¹: 2008

²: 2007

3: Economic old-age dependency ratio (20-64)

** Old-age dependency ratio = Population aged 65 and over as a percentage of the population aged 20-64. Source: The 2012 Ageing Report

***Source: EC-EPC (AWG) 2012 projections

****Source: The 2012 Ageing Report

Germany (DE)

Country profile for the Pension Adequacy Report 2012

General description of the pension system

The pension system in Germany is in general based on a three-tier (or three-pillar) concept, where the first tier with the statutory system is mandatory for all employees. The next two tiers – the occupational and the private pension system – are non-mandatory, but of growing importance, since these systems are tax-promoted and subsidised by government especially for low income earners. Future declining public pension provisions will be compensated by pension benefits of the 2nd and/or 3rd tiers' components. Further, Germany runs a statutory pension system for civil servants (*Beamte*) and judges rsp. professional soldiers, which are basically financed by budget resources.

The statutory pension scheme – as a *point system* – contains pensions for old-age, survivors and invalidity and provides rehabilitation benefits[77], but no minimum pensions. If individual old-age provision rsp. income from all other income sources and realizable assets are not sufficient, means-tested benefits can be claimed from "basic income provision" (a need-oriented social protection scheme, called *Grundsicherung im Alter und bei Erwerbsminderung, hereafter: "Grundsicherung"*).[78]

Currently (2011), the general pay-as-you-go (PAYG) earnings-related *first tier statutory pension scheme* covers blue and white-collar workers (including miners[79]) as well as some groups of self-employed persons. The annual budget volume of the statutory pension system is based on two major sources: the contributions by employers and insured persons and the tax-funded government subsidies. The latter contribute to an amount of about 25 % of the total receipts and are aimed at financing social redistributions within the system as well as reducing the contribution rate for employers and employees. In 2011, insured employees and their employers contributed 9.95 % each of the employees' gross wage to the statutory pension system. The statutory pension scheme used to be of the defined-benefit type. Reforms imply a move towards the defined contribution formula since 1989/92. Also, quantitatively important are civil servant's pension. Traditionally PAYG-financed they are currently in the process of shifting towards capital funding. Other schemes exists for *farmers* (PAYG-financed, mainly from tax revenue) and for several *groups of self-employed professions* like architects, attorneys etc., where the financing is mainly capital-funded.

Under current legislation the pensionable age for men and women in 2012 is 65 years and one month. Between 2012 and 2029 the pensionable age will gradually increase to 67. Earlier

[77] Rehabilitation benefits are not elements of occupational or private pension schemes.

[78] Those benefits refer to the individual primary needs. Means-tested provision results as the difference between the individual need and the weighted household equivalence income (including pension benefits). The average of these needs amounts to 8,256 EUR per capita in 2010 for all, who received means-tested old-age provision. At the end of the year 2010 roughly 412,000 persons at age 65 or older received such a provision, which are 2.45 % of the total population within that age interval. This ratio is stable since 2008. Since 2003, there is one major difference, when calculating means-tested benefits for persons aged 65 or older compared to younger persons: In case of parents claiming social assistance, children are no longer obliged to pay back the whole sum or part of it (depending on their own financial resources), if the own income of children does not exceed EUR 100,000 per year.

[79] Here different rules exist, as well as a high percentage of tax-financing.

pension take up is still possible under certain conditions. However, in every case of using such an option, individual benefits will be reduced permanently by 0.3 % for each retired month pensioners fall short of the respective pensionable age entailing no reductions. On the other hand, postponement of the retirement age will yield a higher pension accrual of 0.5 % for each month worked after the pensionable age.

Occupational pension schemes – as a voluntary component – constitute the *second tier* of the German pension system. In general the 2nd tier covers old-age, disability pensions and provides provision for dependants as well. Nevertheless, coverage can also be limited, for instance to old-age. The design of occupational pensions is highly heterogeneous. Traditionally, pensions are defined-benefit, employer-financed and pre-funded in terms of book reserves or pension plan assets. About one quarter of existing pension plans is based on direct commitments of the employer (*Direktzusage*). Mainly for this type of occupational pension claims, a mandatory insurance of employers is in place (Pension Protection Fund, *Pensionssicherungsverein*), covering pension claims in case of insolvency of the company – up to a certain, but very high limit. However, a shift towards fully funded, capital market invested schemes – that may be financed solely by employees – can be observed. In particular this is due to the new right (legislated in 2001) for employees to use earnings up to a certain amount to accumulate an occupational pension claim ("remuneration conversion", *Entgeltumwandlung*), without paying income tax and social insurance contributions on this part of earnings.

Occupational pension schemes for contractual wage earners in the *public sector* are based on collective agreements. These pensions once used to increase social insurance pensions to a certain final salary level, thereby generating an overall pension level comparable to the pension level of civil servants. However, in the new system (in place since 2002) occupational pensions are independent of social insurance pensions and are based on a point model system which may involve a shift from a defined benefit to a defined contribution design.

The *third tier* consists of a great variety of *voluntary capital-funded additional types of retirement savings*, some with risk pooling (life insurance), and others without such insurance elements. At the centre of the public debate are those private retirement savings that fulfil the requirements for subsidies as so-called *Riester-Renten*. Beyond tax exemptions of contributions, this programme also involves direct subsidies for all income groups as incentive for them to join such a complementary retirement savings plan. These direct subsidies are especially attractive for low income earners. Further it is a requirement for these contracts, that at least the nominal value of contribution payments must be guaranteed.[80]The individual pension benefit from the statutory pension system in year *T* results from the sum of individual pension points (so-called *"earnings points")* multiplied by the specific *"pension type factor"* (e. g. 1.0 for old-age pension, or 0.55 for a widower's pension) and by the *"pension point value"* (measured in EUR) in year *T*. The pension point value is valid both for newly retired and already retired pensioners. Irrespective of the year of retirement all pensions are adjusted annually with the current pension point value at mid-year. The pension point value itself is adjusted in relation to the gross wage growth (*"wage factor"*) 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. 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

[80] Such pensions are called "*Riester pension*", after Walter Riester, who was Minister for Labour and Social Affairs of the federal government at the time of implementation.

value to the changes in the statutory pension scheme's dependency ratio, the ratio of pensioners to contributors[81]. These two factors can alter the size of adjustment, resulting in lower growth of the pension point value in relation to gross wages per capita in the long run.

Reform trends

The German statutory pension system is oriented towards contribution equivalence. Basically the contributions paid into the scheme determine the level of the pension.

The German population is slightly older than in the EU on average. The old-age dependency ratio comparing the number of those aged 65 and older to the working age population aged 20-64 was equal to 34 % in Germany in 2010 (28 % in 2010 in the EU-27) and is projected to climb to 65 % in 2060 (68 % in the EU-27).

Since 1989/1992 numerous pension reforms have reacted on the growing budgetary pressures upon the statutory pension schemes due to the demographic development of steadily rising life expectancy and relatively constant fertility rates far below the replacement level. In 2007, a major reform step was the legislated gradual increase of the pensionable age from age 65 to age 67 by the year 2029. Other pension schemes, like the civil servants pension scheme, are also affected by that raise of the retirement age. Synchronously, several pension types within the statutory pension scheme – with defined lower retirement ages, such as pensions for women, for unemployed or after part-time work for older people – will expire, affecting birth cohorts as of 1952.

Several measures have been taken (in particular a redesign of the formula to calculate and adjust pension benefits) in order to realise a contribution rate growth (of the statutory pension scheme) not higher than 20 % up to 2020 and not higher than 22 % up to 2030. In consequence the *"net pension level"* (net pensions compared to net earnings) will be reduced by an uppermost decline of about 7 percentage points up to 2030. The emerging gap in income in old age is intended to be closed by private voluntary, but subsidised pensions. As a consequence of governmental promotion and tax treatment, occupational and private pension schemes have experienced a strong acceptance and growth during the last years. It is an explicit political goal to change the pension landscape by shifting the financing of pensions more towards private 2nd and 3rd tier pre-funded pensions. The role of PAYG will be reduced as replacement rates of 1st tier pensions are scaled down, while still keeping it as the central tier of German old-age provision[82].

Most recently, public debate has questioned the transparency and costs of private pensions. The question is, whether future benefits from this type of provision will be sufficient to close the gap between present and future 1st tier pensions and to avoid increasing poverty in old-age. Concerns are voiced because the coverage of private schemes has increased significantly but still are not ubiquitous.

Although the rapidly rising number of private pension contracts under the *Riester-Rente* represents a "success story" and the new form of defined contribution occupational schemes are proliferating, the public debate about rising poverty in old age in the future motivated the government in the autumn of 2011 to start a "pension dialogue" with major stakeholders The Federal Ministry of Labour and Social Affairs published some proposals to better reward

[81] Changes of the ratio are reduced by an allocation factor, which is set at 0.25.

[82] The reform strategy and its effects on pension schemes as well as on pensioners is discussed in Schmähl (2007) and (2011a).

lifelong achievements in old-age pension, improve disability pensions, secure a better combination of continued (part-time) employment and pension benefits (*Kombirente*) and to reduce the risk of falling into means-tested systems. In particular a new benefit was proposed (*Zuschussrente*) for pensioners with low retirement income despite an insurance record in the first tier or in private pension schemes. The debate about whether this approach would be adequate to reduce poverty risks for persons with low earnings, long spells of unemployment etc. is still on-going.[83]

In 2010 Germany had the fifth highest employment rate of older workers in the EU at 57.7 %, compared to only 37.4 % in 2000[84]. This is an impressive increase, even if it is partly a result of a cohort effect, as large age groups now enter the lower end of the older worker category (55-59), which typically has higher employment rates than the upper age group of 60-64 year olds. In the age group of 60-64 year olds the employment rate has more than doubled in the last decade (in 2010 41 %). It should be noted that there still is a considerable proportion of people who leave the labour market at the age of 60. While 61.9 % of men and 42.7 % of women still are in employment at the age of 60 (49.1 % and 31.6 % in EU-27), the figure for 59 years old men and women is almost 10 and 12 percentage points (p.p.) higher.

At present, the level of pension expenditure is comparatively high. But recently it has been decreasing: according to ESSPROS data, pension expenditure was 13.4 % of GDP in 2004 and 13.1 % in 2009 (EU-27 average: 13.1 %). The reason is that pension reforms, especially the reduction of early retirement and the lowering of the pension adjustments, show positive effects.

Assessment of adequacy and sustainability indicators

Current adequacy

All indicators show that *current* old-age poverty in Germany is low compared to other population groups and in comparison with many other countries.

In addition to indicators agreed upon in the EU for (international) comparison, there exists an absolute poverty line in Germany, which determines eligibility for the specific means-tested social benefit for elderly and disabled persons ("basic income provision" or "Grundsicherung") topping up income below the (household-specific) poverty line.[85]

Indicators defined on the basis of a certain percentage of equalised median income suggest higher ratios of poverty. The ratio of "people at risk of poverty or social exclusion (65+)" calculated from Eurostat (EU-SILC) data has been increasing in Germany since 2005 and was 14.8 % in 2010 (12.6 % for males and 16.8 % for females). But it is still below the EU-27

[83] An overview on the proposals is given under http://www.bmas.de/DE/Themen/Rente/rentenreformpaket-zuschussrente.html by Gunkel (2011), and Buntenbach (2011) and by a first evaluation from the point of view of the statutory pension administration.

[84] Because of the break in the time series in 2005 compare the employment rate figures of 2005 (45.5%) instead of 2000. Between 2005 and 2010 the cohort effect was 3PP.

[85] As mentioned above, at the end of the year 2010 roughly 412,000 persons at age 65 or older received such a provision, which are 2.45 % of the total population within that age interval; 65 % of all beneficiaries were women. The beneficiary ratio is higher in West-Germany (2.55 % excluding West-Berlin) than in East-Germany (1.05 % excluding East-Berlin). The ratio is highest in the three city states: Hamburg 5.28 %, Bremen 4.81 %, and Berlin 4.68 %.

average of 19.8 %.[86] Poverty rates in Germany for the 75+ (12.7 %) are below those for 65+, which is in contrast to the EU-27 average with higher rates for the older old (22.1 %).

The indicator "severe material deprivation"[87] for the age group 65+ (2.1 %) is particularly low in Germany (EU-27 at 6.4 %), and even lower for 75+ (1.2 %) which again is contrary to EU-27 average where the old-age group exhibits higher rates (6.5 %).

The median relative income of the 65+ as ratio of income for the 0-64 year olds is 89 % and thus similar to EU-27 average of 88 %.

Gender differences in pension entitlements are presently partially pronounced in Germany. The average pension of women is much lower than the pension of men (about half in West Germany and 2/3 in East Germany), mainly due to a lower number of working years, more years spent working part-time and lower income in the past.

Future adequacy

It is important to distinguish between two aspects of future adequacy: Pension adequacy in the statutory pension scheme and pension adequacy taking into account all the different sources for retirement income.

In the first tier, where working careers and contributory records are closely reflected in the calculation of pension benefits, net replacement rates for low-wage earners will be relatively low compared to other European countries. In Eastern Germany, due to unemployment rates and low wages, the replacement rates for the post-1960 birth cohorts will fall. In West Germany, people from these cohorts with low education levels could be at risk of old-age poverty, since they have been far more affected by long-term unemployment and low pay than earlier adult generations entering the labour market in the mid-fifties[88].

To get a sense of the future ability of the statutory pension scheme to prevent poverty one can look at the preconditions in the 1st tier for a pension at the level of the average means-tested basic income provision benefits for people aged 65 and older (*Grundsicherung*), intended to avoid poverty. Today, about 29 so-called *"earnings points"* are necessary to receive an statutory pension (at the pension age of 65) at the same level as provided by those means-tested basic income provision benefits. This implies that an "average earner" has to pay contributions for about 29 years and that contributors with lower earnings would have to pay for longer. Future development on contribution records needed for the level of means-tested basic income provision benefits depend on the relationship between the indexation of pensions and means-tested benefits.

In addition, recent calculations made clear that the average individual pension entitlements of women only amount to about 40 % of those of men. However, it is expected that this difference is going to be significantly reduced in future due to the increase in female employment rates and due to the fact, that crediting for child rearing has been substantially increased since 1992. It should also be recalled that for persons in partnership the old-age income situation will be determined not just by their own entitlements but also by those of

[86] Three data sources for Germany (2008) always show a lower ratio for the elderly compared to the average for the total population:

15.0 (65+) 15.5 (total) EU-SILC
12.0 (65+) 14.4 (total) Micro-census (Statistical Office)
13.3 (65+) 14.6 (total) Socio-Economic Panel.

[87] All indicators, and in particular this one, must be considered very carefully – a topic not to be discussed here.

[88] Post-war unemployment rates were still high until the mid-fifties. Current pensioners in West-Germany are not a homogeneous group.

their relatives and that in the case they are widowed they will benefit from a survivor's pension.

On household level the increase of the female employment rate and the crediting of child-rearing will counterbalance the future decrease of the replacement rate of the statutory pension. However, having the so far lower labour market participation of women (compared to men) and the still existing gender pay gap in Germany in mind, non-divorced/-widowed single women will be a risk group concerning future dependency on basic income provision transfers.

Regarding the EU adequacy scenarios for 2050 the net theoretical replacement rate (TRR – base case) of the total pension income package from the three pension tiers is calculated to increase from 59.1 % in 2010 to 63.7 % in 2050. Also variations of this base case scenario show a similar tendency.

Because of the changes in the statutory pension scheme – described above – the gross theoretical replacement rate of the 1st tier will decline by 9 percentage points. The subsidised, voluntary Riester scheme of private pensions was created to compensate the reduction of the statutory pension replacement rate through complementary retirement savings. And in the TRR calculations it is assumed that people will manage to build enough complementary entitlements to make up for the reduction in the public scheme by saving at least 4 % of their income over their entire 40 year working career. Thus, the reduction of the benefit level in the first tier will only be offset by private or occupational pensions by a further increase in the coverage of supplementary schemes in Germany. In addition, future pension benefits of the statutory pension scheme and of the supplementary schemes will benefit from the increased labour market participation and longer working histories.

SUSTAINABILITY

Demography

German population is slightly older than in the EU on average. The old-age dependency ratio[89] (population aged 65 and over as a percentage of the population aged 20-64) in DE is projected to increase from 33.9% in 2010 (EU-27: 28.4%) to 63.1% in 2050 (EU-27: 55.0%) and 65.1% in 2060 (EU-27: 57.7%).

DE belongs to the group of Member States where the increase in old-age dependency ratio is projected to be above the EU-27 average. Over the period 2010 to 2060, the old-age dependency ratio is projected to increase by 31.2 percentage points (EU-27: 29.2 percentage points).

The share of working-age population (15-64) (66.0% of the total population in 2010) is projected to drop by 11.2 percentage points by 2060 (to 54.8% of the total population), compared with 10.7 percentage points for the EU as a whole by 2060.

Employment

The labour market participation rate[90] (15-64) in DE was above the EU-27 average in 2010 (DE: 76.7%, EU-27: 71.1%), and is projected to remain higher also in 2060 (DE: 78.9 %, EU-27: 73.8%). Over the period 2010 to 2060, the participation rate of older workers (55-64) is it projected to increase by 12.3 percentage points (from 62.5% in 2010 to 74.8% in 2060) and will stay higher than in the EU-27 (49.7% in 2010; 66.5% in 2060).

[89] The 2012 Ageing Report

[90] The 2012 Ageing Report

According to the 2012 Ageing Report, employment rate (15-64) is projected to increase from 71.2% in 2010 (EU-27: 64.1%) to 74.0% in 2050 (EU-27: 68.9%) and is projected to remain in that position also in 2060 (EU-27: 69.0%). The share of older (55-64) in employment is projected to change from 15% in 2010 to 21% in 2060 (EU-27: from 13% in 2010 to 19% in 2060).

The employment rate for older workers (55 to 64 years)[91] in DE in 2010 was above the EU-27 average: 57.7% (65.0% - males, 50.5% - females) versus 46.3% at EU-27 level (54.6% - males, 38.6% - females).

The average effective exit age from the labour force in 2010 was 63.5 (63.9 – for men, 63.1 – for women) and it is above the EU-27 average (62.1 – total, 62.5 – for men, 61.7 – for women).

Expenditure

According to the 2012 Ageing Report, the gross public pension expenditure will increase from 10.8% of GDP in 2010 to 13.0% of GDP in 2050 and to 13.4% of GDP in 2060.

In 2010 the gross old-age and early pension expenditure was 9.0% of GDP, below the EU-27 average of 9.2%. The 2012 Ageing Report projects an increase to 11.5% of GDP by 2050, which is above the EU-27 projected average of 11.0% of GDP.

The projected increase is slightly lower than the EU average, as the demographic pressure on pension expenditure should be counterbalanced by the legislated increase in the retirement age, by closing down of early retirement paths, by expected further rise in employment rate in general and of older workers in particular, and by lower pension benefits in the public scheme relative to wages. As a result, the increase of public pension expenditure is comparable low compared with the approximately doubling of the old-age dependency ratio in Germany.

Main drivers of pension expenditure

In accordance with the 2012 Ageing Report, the demographic factor has the strongest downward effect (+7.9 p.p. of GDP) on gross public pension expenditure over 2010-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and labour intensity[92]). The lowering effect of coverage ratio (-1.8 p.p.) and benefit ratio (-2.2 p.p.) on the public pension expenditure are more pronounced than the employment rate effect (-0.5 p.p.).

[91] EUROSTAT

[92] As a result of the macroeconomic assumptions used in the projections, the labour intensity contribution has more or less no impact on the change in the pension expenditure/GDP ratio (EU-27 average: +0.1 p.p.). Only Greece, Spain, Luxembourg, Malta and Austria project an increasing effect of 0.1 p.p. of GDP. In all other Member States, the labour intensity effect is negligible.

Background Statistics

	Germany			EU-27		
Current adequacy (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Median relative income of people 65+ as a ratio of income of people 0-64	89	90	88	88	92	86
Aggregate replacement ratio	49	49	52	53	56	52
At-risk-of-poverty rate: 65-	16	15,6	16,5	16,5	16,2	16,8
65+ / 75+	14,1 / 12,3	12,1 / 11,6	15,9 / 13	15,9 / 18,0	12,9 / 14,4	18,1 / 20,5
Severe material deprivation: 65-	5,2	5,1	5,2	8,5	8,4	8,5
65+ / 75+	2,1 / 1,2	1,6 / 1,1	2,5 / 1,4	6,4 / 6,5	5,1 / 5,0	7,3 / 7,5
At risk of poverty or social exclusion (EU2020): 65-	21,0	20,0	22,0	24,2	23,5	25,0
65+ / 75+	14,8 / 12,7	12,6 / 11,9	16,8 / 13,7	19,8 / 22,1	16,2 / 17,7	22,6 / 25,0
Income distribution (S80/S20): 65- / 65+	4,7 / 3,8	4,8 / 4	4,6 / 3,6	5,2 / 4	5,2 / 4	5,2 / 3,9
Adequacy projections: DE						
Theoretical replacement rates (TRR):	**Net 2010**	**Net 2050**	**Difference**	**Gross2010**	**Gross2050**	**Difference**
40 years career: average income earner (basecase)	59,1	63,7	4,6	41,9 (100/0/0)*	45,7 (73/0/27)*	3,8
Low income	53,9	59,7	5,8	41,9 (100/0/0)*	45,7 (73/0/27)*	3,8
High income	51,1	49,5	-1,6	31,4 (100/0/0)*	34,3 (73/0/27)*	2,9
Lower / higher future rates of return		61,2 / 66,5			43,8 / 47,9	
Lower / higher future wage growth		67,7 / 60,6			48,8 / 43,3	
38 years career: average income	52,1	57,2	5,1	37	40,1	3,1
Low / high income	47,5 / 45,8	56,9 / 45	9,4 / -0,8	37 / 28	43,2 / 30,2	6,2 / 2,2
42 years career: average income	69,5	70,6	1,1	49,3	51,7	2,4
Low / high income	63,4 / 60,1	67,7 / 54,7	4,3 / -5,4	49,3 / 37,6	51,7 / 38,9	2,4 / 1,3
10 years after retirement	59,1	61,2	2,1	41,9	43,7	1,8
Female worker with 3 years of career break for childcare	62,1	72,5	10,4	44,0	53,7	9,7
3 years of career break for unemployment	57	68	11,0	40,5	49,5	9,0
10 years out of the labour market	44,3	47,7	3,4	31,4	33,5	2,1
	2010	**2050**	**Difference**	**EU27 2010**	**EU27 2050**	**Difference**
Benefit ratio (Public pensions)	47,0	38,1	-8,9	44,7	37,0	-7,7
Gross replacement rate at retirement (Public pensions)	40,5	34,5	-6,0	48,0	39,1	-8,9
	Germany			**EU-27**		
Current sustainability (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Employment rates: 15-64	71,1	76,0	66,1	64,1	70,1	58,2
55-64	57,7	65,0	50,5	46,3	54,6	38,6
Effective labour market exit age****	63,5	63,9	63,1	62,1	62,5	61,7
Remaining life expectancy at 65	19,5	17,4	19,1	19,3°	17,2	20,7
Economic old-age dependency ratio[3]	43,7			39,8		
Pension expenditure, %GDP (ESSPROS)	13,1°			13,1°		
Budget balance	-4,3			-6,6		
Public debt	83,2			80,1		
Sustainability projections ***	**Germany**			**EU-27**		
Old-age dependency ratio**	**2010**	**2020**	**2030**	**2010**	**2020**	**2030**
	34	39	52	28	34	42
	2040	**2050**	**2060**	**2040**	**2050**	**2060**
	61	63	65	50	55	58
	2010	**2050**	**Difference**	**2010**	**2050**	**Difference**
Public pensions, gross (% of GDP)	10,8	13,0	2,2	11,3	12,8	1,5
Old-age and early pensions, gross (% of GDP)	9,0	11,5	2,5	9,2	11,0	1,7

*: Share of statutory DB-NDC / statutory funded / occupational and other supplementary pensions

°: 2009

¹: 2008

²: 2007

3: Economic old-age dependency ratio (20-64)

** Old-age dependency ratio = Population aged 65 and over as a percentage of the population aged 20-64. Source: The 2012 Ageing Report

***Source: EC-EPC (AWG) 2012 projections

****Source: The 2012 Ageing Report

Greece (EL)

Country profile for the Pension Adequacy Report 2012

General description of the pension system

Pensions in Greece are based on the public (first) pillar that constitutes a pay-as-you-go system. It provides primary and auxiliary pensions. Social insurance funds are self-governing bodies operating under the auspices of the Ministry of Labour and Social Security and managed by representatives of employees, employers and the state. Until the late 2000s the state pension system was characterized by a high degree of fragmentation across sectors of employment and occupational categories. Law 3655/2008 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. A new round of amalgamations was stipulated by Law 3863 of 2010. Currently there are four major social insurance funds: (a) IKA, the social insurance organisation for private sector employees that from January 2011 will include new entrants into the public sector as well, so as to become the fund for all wage and salary earners; (b) OAEE, the social insurance fund for self-employed workers (excluding professionals); (c) OGA, the farmers' retirement fund; and ETAA the unified fund for independent professionals. The latter fund was set up by Law 3655/2008 providing for the amalgamation of distinct schemes for various liberal professions (lawyers, engineers, medical doctors and others). However, so far, constituent schemes retained some of their distinct characteristics, while some other funds (e.g. the fund for journalists and media workers and the pension scheme of the Bank of Greece employees) retained their administrative independence being obliged to operate under the general pension laws.

Public pillar pensions are defined-benefit. The recent reform (Laws 3863 & 3865 of 2010) significantly changed the structure of the pension system, accrual rates and pensionable income. New arrangements will take effect from 2015 onwards in a phased way. Namely, for the period prior to 2011 pensions will be calculated on the basis of pre-reform regulations, while from 2011 there will be two constituent parts, a basic pension and a contributory one. Accrual rates will range from 0.8% (for up to 15 years of work) to 1.5% (for 40 years of work) of pensionable income based on the entire working career (instead of the last five years of work according to previous legislation). Retirement age is set at 65 years across all schemes (and early retirement at 60). Provisions are also made for the phased-in increase of retirement age of women with underage children, in the public and broader public sector, from 50 years in 2010 to 65 years in 2013 and, in the private sector, from 55 years in 2010 to 65 in 2013.

Occupation-based auxiliary funds provide supplementary pensions as part of the public (first) pillar. The majority of the working population is covered by auxiliary schemes that provide replacement rates around 20% (though in certain schemes they may be over 40%). According to the 2010 reform, replacement rates can vary depending on actuarial valuations. Recent reform (law 4052/2012) establishes a new auxiliary pension fund, the so called ETEA, aiming at providing auxiliary pensions to all employees (of the private, the public and the broader public sector). ETEA will be originated from the merging of certain existing auxiliary pension funds following their consent; if there is no consent the funds will become occupational pension funds (of the 2nd pillar). Other auxiliary pension funds may decide to merge into the new fund by no later than 31/12/2012. ETEA will operate within a defined contribution

funded system. The pension amount paid to the affiliated will be determined by a demographic factor, a notional insurance rate and a sustainability factor which will ensure zero deficits of ETEA.

There has been little development of both second pillar occupational schemes and private pensions provision (close to 90% of retirement income is derived from first pillar coverage).

A means-tested pension is provided to uninsured persons 65 years and over who are permanent residents in the country. According to the recent reform this will be replaced by the basic (flat rate) pension set at €360. Claimants who satisfy the means-testing criteria and are permanent residents for 35 years and over (between their 15th to 65th year of age) will be entitled to a full basic pension (the amount is reduced by 1/35 for each remaining year up to 35 years). Low-income pensioners of all funds (except OGA) are entitled to a means-tested benefit supplement (EKAS).

Reform trends

In mid-2010 a "path-breaking" overhaul was approved by Parliament. Pension reform was a key element of the bailout agreement Greece signed with the so-called "troika" (the three international lenders: EU-ECB-IMF) in spring 2010. Laws 3863 & 3865 of 2010 signpost a shift from a greatly fragmented, Bismarckian social insurance system (based primarily on the first pillar), to a unified, multi-tier system that distinguishes between a basic (quasi-universal) non-contributory and a contributory pension, to be in force from January 2015. The amount of the basic pension was set at €360 in 2010 with provisions to be annually adjusted on the basis of GDP growth (50%) and of changes in the consumer price index (CPI) (50%), and the contributory part is linked to paid contributions. In case of early retirement the basic pension will be reduced in accordance with the reduction rate of the contributory part (penalties are set for each year of early retirement). The basic pension is also granted to old-aged uninsured persons and to those who paid contributions for less than 15 years (on a means-tested basis, provided they satisfy prescribed residence requirement as mentioned above). As from 2015 the state's responsibility is limited to the basic pension. EKAS will be abolished and the state's guarantee of auxiliary pensions will end. Henceforth, any deficits incurred by social insurance organisations should be dealt with by reducing pensions and/or increasing contributions. The law also provides for an annual adjustment of pensions (from 2014 onwards) on the basis of a coefficient drawing on GDP fluctuations, on the CPI and the financial situation of pension funds.[93]

Of crucial importance is system rationalisation attempted through the further amalgamation of the 13 social insurance funds that emerged out of the 2008 legislation. Significant changes in pensionable income and replacement rates were introduced; retirement age and length of service increased so as to be equalised across the working population. The minimum contribution period to receive a full pension will gradually increase from 37 (or 35) years to 40 years by 2015 (retirement age set at 65 years for the entire working population). Pension benefits will be reduced by 6 % each year for individuals who retire between the ages of 60 and 65 with less than 40 contribution years. Provision is made also for revising pensionable age from 2021 onwards (and every three years) in respect to longevity.

[93] The reform is expected to contain increases in pension spending at around 2.5 percentage points over the coming decades (reference base: pension expenditure in 2010, 12% of GDP). If the system remained unchanged, projections indicate doubling of the rate by 2060 (OECD 2011a, pp.158-9).

The Midterm Fiscal Strategy Framework (2011-2015) approved by the Parliament in June 2011 (Law 3986) introduced an upper ceiling of €2,774 gross monthly pension income for all social insurance funds. An overhaul of the conditions concerning entitlement to disability pensions is also under way. In an attempt to bring down the number of beneficiaries from about 14.5% to 10% of the total number of pensioners, stricter regulations were recently introduced and the fragmented system of a multiplicity of local evaluation committees has been replaced by a centralised disability certification and monitoring agency at IKA. In parallel, the list of "arduous or hazardous" jobs has been revised. Roughly about 180,000 workers enjoying specific benefits and early retirement conditions were taken off the "list" as their duties were not considered arduous or hazardous, while some new professions (such as, nursing staff, TV technicians working with portable cameras, workers in wastewater treatment and others) were added allowing about 14,000 workers to come under the specific regulations for arduous work.

Pension amounts were frozen in 2010 and significant cuts followed over the last couple of years. In 2010, the 13th and 14th pension payments were permanently cut. In their place an allowance of €800 is paid (in three instalments) only to pensioners with monthly gross pension income up to €2,500.[94] In August 2010 a special levy (the so called EAS) was imposed on monthly pension incomes so as to create a contingency fund for social insurance organizations (the so-called AKAGE, Generational Solidarity Insurance Fund). Initially this affected pension incomes over €1,400 monthly, with rates ranging between 3% and 10%, depending on pension amount. But from August 2011 onwards the rates increased to 3% to 14%. At the same time a similar levy ranging from 3% to 10% was introduced for auxiliary pensions over €300 per month. Furthermore, in November 2011 a further cut of 30% of auxiliary pensions over €150 monthly was put into effect. In parallel monthly primary gross pensions over €1,200 were cut by 20% for pensioners over 55 years of age and 40% for the primary gross pension exceeding €1,000 for those below 55 years. Additionally penalties for working retirees were introduced: for those below 55 years of age pension payment is suspended; while those 55 years and over ***(a)*** who undertake salaried employment will have a 70% cut in the part of their gross monthly primary pension exceeding 30 wages of an unskilled worker (that is €990 in 2011), while ***(b)*** those who become self-employed and have a primary pension exceeding 60 wages of an unskilled worker (that is, €1,980 in December 2011) will have the amount over this upper ceiling curtailed. Moreover, the affiliated in OAEE and ETAA (with some exceptions) who are above 55 years of age and become working retirees should pay 50% contributions surcharge.

An overhaul of auxiliary pensions has been recently introduced (law 4052/2012) by the government authorities, as it is key for the second bailout agreement currently negotiated with the international creditors. Recent actuarial valuations for auxiliary funds indicate a deficit of about €850 million presently. This reform also introduces the amalgamation of the five largest supplementary pension schemes (ETEAM & TEAIT for private sector workers, TEADY for public servants, ETAT for bank employees and TAYTEKO for public utility personnel), and the reduction of supplementary pension income by an average rate of 15% (depending on sustainability valuations for each scheme) with the aim to equalise replacement rates across schemes to 20% of pensionable income.

[94] Legislation passed in late January 2012 stipulates that pensioners below 60 years are no more eligible for this allowance.

Assessment of adequacy and sustainability indicators

Current adequacy

The latest available data on incomes and poverty (the 2010 EU-SILC data) refer to 2009 incomes. Thus they do not capture the full impact of the crisis effects. Overall we observe a falling rate of poverty between 2008 and 2009, but this trend overturned in the subsequent year. Compared to the EU-27 average the at-risk-of poverty rate for elderly people was considerably high in Greece at the onset of the crisis (21.3% for people 65+ in Greece compared to 15.9% at EU level). Particularly high is the risk of poverty among people 75 years and over (and mostly among women of this age group – Greece: total: 25.5%, men: 25.2%; women: 25.8%; EU-27: total: 18%; men; 14.3; women: 20%). Equally high is severe material deprivation among the elderly (at 12.4% in Greece, it almost double the EU average at 6.4%). The at-risk-of-poverty or social exclusion (EU2020) is also much higher in Greece (26.7% for 65+) than in the EU-27 (19.8%). Roughly about a third of women aged 65 years and over is at-risk-of-poverty or social exclusion (the rate falling to about a fifth for men of this age group).

The median relative income ratio for people 65+, as a ratio of income of the age group 0-64, dropped to 84% in 2010, decreasing by 2 p.p. from the 2009 figure, also departing from the rising trend of former years, and thus widening the gap with the EU-27 average (88%). The aggregate replacement ratio (median individual pensions of 65-74 year olds relative to median individual earnings of 50-59 years old) has persistently been lower than the EU-27 average (42% in Greece, 53% in EU-27 in 2010).

As for poverty related indicators, importantly, gender differences are evident in respect to all indicators of pensions adequacy related to income and living conditions.

The net theoretical replacement (NRR) rate in 2010, result of the pre-reform systems, was at 121.3% the highest in the EU. The gross theoretical replacement rate (GRR) was 100.8% in 2010.

Future adequacy

NRR are expected to fall sharply over the long-run. For the base case of a worker retiring at 65 after 40 years of career at the average wage, NRR would fall to 87% in 2050, whereas GRR declines down to 67.9% over the same period. This means drops of 34.4 (NRR) and 32.9 (GRR) p.p. in the next 40 years, which are the largest falls in the EU for this time span, but would still leave replacement rates way above the (unweighted) EU average in 2050.

Interestingly, higher and lower incomes will suffer larger decreases than average incomes: more than 37 (NRR) and around 35 (GRR) p.p. drops in 40 years for both income groups.

Such sharp drops in replacement rates would occur not only for the base case male worker retiring at 65 after 40 years career, but also for the "variant" cases careers. Unemployment affects both NRR and GRR, even if its impact is slight for a 3 years career break, and the reduction of both rates over the 40 year span would run by a similar measure as the base case.

The impact in NRR 10 years after retirement compared to the year of retirement will be very strong, causing a reduction by 43 p.p. and by 40 p.p. for GRR (i.e. comparing the income situation in 2020 of a worker who retired in 2010 to the income situation in 2060 of a worker who retired in 2050). This shows the effect of the tougher indexation rules.

Ministry of Labour and Social Insurance estimates an increase in pension expenditure by about €1.2bn over 2010-2016. Yet, gloomy forecasts of protracted recession and galloping

unemployment will make revenue of social insurance funds steeply plunge[95] and this will put further strains on the reform plan.

Obviously, significant cuts in current retirees' incomes introduced over the last two years have negative effects on pension adequacy particularly for low-income retirees. To this contribute also sharp hikes in indirect taxes and special levies, such as the "extra" property levy introduced in 2011, a kind of poll tax that all users of property (either tenant or owners, whether jobless or with an income below the poverty line) are obliged to pay; as well as the reduction of the lowest taxable yearly income from €12,000 to €5,000 (in force for incomes gained since 2011) that aims to broaden the tax basis towards the lower end of the income scale. Persistent inflationary pressures also have bitten deeply into pensioners' incomes over the last two years (even though on average salaries and wages decreased by about 15% in 2010-2011, according to the Hellenic Labour Inspectorate, the average inflation rate stood at 4.7% in 2010 and 3.3% in 2011).

SUSTAINABILITY

Demography

The old-age dependency ratio[96] (population aged 65 and over as a percentage of the population aged 20-64) in EL is projected to increase from 31.0% in 2010 (EU-27: 28.4%) to 62.9% in 2050 (EU-27: 55.0%) and decrease to 62.0% in 2060 (EU-27: 57.7%).

EL belongs to the group of Member States where the increase in old-age dependency ratio is projected to be above the EU-27 average. Over the period 2010 to 2060, the old-age dependency ratio is projected to increase by 31.1 percentage points (EU-27: 29.2 percentage points).

The share of working-age population (15-64) (66.5% of the total population in 2010) is projected to drop by 11.3 percentage points by 2060 (to 55.2% of the total population), compared with 10.7 percentage points for the EU as a whole by 2060.

Employment

The labour market participation rate[97] (15-64) in EL was below the EU-27 average in 2010 (EL: 68.4%, EU-27: 71.1%), and is projected to remain lower also in 2060 (EL: 72.6%, EU-27: 73.8%). Over the period 2010 to 2060, the participation rate of older workers (55-64) is it projected to increase by 24.1 percentage points (from 45.5% in 2010 to 69.6% in 2060), and will be higher than in the EU-27 in 2060 (EU-27: 49.7% in 2010; 66.5% in 2060).

According to the 2012 Ageing Report, employment rate (15-64) is projected to increase from 59.6% in 2010 (EU-27: 64.1%) to 67.4% in 2050 (EU-27: 68.9%) and 67.3% in 2060 (EU-27: 69.0%). The share of older (55-64) in employment is projected to change from 13% in 2010 to 21% in 2060 (EU-27: from 13% in 2010 to 19% in 2060).

The employment rate for older workers (55 to 64 years)[98] in EL in 2010 was below the EU-27 average: 42.3% (56.5% - males, 28.9% - females) versus 46.3% at EU-27 level (54.6% - males, 38.6% - females).

[96] The 2012 Ageing Report

[97] The 2012 Ageing Report

[98] EUROSTAT

The average effective exit age from the labour force in 2010 was 62.3 (62.4 – for men, 62.3 – for women) and it is slightly above the EU-27 average (62.1 – total, 62.5 – for men, 61.7 – for women).

Expenditure

According to the 2012 Ageing Report, the gross public pension expenditure will increase from 13.6% of GDP in 2010 to 15.4% of GDP in 2050 and decrease to 14.6% of GDP in 2060.

In 2010 the gross old-age and early pension expenditure was 9.4% of GDP, above the EU-27 average of 9.2%. The 2012 Ageing Report projects an increase to 11.6% of GDP by 2050, which remains above the EU-27 projected average of 11.0% of GDP.

Main drivers of pension expenditure

In accordance with the 2012 Ageing Report, the demographic factor has the strongest downward effect (+10.4 p.p. of GDP) on gross public pension expenditure over 2010-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and labour intensity[99]). The lowering effect of coverage ratio (-3.4 p.p.) and benefit ratio (-3.6 p.p.) on the public pension expenditure are more pronounced than the employment rate effect (-1.9 p.p.).

Population projections set the increase of 65 years and over, in the period 2010-2016, at 65% (Eurostat data).[100] According to estimates by the Ministry of Labour and Social Insurance, a hike in the number of retirees will increase pension expenditure by about €1.2bn over 2010-2016.

[99] As a result of the macroeconomic assumptions used in the projections, the labour intensity contribution has more or less no impact on the change in the pension expenditure/GDP ratio (EU-27 average: +0.1 p.p.). Only Greece, Spain, Luxembourg, Malta and Austria project an increasing effect of 0.1 p.p. of GDP. In all other Member States, the labour intensity effect is negligible.

[100] Similarly the General Confederation of Greek Labour forecasts a 70% increase of pensioners in this period (Labour Institute 2011, p. 350).

Background Statistics

	Greece			EU-27		
Current adequacy (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Median relative income of people 65+ as a ratio of income of people 0-64	84	88	83	88	92	86
Aggregate replacement ratio	42	48	44	53	56	52
At-risk-of-poverty rate: 65-	19,9	19,5	20,3	16,5	16,2	16,8
65+ / 75+	21,3 / 25,5	18,8 / 25,2	23,3 / 25,8	15,9 / 18,0	12,9 / 14,4	18,1 / 20,5
Severe material deprivation: 65-	11,4	11,1	11,7	8,5	8,4	8,5
65+ / 75+	12,4 / 13	9,8 / 10,9	14,4 / 14,6	6,4 / 6,5	5,1 / 5,0	7,3 / 7,5
At risk of poverty or social exclusion (EU2020): 65-	27,9	26,6	29,2	24,2	23,5	25,0
65+ / 75+	26,7 / 31	22,9 / 28,7	29,8 / 32,7	19,8 / 22,1	16,2 / 17,7	22,6 / 25,0
Income distribution (S80/S20): 65- / 65+	6 / 4,1	5,9 / 4,2	6,0 / 4,0	5,2 / 4	5,2 / 4	5,2 / 3,9
Adequacy projections: EL						
Theoretical replacement rates (TRR):	**Net 2010**	**Net 2050**	**Difference**	**Gross2010**	**Gross2050**	**Difference**
40 years career: average income earner (basecase)	121,3	87,0	-34,3	100,8	67,9 (100/0/0)*	-32,9
Low income	130,8	93,0	-37,8	109,3	74,4 (100/0/0)*	-34,9
High income	101,8	64,6	-37,2	83,1	47,8 (100/0/0)*	-35,3
Lower / higher future rates of return		87 / 87			67.9 / 67.9	
Lower / higher future wage growth		76,5 / 99,1			58,5 / 80	
38 years career: average income	126,4	81,5	-44,9	108,8	63,2	-45,6
Low / high income	133,5 / 110,9	88,4 / 60	(- 45,1 / -50,9)	111,1 / 91,1	69,9 / 43,5	(- 41,2 / -47,6)
42 years career: average income	126,1	88,9	-37,2	105	69,9	-35,1
Low / high income	141,2 / 105,3	92,7 / 64,3	(- 48,5 / -41)	114,2 / 86,3	86,3 / 47,5	(- 27,9 / - 26,7)
10 years after retirement	114,6	71,6	-43,0	93,7	53,7	-40,0
Female worker with 3 years of career break for childcare	121,3	87	-34,3	100,8	68	-32,9
3 years of career break for unemployment	121,3	87	-34,3	100,8	68	-32,9
10 years out of the labour market	96,7	63,8	-32,9	76,4	47,3	-29,1
	2010	**2050**	**Difference**	**EU27 2010**	**EU27 2050**	**Difference**
Benefit ratio (Public pensions)	35,9	29,0	-6,9	44,7	37,0	-7,7
Gross replacement rate at retirement (Public pensions)	59,3	52,4	-6,9	48,0	39,1	-8,9
	Greece			**EU-27**		
Current sustainability (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Employment rates: 15-64	59,6	70,9	48,1	64,1	70,1	58,2
55-64	42,3	56,5	28,9	46,3	54,6	38,6
Effective labour market exit age****	62,3	62,4	62,3	62,1	62,5	61,7
Remaining life expectancy at 65	19,5	17,9	20,2	19,3°	17,2	20,7
Economic old-age dependency ratio[3]	46,7			39,8		
Pension expenditure, %GDP (ESSPROS)	13,4°			13,1°		
Budget balance	-10,6			-6,6		
Public debt	144,9			80,1		
Sustainability projections ***	**Greece**			**EU-27**		
Old-age dependency ratio**	**2010**	**2020**	**2030**	**2010**	**2020**	**2030**
	31	35	42	28	34	42
	2040	**2050**	**2060**	**2040**	**2050**	**2060**
	53	63	62	50	55	58
	2010	**2050**	**Difference**	**2010**	**2050**	**Difference**
Public pensions, gross (% of GDP)	13,6	15,4	5,7	11,3	12,8	1,5
Old-age and early pensions, gross (% of GDP)	9,4	11,6	2,1	9,2	11,0	1,7

*: Share of statutory DB-NDC / statutory funded / occupational and other supplementary pensions

°: 2009

¹: 2008

²: 2007

3: Economic old-age dependency ratio (20-64)

** Old-age dependency ratio = Population aged 65 and over as a percentage of the population aged 20-64. Source: The 2012 Ageing Report

***Source: EC-EPC (AWG) 2012 projections

****Source: The 2012 Ageing Report

Hungary (HU)

Country profile for the Pension Adequacy Report 2012

General description of the pension system

By 1975 the Hungarian mandatory pension system developed into a universal, national pay-as-you-go scheme covering all segments of society and offering uniform conditions with some minor exceptions. Benefits paid by the scheme became and remained the primary revenue for a large majority of the elderly population. Occupational schemes are practically non-existent and voluntary supplementary funds are also marginal.

Benefits in the first pillar are calculated based on length of service and average indexed net wage earned after 1988. The rate with which the entry pension replaces the calculated net monthly life-time wage is a function of accepted service years. This scale is non-linear favouring people with short and with long service periods at the cost of people with medium service length. Service years include non-contributory periods (university studies before 1998, mandatory military service) and periods when the government paid contributions on behalf of the insured person (maternity leave, years in lower vocational school). Pensions are tax exempt since they are calculated from net wages.

As set out by the 1997 reform, the method of calculation changes in 2013. The scale of replacement should be linearised (1.65% replacement of average indexed monthly wage for each service year). In addition, the benefit calculation should be based on gross wages. The law indicates the abolishment of tax exemption for pensions but it is unclear how to treat the pensions already in payment, calculated from net wages. These rules are expected to be cleared out later this year.

Until 2012 contributions were shared between the employee and employer. Employees pay 10% of their gross wage to the National Pension Insurance Fund (NPIF), and the employers pay an additional 24% after the workers. Since January 2012, employer contributions were renamed as social contribution tax (*szociális hozzájárulási adó*). The social contribution tax rate remained on the previously level (27%, where pension contributions and health and labour market contributions combined) however it falls under the tax legislation and not of contributions. The pension system got under severe pressure in the early 1990s when it lost a significant part of its contribution base. The 1997 reform targeted both this financial instability (by increasing the retirement age to 62 years and by reducing the wage index to the half-wage-half-price Swiss index) as well as the looming demographic deficit (by complementing the main pay-as-you-go scheme with a funded defined-contribution scheme).

Due to a cut of contribution rate and the frequent misuse of the system for short-term political gains the implicit debt started to rapidly increase again in 2002 and by 2004-2006 it exceeded its pre-reform level measured in real terms. In addition, the transition costs, emanating from the accumulation of funds in the DC scheme while paying PAYG pensions, were mostly financed from debt. These two failures led to ad hoc adaptations in 2007-2008, a new parametric reform package in 2009, the nearly complete defunding/re-nationalisation of the second pillar in 2010-2011 and even further parametric corrections in 2011-2012.

Although some of the adjustments (namely downward corrections of the pension index) put burden on current pensioners, the replacement rate is still favourable. The average benefit (including supplements) of an old-age pensioner (including all types of old-age pensioners) is

72% of the average net wage (which is the relevant base of comparison as pensions are tax-exempt). In general, consecutive governments proved more successful in raising the effective retirement age (still low in cross-country comparison) than reducing the replacement rate. However the effective retirement age is still low. New measures introduced on January 1, 2012 target various early retirement channels.

Reform trends

The 2009 parametric corrections and their further modifications in 2011

The 2009 reform proposed three measures. First, the half-wage-half-price indexation was replaced by a new combination of the price-index and the wage-index conditioned by a complex system on GDP-growth. Due to the macroeconomic environment it functioned as a pure price index for two years, when it finally got replaced by the unconditional price index.

In principle, retirement age has been 62 years for both genders since 2009. However, a service-length-based early retirement scheme (*előrehozott nyugdíj*), which offered a benefit with no or moderate reduction made over 90% of new pensioners retire earlier. The second measure of the reform package of 2009 raised the standard retirement age from 62 years to 65 years by 2022. It also would have closed the early retirement option with no reduction and would have stricken conditions for early retirement with reduced benefit. Before these changes would have taken into effect they were overwritten in 2011 with closing down of all options for early retirement.

The third main measure of the 2009 package was the final abolition of the 13th month of extra benefit, which was gradually introduced between 2003 and 2006, reduced in 2008 and finally withdrawn in 2009.

The 2010 defunding/re-nationalisation of the mandatory private funds

The government took office in May 2010 decided first to give up financing the transition costs of introduction of the mandatory pre-funded scheme and later opted for rolling back the pre-funding process altogether, before the DC scheme became mature.

The maturation of the defined-contribution pre-funded scheme 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 for pre-funding future pensions. The resulting deficit of the NPIF had to be financed by government. This transition cost coincided with exceptionally favourable demographic background and was to be covered from reduced public spending on other chapters of the budget rather than debt. However, the transition was not based on current but future revenues. The trends of public spending on other chapters and the rapid increase of government debt over this period all imply a debt-financed transition.

In October 2010 the government announced to suspend the flow of contributions to the pre-funded scheme for 14 months between November 1, 2010 and December 31, 2011. In parallel to that, the option of going back to the full pay-as-you-go pillar was reopened once again. The government absorbed the accumulated savings on individual accounts as an exchange for the restoration of accruals lost at the time of opting out to the pre-funded scheme. The government made this option more attractive by offering the take-up of real returns as a lump sum. With this move the administration went beyond the original aim of temporarily easing the transition burden and made an effort to redirect the accumulated savings to the public wealth account.

As a next step the entire structure of the mandatory pension system was redefined in December 2010. The combination of a full pay-as-you-go scheme and a mixed system

consisting of a majority pay-as-you-go scheme and a smaller, privately managed pre-funded scheme would have been replaced by a new combination of a pure pay-as-you-go scheme and a pure pre-funded scheme. Those who decided to stay in the pre-funded scheme would have collected no further entitlements in the pay-as-you-go so participation in both pillars was to be excluded as an option. The mixed system would have been terminated. Since this solution raised constitutional concerns, the government introduced a requirement for the members of the pre-funded scheme to pay their full contributions to the public fund, for which they will receive benefits. In addition, they can retain their accounts in the pre-funded scheme on a voluntary basis.

In order to absorb the savings returning to the public fund, equivalent to 10.2% of GDP, the Pension Reform and Debt Reduction Fund (PRDRF; *Nyugdíjreform és Adósságcsökkentő Alap* in the original) was established. Roughly half of the portfolio, equal to about 4.8% of GDP, was held in government bonds and revoked reducing the public debt directly. In addition following the promise, real returns, making up to 0.9% of GDP, were paid out to former fund members. A further amount, an equivalent of 1.5% of GDP was liquidated in order to finance the deficit of the NPIF. The remaining assets will cover further debt reductions or specific current budgetary purposes.

2011: Closing the routes to early retirement

Nearly 30% of pension beneficiaries are younger than the official retirement age, 62 years, and they take up over 24% of benefits. Disability, early retirement, and other health-related are the major routes to leave the labour market. The new regulations will lock many of these ways and narrow those that still remain open making retirement below the retirement age more difficult. Most of current recipients will keep their benefits. The largest group, 338 thousand people, is disability pensioners (the system differentiates between disability pension (*rokkantsági nyugdíj*), which is a large chapter of the pension budget and disability benefit (*rokkantsági járadék*), which is a small supplement). They make up 11.6% of recipients and collect 9.6% of all benefits – these figures are among the highest in the European Union or the OECD. Around 70 thousand people, 17% of total disability pensioners, have 100% level of disability.

Starting from January 1, 2012 disability ceased to be part of the pension system, and the disability pension was transformed to disability provision (*rokkantsági ellátás*) and rehabilitation provision (*rehabilitációs ellátás*), the latter being different from the former rehabilitation benefit, which was also withdrawn. The disability provision will function in effect in the same way as the disability pension. People belonging to disability class 1 and 2 (both include people with 100% disability) will receive this new provision. The same applies to people classified to the 3rd category (at least 50 % disabled) provided they were born in 1954 or before. The rest will obtain rehabilitation provision till May 1, 2012. At this point eligibility for the provision will cease to exist unless the beneficiary requests a complex review of his/her health conditions. Depending on the result of this re-checking the rehabilitation provision will be transformed to disability provision (if the client cannot be rehabilitated) or reduced (if he/she can be rehabilitated) or withdrawn (if health conditions allow the client to work).

The other large group of early retirees includes regular old-age beneficiaries on service-length-based early retirement (*előrehozott nyugdíj*) discussed above. This channel of early retirement was closed down altogether. No new such benefits will be established in the future. The benefit of current recipients (that is old-age pensioners younger than the retirement age) is transformed to the new below-retirement-age provision (*korhatár előtti ellátás*), which will

function the same way as the previous allotment and be converted back to the regular old-age pension upon reaching the retirement age.

Another subgroup of old-age pensioners below retirement age worked as members of the armed forces or had dangerous and hazardous jobs (*szolgálati nyugdíj* and *korkedvezményes nyugdíj*, respectively). Those who are close enough to the retirement age (born in 1954 or before) will see their circumstances practically unchanged. Younger beneficiaries of this group will be offered government jobs or they have to accept a 16% lower benefit.

It has to be noted that the administration's efforts to raise the effective retirement age are not consistent. From January 1, 2012 the government opened up a new retirement channel for women independent of age but based exclusively on working years. In order to meet an electoral promise, women are allowed to retire after 40 years of work (including periods on maternal leave).

Assessment of adequacy and sustainability pension indicators

Current adequacy

In terms of absolute poverty the Hungarian elderly are among the poorest in Europe. Severe material deprivation touches 14% of elderly people, both for 65+ and 75+ age groups. This rate is somewhat lower than the average of the 12 new Member States, but significantly higher than the overall average of the European Union. The Hungarian rates are the 6th highest in this comparison.

The Hungarian pattern of absolute poverty has two distinct features. Firstly, the poverty level does not increase with the age. Secondly, the gap between men and women seems to be more explicit than in the NMS12 group or among the EU-27.

The at-risk-of-poverty measure is lower than the average of the EU-27 both for the 65+ and the 75+ population. Although the figures reflect a modest gender gap, older women, rarely fall below the 60% of median income threshold.

The relative median income ratio (persons aged 65 years and over compared to persons aged less than 65 years) is the second highest among the Member States, which indicates that elderly have a higher median income than those below 65 years. This is largely due to the generosity of the pension system. The aggregate replacement ratio (the ratio of income from pensions of persons aged between 65 and 74 years and income from work of persons aged between 50 and 59 years) is 60%, well above the European average (the 6th-8th highest). It is notable though that in 2009 the Hungarian replacement rate was still 62% and the 3rd highest in the EU.

Future adequacy

The calculations of future theoretical replacement rates (TRR) have not yet taken into account abolishment of the mandatory funded pension scheme. For the base case of a worker retiring at 65 after 40 years of career at the average wage, net TRR would fall from 100.1% in 2010 to 75% in 2050 (by 25 p.p.), whereas gross TRR increases from 60.2% to 62.3% over the same period (by 2.1 p.p.). This is due to the fact that pensions in the future will be based on gross wages and subject to taxation.

The drop in net TRR will be more visible for high-wage (-31.9 p.p.) than the low-wage earners (-8 p.p.). Interestingly, drop in net TRR for people retiring at 67 (after 42 years career) in 2050 (-24.3 p.p.) is higher than for people retiring after 38 years career (-17.8 p.p.). This probably reflects higher future pensionable age and change in the calculation of pension

benefits, which recently was favouring people with very short and very long careers. The decrease in the future net TRR will be also particularly after retirement, reflecting less generous indexation rule.

SUSTAINABILITY

Demography

The old-age dependency ratio[101] (population aged 65 and over as a percentage of the population aged 20-64) in HU is projected to increase from 26.6% in 2010 (EU-27: 28.4%) to 54.7% in 2050 (EU-27: 55.0%) and 63.1% in 2060 (EU-27: 57.7%).

HU belongs to the group of Member States where the increase in old-age dependency ratio is projected to be above the EU-27 average. Over the period 2010 to 2060, the old-age dependency ratio is projected to increase by 36.5 percentage points (EU-27: 29.2 percentage points).

HU will be one of the fastest ageing countries in the EU. The share of working-age population (15-64) (68.6% of the total population in 2010) is projected to drop by 13.2 percentage points by 2060 (to 55.5% of the total population), compared with 10.7 percentage points for the EU as a whole by 2060.

Employment

The labour market participation rate[102] (15-64) in HU was below the EU-27 average in 2010 (HU: 62.4%, EU-27: 71.1%), and is projected to remain lower also in 2060 (HU: 67.1%, EU-27: 73.8%). Over the period 2010 to 2060, the participation rate of older workers (55-64) is it projected to increase by 22.0 percentage points (from 37.1% in 2010 to 59.1% in 2060) and will stay lower than in the EU-27 (EU-27: 49.7% in 2010; 66.5% in 2060).

According to the 2012 Ageing Report, employment rate (15-64) is projected to increase from 55.4% in 2010 (EU-27: 64.1%) to 62.2% in 2050 (EU-27: 68.9%) and is projected to remain in that position also in 2060 (EU-27: 69.0%). The share of older (55-64) in employment is projected to change from 12% in 2010 to 20% in 2060 (EU-27: from 13% in 2010 to 19% in 2060).

The employment rate for older workers (55 to 64 years)[103] in HU in 2010 was below the EU-27 average: 34.4% (39.6% - males, 30.1% - females) versus 46.3% at EU-27 level (54.6% - males, 38.6% - females).

The average effective exit age from the labour force in 2010 was 60.5 (61.0 – for men, 60.2 – for women) and it is below the EU-27 average (62.1 – total, 62.5 – for men, 61.7 – for women).

Expenditure

According to the 2012 Ageing Report, the gross public pension expenditure will increase from 11.9% of GDP in 2010 to 13.5% of GDP in 2050 and to 14.7% of GDP in 2060.

In 2010 the gross old-age and early pension expenditure was 10.1% of GDP, above the EU-27 average of 9.2%. The 2012 Ageing Report projects an increase to 11.8% of GDP by 2050, which remains above the EU-27 projected average of 11.0% of GDP.

Main drivers of pension expenditure

[101] The 2012 Ageing Report

[102] The 2012 Ageing Report

[103] EUROSTAT

In accordance with the 2012 Ageing Report, the demographic factor has the strongest downward effect (+11.1p.p. of GDP) on gross public pension expenditure over 2010-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and labour intensity[104]). The lowering effect of coverage ratio (-4.3 p.p.) and benefit ratio (-1.8 p.p.) on the public pension expenditure are more pronounced than the employment rate effect (-1.3 p.p.).

[104] As a result of the macroeconomic assumptions used in the projections, the labour intensity contribution has more or less no impact on the change in the pension expenditure/GDP ratio (EU-27 average: +0.1 p.p.). Only Greece, Spain, Luxembourg, Malta and Austria project an increasing effect of 0.1 p.p. of GDP. In all other Member States, the labour intensity effect is negligible.

Background Statistics

	Hungary			EU-27		
Current adequacy (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Median relative income of people 65+ as a ratio of income of people 0-64	101	106	99	88	92	86
Aggregate replacement ratio	60	61	60	53	56	52
At-risk-of-poverty rate: 65-	13,8	13,9	13,7	16,5	16,2	16,8
65+ / 75+	4,1 / 3,3	2,8 / 1,7	4,8 / 4,1	15,9 / 18,0	12,9 / 14,4	18,1 / 20,5
Severe material deprivation: 65-	23	23,1	22,8	8,5	8,4	8,5
65+ / 75+	14,1 / 14	10,1 / 10	16,4 / 15,9	6,4 / 6,5	5,1 / 5,0	7,3 / 7,5
At risk of poverty or social exclusion (EU2020): 65-	32,3	31,8	32,8	24,2	23,5	25,0
65+ / 75+	16,8 / 16,6	12,1 / 11,2	19,5 / 19,2	19,8 / 22,1	16,2 / 17,7	22,6 / 25,0
Income distribution (S80/S20): 65- / 65+	3,6 / 2,6	3,6 / 2,6	3,5 / 2,5	5,2 / 4	5,2 / 4	5,2 / 3,9
Adequacy projections: HU						
Theoretical replacement rates (TRR):	**Net 2010**	**Net 2050**	**Difference**	**Gross2010**	**Gross2050**	**Difference**
40 years career: average income earner (basecase)	100,1	75	-25	60,2 (100/0/0)*	62,3 (64/36/0)*	2,1
Low income	83	75	-8	59,5 (100/0/0)*	62,3 (64/36/0)*	2,8
High income	88,2	56,3	-31,9	49 (100/0/0)*	46,8 (64/36/0)*	-2,2
Lower / higher future rates of return		70,9 / 79,9			58,9 / 66,3	
Lower / higher future wage growth		83,7 / 68,7			69,4 / 57	
38 years career: average income	83,3	65,5	-17,8	50,1	54,4	4,3
Low / high income	71,8 / 76,7	65,5 / 49,3	(-6,3/-27,4)	51,5 / 42,6	54,4 / 40,9	(2,9/-1,7)
42 years career: average income	111,5	87,2	-24,3	67	72,4	5,4
Low / high income	96 / 102	87,2 / 65,4	(-8,8/-36,6)	68,8 / 56,7	72,4 / 54,4	(3,6/-2,3)
10 years after retirement	107,3	59,2	-48,1	70,2	49,1	-21,1
Female worker with 3 years of career break for childcare	66,1	70,8	4,7	41,9	58,7	16,8
3 years of career break for unemployment	81,0	72,5	-8,5	48,8	60,2	11,4
10 years out of the labour market	48,2	55	6,8	29,0	45,6	16,6
	2010	**2050**	**Difference**	**EU27 2010**	**EU27 2050**	**Difference**
Benefit ratio (Public pensions)	31,2	26,6	-4,6	44,7	37,0	-7,7
Gross replacement rate at retirement (Public pensions)	38,4	40,3	1,9	48,0	39,1	-8,9
	Hungary			**EU-27**		
Current sustainability (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Employment rates: 15-64	55,4	60,4	50,6	64,1	70,1	58,2
55-64	34,4	39,6	30,1	46,3	54,6	38,6
Effective labour market exit age****	60,5	59,5	60,2	62,1	62,5	61,7
Remaining life expectancy at 65	16,5	14,0	18,1	19,3°	17,2	20,7
Economic old-age dependency ratio[3]	43,2			39,8		
Pension expenditure, %GDP (ESSPROS)	11,2°			13,1°		
Budget balance	-4,2			-6,6		
Public debt	81,3			80,1		
Sustainability projections ***	**Hungary**			**EU-27**		
Old-age dependency ratio**	**2010**	**2020**	**2030**	**2010**	**2020**	**2030**
	27	33	36	28	34	42
	2040	**2050**	**2060**	**2040**	**2050**	**2060**
	43	55	63	50	55	58
	2010	**2050**	**Difference**	**2010**	**2050**	**Difference**
Public pensions, gross (% of GDP)	11,9	13,5	1,5	11,3	12,8	1,5
Old-age and early pensions, gross (% of GDP)	10,1	11,8	1,7	9,2	11,0	1,7

*: Share of statutory DB-NDC / statutory funded / occupational and other supplementary pensions

°: 2009

¹: 2008

²: 2007

3: Economic old-age dependency ratio (20-64)

** Old-age dependency ratio = Population aged 65 and over as a percentage of the population aged 20-64.
Source: The 2012 Ageing Report

***Source: EC-EPC (AWG) 2012 projections

****Source: The 2012 Ageing Report

Ireland (IE)

Country profile for the Pension Adequacy Report 2012

General description of the pension system

The pension system in Ireland is made up of two core components: first pillar state administered social welfare pensions and a complex mix of second pillar supplementary pension arrangements, including occupational (both private and public sector) pensions and personal pensions.

The state administered social welfare (state) pension is provided on a contributory or means-tested basis. Both are flat rate payments, currently the maximum rates are €230 and €219 per week respectively. Eligibility for the contributory pension is based on an individual's social insurance contribution record. Take-up of the contributory pension has risen steadily in recent years. Eligibility for the non-contributory state pension is determined via an assessment of means and satisfaction of the habitual residency condition.

The current contributory state pension payment is equivalent to 34.14% of average earnings, within one percentage point of the 35% present policy target. The state pension provides a comparatively low replacement rate and is the primary source of income of older people, making up two-thirds of the gross income of the over 65s . There is no established rule regarding indexation of payments – rates are set in the context of the annual Budget; Pensions generally increased in line with government policy during the 2000s although they have not increased since Budget 2009 neither have they been cut as other social welfare payments have. All state pensions are administered by the Department of Social Protection (DSP) and operate on a pay-as-you-go (PAYG) basis (contributory pensions are paid from the Social Insurance Fund, which is topped up by the Exchequer when in deficit, non-contributory pensions are paid from the Exchequer).

Second pillar pensions are voluntary (with the exception of the public sector where membership is generally compulsory) and may be taken up via occupational defined benefit (DB) and defined contribution (DC) and personal pensions (including retirement annuity contracts and personal retirement savings accounts (PRSAs)). Pension schemes are regulated by the Pensions Board; they issue guidance to trustees and investigate complaints regarding non-compliance etc. Tax reliefs are in place for employers and individuals to incentivise retirement saving through supplementary pensions.

Most occupational schemes are funded, with the significant exception of public sector pensions (covering approximately 300,000 workers and over 100,000 pensioners), which are predominantly unfunded and operate on a PAYG basis.

Most DB schemes (75%) are now in actuarial deficit and do not meet the minimum funding standard. The impact of the current crisis is also evident in the decline in the number of occupational schemes and in the fall in supplementary pension coverage rates. The number of DB and DC schemes declined in 2010, from 1,307 to 1,108 and 82,939 to 75,183 respectively (Pensions Board, 2011). Reports of high charges and a lack of transparency in the fee structure associated with some pensions have caused concern. A study of the charges applied within the pensions industry is currently underway.

Overall supplementary pension coverage declined from 54% of workers aged 20-69 in Q1 2008 to 51% in Q4 2009. Pension coverage for the self-employed fell from 47% in Q1 2008

to 36% in Q4 2009, while for part-time workers the rate reduced from 32% to 24% in the same time period. In addition, the rapid rise in unemployment in recent years raises further concerns regarding adequacy and sustainability of pensions in the long term.

Reform trends

There have been a number of recent policy reforms initiated in respect of various aspects of the Irish pension system. Some measures were introduced in response to the economic crisis and prior to the publication of the National Pensions Framework (NPF) (Government of Ireland, 2010a). The Framework maps out a range of measures to be taken to enhance the adequacy and sustainability of pensions; it seeks to increase pension coverage especially among low and middle income groups and to ensure that state support for pensions is equitable and sustainable. Some, elements of the reform programme, particularly in respect of public sector pensions, increases in State pension age, and the reform of tax relief arrangements for supplementary pensions were subsequently included in the terms of the EU/IMF loan agreement to Ireland. Notable legislative/policy developments since 2009 include:

National Pensions Reserve Fund (NPRF)[105]:

- Investment of the National Pensions Reserve Fund and Miscellaneous Provisions Act, 2009 – enabled the fund to be used for the purpose of bank re-capitalisation;
- NPRF subsequently included in the conditions attached to the EU/IMF loan agreement.

State Pension Qualification Age:

- Social Welfare and Pensions Act, 2011 – gives effect to the discontinuation of the Transition Pension (currently paid at age 65), effectively increasing the age of eligibility for a state pension to 66 years for all in 2014. The Act further increases the age of eligibility for a state pension to 67 in 2021 and to 68 in 2028.

Public Sector Pensions:

- Financial Emergency Measures in the Public Interest Act 2009 – introduced a new public service pension levy (deduction amounts to 7% on average);
- Financial Emergency Measures in the Public Interest Act 2010 – reduced current public service pension payments (above €12,000 - by 4% on average);
- Public Service Pensions (Single Scheme) and Remuneration Bill 2011 – a single 'career average' based pension to apply to new entrants to the public service, increased retirement age in line with increased qualification age (as above) and indexation linked to CPI.

Supplementary Pensions:

- The Social Welfare and Pensions Act 2009 included a range of measures to assist including - the establishment of the Pensions Insolvency Payment Scheme (PIPS); re-ordering the wind up priorities to remove the priority given to post retirement increases; the introduction of greater flexibility for schemes to restructure; strengthening the role of the Pensions Board by establishing a separate offence for failure by an employers to remit

[105] The National Pensions Reserve Fund was established in 2001, investing 1% of GNP annually to defray future costs associated with public sector and social welfare pensions after 2025.

pension scheme contributions deducted from an employee to the trustees of the scheme and by enhancing the admissibility of documentary evidence; and protection of trustees for breach of trust.

- The Social Welfare and Pensions Act 2011 – introduced sovereign annuities and outlined the process by which these are certified by the Pensions Board.
- Finance Act, 2011 – reduced the following: maximum earnings limit for tax relief on individual pension contributions (to €115,000 p.a.), Standard Fund Threshold (to €2.3m) and the limit on the 'tax-free' lump sum (to €200,000). PSRI (Pay Related Social Insurance) and USC (Universal Social Charge)[106] now applied to all employee contributions (and the PRSI relief for employers was also subsequently abolished in Budget 2012).
- Finance Act No.2, 2011 – introduced a temporary new private pension levy of 0.6% to fund the Jobs Initiative.
- The Occupational Pension Schemes (Disclosure of Information) (Amendment) Regulations, 2012 and The Pensions Act (Register and Database of Certified Policies or Contracts of Assurance) Regulations, 2012 - sets out the obligations on trustees regarding the provision of information and registration related to the recent introduction of sovereign annuities.

A number of changes to the eligibility criteria for the contributory state pension (announced in 1997) come into force for new applicants in 2012. This will effectively double the minimum number of paid contributions required for qualification for the state pension (once this minimum requirement has been satisfied the rate of payment is dependent on the average number of contributions has over their contributory history). Further changes are planned in this area such as introduction of a total contributions approach (replacing the current yearly averaging system) in determining eligibility for the contributory state pension by 2020.

Further planned reforms include deferral arrangements which would allow people who wish to postpone drawing down their State pension and receive an actuarially increased benefit when they decide to retire (with no additional burden on the Exchequer).It is also suggested that the option of making up shortfalls in one's contribution record be available where people continue in employment after the state pension qualification age. More substantial reform of the tax relief on supplementary pensions is also proposed The NPF proposes a new system of auto-enrolment whereby employees would be automatically enrolled into a pension scheme, with matching employer and state contributions. The introduction of this initiative to improve supplementary coverage is contingent on the economic circumstances that prevail. An inter-departmental/agency group is tasked with developing the legislative and other infrastructure required to implement the range of pension reforms.

Another significant policy reform currently in progress is the review of the funding standard to be applied to DB pensions in the future. Schemes are expected to have a period of approximately 10 years to meet the new standard. Legislation to give effect to changes to the revised funding standard is expected in 2012.

A number of representative/interest groups have been active in contributing to debate about the pension system reform overall. Recent comment, policy submissions and debate have surrounded a number of issues including: the imposition of the new private pensions levy, the losses incurred in private pensions, the deficit position of DB schemes, the review of the

[106] The Universal Social Charge has replaced both the income levy and the health levy since 1 January 2011.

funding standard, the potential impact of introduction of sovereign annuities, the rising cost of public service pensions and the implementation of other elements of the NPF especially the impact of reducing the tax relief on supplementary pensions (IAPF, 2011a, 2011b; IBEC, 2011; Older and Bolder, 2010; Society of Actuaries in Ireland, 2010, 2011; TASC, 2010). The role of private pensions into the future is highly contingent on the decisions taken in respect of the policy issues highlighted above (see Stewart 2011 for recent analysis).

The new government, elected in 2011, outlines their commitment 'to progressively achieve universal coverage with particular focus on lower-paid workers, to achieve better risk sharing, and to provide for greater flexibility for those who wish to retire on a phased basis' (Government of Ireland, 2011, p. 55). Pursuit of this objective will be very challenging in the current economic climate but is vital to ensuring the long-term adequacy and sustainability of pensions in Ireland. The Programme for Government also includes a number of other commitments in relation to pensions (public sector pension, taxation).

Assessment of adequacy and sustainability indicators

Current adequacy

It is notable in the Irish case that while progress was made in reducing the risk of poverty or social exclusion under 65 years between 2005 and 2010 as per the EU2020 goal, it has risen to 32.1 % in 2010. There is a possibility that this figure will rise further, particularly when set against the reductions in social welfare payment rates (10% on average) imposed to date (with the exception of state pensions) and renewed inflation expected over the course of 2012.

The at-risk-of-poverty or social exclusion rate for older people in Ireland have improved substantially since the early 2000s and the rate for those aged 65+ has fallen from 17.9% in 2009 to 12.9% in 2010. This is largely attributable to the increases in the real value of social welfare pensions during the 2000s and the subsequent decline in overall average earnings as the crisis took hold. The decision not to reduce the weekly state pension rates has also contributed to the protection of incomes of older people, where the risk of poverty has continued to fall.

The at-risk of poverty rate for persons aged 75+ has improved in line with the broader trend although there remains a higher risk for this group (13.8% in 2010) with women at slightly greater risk (14.5% in 2010) comparing to the rate for men (12.8% in 2010).

In 2010, severe material deprivation (under 65) in Ireland (8.2%) was below the EU-27 average (8.5%) but severe material deprivation was higher in Ireland for women (8.7%) comparing to the average severe material deprivation for women in the EU-27 (8.5%).

While this figure remains below the EU-27 average, the recent upturn points to the need to maintain vigilance with regard to these risks. Closer consider also needs to be given of the position of older people living outside of the household setting (e.g. long-stay care); the specific needs of this group requires further research. In the Irish context for example significant charges (up to 80% of income) are applied in respect of nursing home and residential care (see National Report, 2011 for detailed discussion).

The median relative income ratio of older people has improved in recent years, from 0.63 in 2004 to 0.78 in 2009 although it remains below the EU-27 average (0.88 in 2010). For

women, both in Ireland and in the EU-27, the position is less positive at 0.75[107] and 0.86[108] respectively.

Some of the notable improvements outlined above in respect to the risk of poverty of older people may not be sustained however. The EU/IMF loan agreement stipulates that the nominal value of the state pension is not to rise during the period of the programme; this may over time have the effect of increasing the risk of poverty of this group. In addition, changes to the eligibility criteria for the contributory pension which will be applied to new applicants from 2012 may also impact negatively on the incomes of some older people in the coming years (Age Action, 2012).

Future adequacy

The theoretical replacement rates for Ireland indicate that a notable relative deterioration of living standards is anticipated for older people in 2050. The base case scenario analysis suggests that for the base case of a worker retiring at 65 after 40 years of career at the average wage, net TRR would decrease from 85.8% in 2010 to 69.0% in 2050 (by -16.8 p.p.), whereas gross TRR decreases from 73.1% to 58.6% over the same period (by -14.5 p.p.). The role of the state pension presumably is anticipated to continue to act as a buffer against old age poverty; for those with an uneven work history (due to care responsibilities/unemployment etc.) the consequences are considerable. A -14.5 percentage points difference in the net replacement rate for women (who take 3 years of career break for childcare) between 2010 and 2050, whilst a 3 year period of unemployment is estimated to result in a difference of -12.9 percentage points over the same period. These figures point to the need to urgently address the features of the Irish pension system that give rise to such significant declines in the future replacement rates.

There are a number of key issues in respect of Irish pension system reform made all the more difficult against the current economic backdrop. The sharp increase in the national debt (92.5% of GDP in 2010), the current budget deficit (-31.3% of GDP in 2010) and the terms of the loan agreement to Ireland provides the broader macro-economic context. The unemployment rate has more than trebled since 2007 and remains high at 14.2% in January 2012. 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.

There are a range of issues regarding current adequacy, including:

- Protecting and maintaining the real value of state pensions, especially given their central role in poverty reduction. Reliance on the state pension as the primary income source increases with age; accounting for over 60% of income of 65-74 year olds to 75% of those 75+ (ibid.).
- Addressing the current lack of certainty regarding existing DB schemes, dealing appropriately with actuarial deficits and developing and implementing the revised funding standard.
- Managing the sharp rise in expenditure on public service pensions.
- Developing an appropriate architecture to maximise the equity and sustainability of the proposed auto-enrolment scheme.

[107] 2009
[108] 2010

- Developing the infrastructure required for greater regulation of pension funds and improved transparency in respect of the imposition of charges etc.
- Examining and improving the adequacy of supplementary pension arrangements in terms of access by occupational and income groups, gender, contribution levels etc.
- Developing policy initiatives to deal with the declining employment rate which has fallen by over 9% since 2007 to 60% in 2010. While the decline has been less severe for current workers aged 55-64 (53.8% in 2007 and 50% in 2010), this group also requires attention especially given the relatively short lead-in to the increase in the state pension qualification age (to 66 years in 2014).

Future pension adequacy is equally dependent on tackling the issues raised above.

SUSTAINABILITY

Demography

The old-age dependency ratio[109] (population aged 65 and over as a percentage of the population aged 20-64) in IE is projected to increase from 18.8% in 2010 (EU-27: 28.4%) to 44.4% in 2050 (EU-27: 55.0%) and decrease to 40.9% in 2060 (EU-27: 57.7%).

IE belongs to the group of Member States where the increase in old-age dependency ratio is projected to be below the EU-27 average. Over the period 2010 to 2060, the old-age dependency ratio is projected to increase by 22.1 percentage points (EU-27: 29.2 percentage points).

The emigration from IE is one of the highest in the EU. The net migration is negative (-0.5% of the total population in 2010).

The share of working-age population (15-64) (67.0% of the total population in 2010) is projected to drop by 6.9 percentage points by 2060 (to 60.1% of the total population), compared with 10.7 percentage points for the EU as a whole by 2060.

Employment

The labour market participation rate[110] (15-64) in IE was below the EU-27 average in 2010 (IE: 69.6%, EU-27: 71.1%), and is projected to remain lower also in 2060 (IE: 67.3%, EU-27: 73.8%). Over the period 2010 to 2060, the participation rate of older workers (55-64) is it projected to increase by 9.3 percentage points (from 54.7% in 2010 to 63.9% in 2060), but will be lower than in the EU-27 in 2060 (EU-27: 49.7% in 2010; 66.5% in 2060).

According to the 2012 Ageing Report, employment rate (15-64) is projected to increase from 60.0% in 2010 (EU-27: 64.1%) to 63.5% in 2050 (EU-27: 68.9%) and 63.2% in 2060 (EU-27: 69.0%). The share of older (55-64) in employment is projected to change from 13% in 2010 to 17% in 2060 (EU-27: from 13% in 2010 to 19% in 2060).

The employment rate for older workers (55 to 64 years)[111] in IE in 2010 was above the EU-27 average: 50.2% (58.2% - males, 42.1% - females) versus 46.3% at EU-27 level (54.6% - males, 38.6% - females).

The average effective exit age from the labour force in 2010 was 64.9 (64.4 – for men, 65.8 – for women) and it is above the EU-27 average (62.1 – total, 62.5 – for men, 61.7 – for women).

[109] The 2012 Ageing Report

[110] The 2012 Ageing Report

[111] EUROSTAT

Expenditure

According to the 2012 Ageing Report, the gross public pension expenditure will increase from 7.5% of GDP in 2010 to 11.4% of GDP in 2050 and to 11.7% of GDP in 2060.

In 2010 the gross old-age and early pension expenditure was 5.6% of GDP, well below the EU-27 average of 9.2%. The 2012 Ageing Report projects an increase to 9.4% of GDP by 2050, which remains below the EU-27 projected average of 11.0% of GDP.

Main drivers of pension expenditure

In accordance with the 2012 Ageing Report, the demographic factor has the strongest downward effect (+5.3 p.p. of GDP) on gross public pension expenditure over 2010-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and labour intensity[112]). The coverage ratio (-2.0 p.p.) has lowering effect on pension expenditure. Ireland is one of the two countries (together with the United Kingdom) that project upward pressure on expenditure due to an increasing benefit ratio effect (+0.1p.p.). The employment rate (-0.4 p.p.) has downward effect on public pension expenditure.

[112] As a result of the macroeconomic assumptions used in the projections, the labour intensity contribution has more or less no impact on the change in the pension expenditure/GDP ratio (EU-27 average: +0.1 p.p.). Only Greece, Spain, Luxembourg, Malta and Austria project an increasing effect of 0.1 p.p. of GDP. In all other Member States, the labour intensity effect is negligible.

Background Statistics

	Ireland			EU-27		
Current adequacy (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Median relative income of people 65+ as a ratio of income of people 0-64	86	86	87	88	92	86
Aggregate replacement ratio	47	46	54	53	56	52
At-risk-of-poverty rate: 65-	16,8	16,5	17,0	16,5	16,2	16,8
65+ / 75+	10,6 / 12,1	10,9 / 11,6	10,3 / 12,4	15,9 / 18,0	12,9 / 14,4	18,1 / 20,5
Severe material deprivation: 65-	8,2	7,6	8,7	8,5	8,4	8,5
65+ / 75+	2,7 / 1,8	2,7 / 1,3	2,8 / 2,1	6,4 / 6,5	5,1 / 5,0	7,3 / 7,5
At risk of poverty or social exclusion (EU2020): 65-	32,1	31,2	33,0	24,2	23,5	25,0
65+ / 75+	12.9 / 13,8	13.2 / 12,8	12.7 / 14,5	19,8 / 22,1	16,2 / 17,7	22,6 / 25,0
Income distribution (S80/S20): 65- / 65+	5,5 / 3,9	5,7 / 4,2	5,4 / 3,8	5,2 / 4	5,2 / 4	5,2 / 3,9
Adequacy projections: IE						
Theoretical replacement rates (TRR):	**Net 2010**	**Net 2050**	**Difference**	**Gross2010**	**Gross2050**	**Difference**
40 years career: average income earner (basecase)	85,8	69,0	-16,8	73,1 (38/0/62)*	58,6 (47/0/53)*	-14,5
Low income	99,1	83,8	-15,3	88,3 (48/0/52)*	72,9 (58/0/42)*	-15,4
High income	61,9	49,6	-12,3	46,4 (30/0/70)*	37,1 (38/0/62)*	-9,3
Lower / higher future rates of return		65,4 / 73,3			54/64,2	
Lower / higher future wage growth		75 / 64,5			66,4 / 52,7	
38 years career: average income	82	67,5	-14,5	71,2	56,6	-14,6
Low / high income	96,1 / 60,8	82,4 / 47,7	(-13,7/-13,1)	86,8 / 45,6	70,9 / 35,6	(-15,9/-10)
42 years career: average income	87,7	71,4	-16,3	75,2	61,7	-13,5
Low / high income	99 / 61,4	85,9 / 52,4	(-13 / -9)	89,7 / 47,2	76 / 39,4	(-13,6/-7,8)
10 years after retirement	78,7	65,5	-13,2	66,6	54,1	-12,5
Female worker with 3 years of career break for childcare	81,3	66,8	-14,5	69	55,7	-13,3
3 years of career break for unemployment	79,7	66,8	-12,9	67,1	55,7	-11,4
10 years out of the labour market	74,1	61,8	-12,3	62,3	49,2	-13,1
	2010	**2050**	**Difference**	**EU27 2010**	**EU27 2050**	**Difference**
Benefit ratio (Public pensions)	:	:	:	44,7	37,0	-7,7
Gross replacement rate at retirement (Public pensions)	37,3	38,0	0,7	48,0	39,1	-8,9
	Ireland			**EU-27**		
Current sustainability (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Employment rates: 15-64	60	63,9	56	64,1	70,1	58,2
55-64	50	58,1	42	46,3	54,6	38,6
Effective labour market exit age****	64,9	64,4	65,8	62,1	62,5	61,7
Remaining life expectancy at 65	19,7	16,8	20,0	19,3°	17,2	20,7
Economic old-age dependency ratio[3]	26,9			39,8		
Pension expenditure, %GDP (ESSPROS)	7,3°			13,1°		
Budget balance	-31,3			-6,6		
Public debt	92,5			80,1		
Sustainability projections ***	**Ireland**			**EU-27**		
Old-age dependency ratio**	**2010**	**2020**	**2030**	**2010**	**2020**	**2030**
	19	26	31	28	34	42
	2040	**2050**	**2060**	**2040**	**2050**	**2060**
	37	44	41	50	55	58
	2010	**2050**	**Difference**	**2010**	**2050**	**Difference**
Public pensions, gross (% of GDP)	7,5	11,4	3,9	11,3	12,8	1,5
Old-age and early pensions, gross (% of GDP)	5,6	9,4	3,8	9,2	11,0	1,7

*: Share of statutory DB-NDC / statutory funded / occupational and other supplementary pensions

°: 2009

[1]: 2008

[2]: 2007

[3]: 2006

[4]: Economic old-age dependency ratio (20-64)

: Data not available

** Old-age dependency ratio = Population aged 65 and over as a percentage of the population aged 20-64. Source: The 2012 Ageing Report

***Source: EC-EPC (AWG) 2012 projections

****Source: The 2012 Ageing Report

Italy (IT)

Country profile for the Pension Adequacy Report 2012

General description of the pension system

Public pension provision in Italy is centred on income maintenance for the workforce, but it also includes means-tested "social pensions" for the elderly without sufficient entitlements.

For some time the pension system for the work force has been in transition from a largely single-pillar defined benefit structure towards a multi-pillar defined contribution architecture. Since the 1992-3 and 1995 reforms an increasingly less generous public scheme based on notionally defined contributions has been set to gradually replace the old defined benefit structures. Alongside this a new regulatory framework for funded pensions has aimed to develop supplementary pillars through tax incentives and the voluntary transformation of severance pay schemes (the so called "TFR") into occupational pension plans. But so far favourable provisions including the introduction of a "silent-consent" mechanism for the devolution of TFR contributions to supplementary schemes have failed to produce the desired growth in membership of supplementary funds and total coverage remains modest.

The "old age social allowance" (*assegno sociale*) represents the main solidarity programme, thus constituting the first tier of the public pillar. It is tax-financed and paid – after an income test - to poor elderly over 65 years. The yearly amount for 2012 is EUR 5.577, paid in 13 monthly instalments.

The second tier of the first pillar is PAYGO and provides contributory pensions to those who fulfil contribution requirements. The 1995 reform introduced a NDC system with a very long phasing-in period. The new system only applied fully to people that has entered the labour market after 31 Dec. 1995. The vast majority of workers that have retired over the last 15 years (1996-2011) have therefore received DB pensions calculated with the old and far more favourable rules. This will now change as the latest reform adopted in December 2011 has shortened the phasing-in period.

Though the system is still fragmented along professional lines, the NDC system applies homogenously across the six major pension schemes for: private and public employees, farmers, artisans, dealers-shopkeepers, and "atypical" employees hired as "project workers" (*parasubordinati*). Whereas rules for calculating benefits are standardized, contribution rates of gross earnings vary from 33 % for private employees (32.7 % for public) over 27 % for "project workers" to about 20 % for the self-employed[113]. Due to the NDC logic these differences will be reflected in the pension levels for the various professional categories.

Eligibility criteria based on age and number of contribution years (seniority) has been repeatedly tightened in the last three years and an automatic link with increases in life expectancy has been introduced.

In light of the projected reduction of public pension replacement rates in the period 2010-50 the expansion of coverage and take-up rates of supplementary pensions are thought to be crucial. Presently the main vehicle for such an expansion would be the transformation of TFR severance pay schemes. Employees in the private sector and those in the public sector employed after 2001 are entitled to TFR when they retire or change their employer. Since the TFR is paid in a lump sum only and not necessarily at retirement, it cannot be considered as a

[113] Contribution rates for the self-employed will be gradually increased to 24% as effect of the 2011 reform.

proper supplementary pension scheme, although in past decades it has usually performed old age protection function. However, employees may opt to transfer TFR contributions into funded occupational pension schemes of which there are several types. The "Closed" collectively agreed pension funds (CPF) – as well as the so-called "pre-existing funds" (PEF) (i.e. already operative before the 1993 regulatory framework) – are typical 2nd pillar occupational pensions for specific groups of employees. The "Open" pension funds (OPF) are hybrid institutions comprising both 2nd and 3rd pillar schemes depending on whether affiliation is collective or individual. Finally, the personal pension plans through life insurance contracts (PIP) are pure 3rd pillar schemes.

Reform trends

If reforms passed in 1992-1995 were crucial for the design of the new multi pillar pension architecture and the introduction of the NDC system *in lieu* of the DB system in the first pillar, major measures adopted in 2009-2011 predominantly affected eligibility conditions for old age pensions and early retirement. As in the initial reform phase, recent interventions by the Berlusconi and Monti governments were included in "austerity packages" adopted under pressure from budget constraints and financial markets.

A comprehensive account of the many measures legislated in the last 3 years is beyond the scope of this fiche. But an overview of the key changes is presented in table 1. These have mostly aimed at *raising the pensionable age* in the short to medium term by tightening eligibility conditions and at *regulatory harmonization* between genders, professional categories and generations.

Table 1. Tightening of eligibility conditions for old age pensions and old age social allowance

* First automatic adjustment to change in life expectancy: 3 months

** The actual pensionable age will depend on the automatic link to life expectancy

*** Actual pensionable age can be higher than 67, in accordance with changes in life expectancy

With respect to eligibility requirements for old age pensions, the combined effects of Law 102/09, Law 122/10 and Law 214/11 will entail a significant increase in the pensionable age. The early "exit window mechanism" has been abolished. For women employed in the public sector the pensionable age and other eligibility criteria will be gradually equalised with those for men (complete in 2018). Simultaneously the general pensionable age will be gradually adjusted upwards and thereafter linked to gains in life expectancy. Annual increases by 3 months will start in 2013 and be reviewed every 3 years until 2019, and every 2 years thereafter. 67 years has been set as the minimum pensionable age in 2021 (but it could become higher if justified by gains in life expectancy).

Other conditions must be fulfilled in order to receive an old age pension. Among these, a minimum contribution period of 20 years has been introduced while the possibility of postponing retirement until 70 years may play an important role in maintaining relatively high replacement rates. Also, with respect to adequacy, it is important to note that retirement will be possible only once the pension entitlement is at least 1.5 times higher than the old age social allowance (about €430/month in 2012).

Parallel to interventions on old age pensions Law 214/11 has de facto abolished the so-called seniority pensions (*pensioni di anzianità*). These rules have allowed people to retire before reaching the pensionable age, provided they had a long contributory record (40 years) or met

certain combinations of age and contributory record criteria (60 years for employees, 61 for the self-employed combined with 35 years of paid contributions in 2011).

Table 1. Tightening of eligibility conditions for old age pensions and old age social allowance

Year of retirement	Before austerity packages - 2008	After Law 102/09 & Law 122/10 - 2011	After Law 214/11 - 2012	Standard age for old age pension - 2013*	Projected** standard age for old age pension - 2018	Minimum*** standard age for old age pension - 2021	Projected standard age for old age pension - 2050
Males public sector	65	65	66	66y 3m	66y 7m	67	69y 9m
Males private sector	65	65	66	66y 3m	66y 7m	67	69y 9m
Females public sector	60	61 65 (2012)	66	66y 3m	66y 7m	67	69y 9m
Females private sector	60		62	62y 3m	66y 7m	67	69y 9m
Social allowance	*65*	*65*	*65*	*65 3m*	*66y 7m*	*67*	*69y 9m*

* First automatic adjustment to change in life expectancy: 3 months ** The actual pensionable age will depend on the automatic link to life expectancy *** Actual pensionable age can be higher than 67, in accordance with changes in life expectancy

However, this reform has also introduced the possibility of early retirement (*pensione anticipata*). For workers fully subject to the NDC system – i.e. in the medium to long run – early retirement will be allowed at 63, provided the same contribution requirement as for old age pensions are met (20 years). However, workers will be entitled to retire early only in case their pension amount is at least 2.8 times higher than the old age social allowance. In the short to medium term, workers subject to the NDC system *pro rata* may retire after contributing for 42 years and 1 month (41 and 1 month for women) in 2012. Penalization will be applied in case of retirement before 62. Age and contribution requirements for early retirement are now also linked to changes in life expectancy.

Last but not least, the 2011 reform has made a major step towards a more thorough harmonization of rules across generations by shortening the phasing-in period of the NDC system. Since January 2012 the NDC rules will be applied *pro-rata* (that is for working years after 2011) also to previously exempted workers (those with at least 18 years of contributions in 1995).

As for supplementary funded schemes, it is worth noting that the latest data published by Covip[114] in January 2012 show a small increase (+5.7%) of total members from around 5.3

[114] Covip is the national surveillance authority on pension funds.

million to 5.6 million. This confirms the slowdown registered in membership growth since 2008. Also, the lower capacity of both occupational Closed funds (members: - 0.8% between Dec.10/11) and Open funds (+3.8% only) to attract employees is confirmed. This contrasts sharply with the growth of 3rd pillar personal pension plans based on life insurance contracts (PIPs have + 290,000 members, corresponding to an increase of 25.1% in just one year). In terms of total members (about 1.5 million) PIPs are actually catching up with the Closed funds (2 million), which traditionally has represented the core of supplementary pension provision in Italy[115].

Assessment of adequacy and sustainability indicators

Current adequacy / Future adequacy

The median relative income of people 65+ as a ratio of income of people 0-64 is higher in Italy (92) than in EU-27 (88) and this is confirmed also when the indicator is broken down by sex - 94M-90F in Italy versus 92M-86F in EU-27. A different scenario emerges when turning to poverty risk indicators such as the "at-risk-of-poverty-rate" for people over 65, where Italian figures (16.6 %) are worse than the EU-27 average (15.9 %) and also a gender dimension emerges: Italian women "at-risk-of-poverty-rate" was 19.5 in 2010, much higher than their male counterparts in Italy (12.6 %) and the EU-27 average for women (18.2). The same goes when considering the share of people "at risk of poverty and social exclusion": 20.3 in Italy versus 19.8 in EU-27, with women once again are relatively more disadvantaged (23.7 IT, 22.6 EU-27). These figures are telling of the dual character of the Italian pension system which has traditionally guaranteed robust income maintenance for workers after retirement while providing only modest protection against poverty. The gender issue is the result of such arrangement in combination with the weak labour market attachment of Italian women.

With respect to replacement rates reported in EC (2010), the scenario seems to be fairly favourable as far as pension adequacy is concerned. Theoretical net TRR for the base case were comparatively high in 2008 (88.3) and they are expected to even increase between 2008 and 2048 (+1.6). These figures, however, must be carefully qualified as they may not be representative of Italian workers. They were actually calculated by assuming that in future decades retirement income will derive from the combination of NDC public pensions with supplementary DC benefits, with the latter (more than) compensating the reduction of the former. That is not the case for the vast majority of the Italian workforce because total membership of supplementary pension funds is around 5.5 million out of nearly 22 million employed. This means that if supplementary pillars do not develop further, a broad majority of current workers will rely on public benefits only, with much lower gross as well as net TRR. That is why at the national level there is considerable concern – as well as a broad policy and political debate - on pension adequacy in future decades (see par. 4).

Also variant cases require close inspection. If spells of unemployment are not expected to be detrimental to pension adequacy along the inter-temporal dimension – and the same holds true also for career breaks (NetTRR +1.2) – things change significantly when comparing net TRR in the same year (2048) for base and variant cases: a 10-year career break implies a reduction of the net TRR by almost 20 percentage points (69.1 versus 89.9 for the base case); 3 years of insured unemployment a reduction by 3 p.p. In 2008-48 pension levels seem to be negatively

[115] All data from COVIP (2012).

affected in case of a 3-year career break for childcare purposes (NetTRR -8.1), and the reduction is much higher when compared with the base case in 2048 (-21.8 p.p.).

Based on these considerations, it is not difficult to understand why in the national debate future pension adequacy is an issue though recent reforms aimed at raising pensionable age might contribute to increase gross/net TRR to the extent they also raise employment rates of older workers and the effective retirement age.

In the short term, concerns for adequacy are relatively limited and mostly regard poverty alleviation. The extension of the NDC system to all workers will imply only a minor reduction of pension levels in the next decade as the new system will be applied *pro rata*, that is on a few working years after 2011. Nevertheless, the freezing of pension indexation in 2012-13 (2011 reform) for benefits above €1400/month gross will likely imply a lower purchasing power for a large share of retirees and negative effects on the aggregate replacement ratio that was at the EU-27 average level (53) in 2010. Also, with respect to poverty alleviation, the progressive increase of age requirements to be entitled to the old age social allowance (see above table 1) – as well as to other means-tested social benefits for elderly – will entail a reduction of coverage of poor population which is critical in light of the absence of a general minimum income scheme for the population as a whole.

However, most challenges for pension adequacy concern the long run, that is when the NDC system will be fully applied and income maintenance after retirement should be ensured by the combination of public and supplementary pensions. This seems to be out of reach for the majority of those currently employed – with the consequent negative impact on gross/net TRR. Moreover, the interplay between a segmented labour market and unemployment benefit system (UB) with a NDC (plus DC) pension system may be critical as far as adequate income maintenance in old age is concerned. In the following the major weaknesses will be highlighted.

Though a report by the National Insurance Institute (Patriarca 2011) has correctly suggested that by calculating gross/net TRR on expected pensionable age in future decades (table 1 above) implies higher pension levels (net replacement rate around 80% from public pensions only), these figures – as well as those presented in EC (2010) - are hardly realistic and representative. Because of the still limited extension of supplementary pillars but also due to other factors. These include a weak labour market performance; the exclusive character of the UB system and poor ALMPs; different pension rules for the various professional categories; and the actuarial neutrality of both NDC and DC pensions in combination with the limited redistributive capacity of the first pillar. In brief:

i) The Italian labour market is characterized by a modest performance – in terms of labour market attachment, activity and employment rates – caused by dualization between "standard" and "atypical" workers also implying a generational divide because atypical employment is targeted to youngsters, and even segmentation within the atypical group. Employment rates are well below the EU-27 average (56.9 vs. 64.1 in 2010) and the situation is particularly critical for women (46.1 vs. 58.2 for EU-27) as well as at both ends of the labour market, that is for young (20.5% for those between 15-24) and the elderly (35.7% vs. 46% for the EU-27 in the age bracket 55-64). Unemployment is extremely high (31%) in the age bracket 15-24. Furthermore, various analyses have shown that atypical employment in Italy is less serving as "stepping stone" to regular jobs than elsewhere. Thus, a significant share of the young risk to become "trapped" in atypical employment for several years, also due to scarce investment in ALMPs. Under these conditions, a career length of 40-years as supposed in calculations of TRRs by Patriarca (2011) and the EC (2010) is hardly realistic.

ii) The exclusive character of the UB system, where only 30% of the unemployed received unemployment benefits - and consequently contribution credits for 1st pillar pensions - in 2006, implies a reduction of replacement rates for most workers in case of spells of unemployment. This is relevant in an ever more flexible labour market, with a 20% share of atypical employment, where interrupted careers are becoming the norm.

iii) Calculations of TRRs are based on a theoretical standard employee, thus assuming the payment of full contributions in the first and supplementary pillars. However, contribution rates in the 1st pillar for both project workers and the self-employed are set at a lower level and this turns into much lower pensions in the NDC system. Moreover, especially 'project' workers – but also other "atypical" categories such as fixed-term employees – usually lack resources to contribute to supplementary funded schemes.

A number of pathways to old age security in future decades not only imply reforming the pension system, but also affecting the labour market and changing social protection rules for people of working age.

On the latter front, a more inclusive unemployment benefit system and related (tax-financed) contribution credits would be of utmost importance for atypical workers with discontinuous careers who are currently either not entitled to unemployment benefits (project workers) or find it difficult to fulfil contribution requirements (especially workers on fixed-term contracts). More generally, measures aimed at raising employment rates would be beneficial for old-age security in the future. In particular, supporting the growth of female employment by developing childcare services and reconciliation policies would have positive effects on household income at retirement. This is crucial also in light of the recently legislated measures that, by raising pensionable age, will likely increase labour supply. The open question here is: will labour demand actually match the increased active population?

As for pensions, measures could conceivably be adopted both in the first and supplementary schemes.

In the public system several measures may be envisaged, all requiring – in different forms – more redistribution. This would especially called for in the first pillar, though reducing the purely actuarial and insurance-based character of the NDC system which might not be a fully realistic solution in an age of scarce resources. In line with the Italian tradition the (re)introduction of a means-tested "minimum pension supplement" – set at a higher level than the social allowance – for retirees entitled to old-age contributory benefits who fall below a certain threshold would certainly contribute to adequacy. Alternatively, a progressive (in distributional terms) replacement rate – ensuring proportionally more generous pensions to workers with low earnings – could be envisaged.

Among more limited, incremental measures to be adopted in the short run, project workers would benefit from an increase in contribution and accounting rates to the same level as for standard employees (33 %). This would result in a 25 % increase of pension levels according to simulations by Borella and Segre (2011).

However, for effective income maintenance after retirement, atypical workers – as well as SER-workers – should combine public pensions with supplementary benefits. Here the crucial point is how to expand coverage and increase take-up rates especially among the atypically employed. For some categories of workers – and especially part-timers and workers on fixed-term contracts – if the compulsory devolution of the TFR to pension funds does not seem realistic for political reasons, the president of the Supervisory commission on supplementary pensions (Covip) has suggested a number of strategies. As for immediate measures, the periodical implementation of the silent-consent mechanism for those already employed (as the

latter still operates for workers entering the labour market only) may represent an effective strategy in order to develop supplementary pillars. Yet, this would not help in tackling the most serious situation facing 'project' workers. That is why interventions on the first pillar as well as in other welfare sectors are extremely important for this particular group.

SUSTAINABILITY

Demography

Italian population is slightly older than in the EU on average. The old-age dependency ratio[116] (population aged 65 and over as a percentage of the population aged 20-64) in IT is projected to increase from 33.3% in 2010 (EU-27: 28.4%) to 61.2% in 2050 (EU-27: 55.0%) and 61.6% in 2060 (EU-27: 57.7%).

IT belongs to the group of Member States where the increase in old-age dependency ratio is projected to be below the EU-27 average. Over the period 2010 to 2060, the old-age dependency ratio is projected to increase by 28.3 percentage points (EU-27: 29.2 percentage points).

The share of working-age population (15-64) (65.7% of the total population in 2010) is projected to drop by 9.3 percentage points by 2060 (to 55.9% of the total population), compared with 10.7 percentage points for the EU as a whole by 2060.

Employment

The labour market participation rate[117] (15-64) in IT was below the EU-27 average in 2010 (IT: 62.2%, EU-27: 71.1%), and is projected to remain lower also in 2060 (IT: 66.6 %, EU-27: 73.8%). Over the period 2010 to 2060, the participation rate of older workers (55-64) is it projected to increase by 30.5 percentage points (from 37.8% in 2010 to 68.3% in 2060) and will be higher than in the EU-27 in 2060 (EU-27: 49.7% in 2010; 66.5% in 2060).

According to the 2012 Ageing Report, employment rate (15-64) is projected to increase from 56.9% in 2010 (EU-27: 64.1%) to 61.8% in 2050 (EU-27: 68.9%) and to 61.7% in 2060 (EU-27: 69.0%). The share of older (55-64) in employment is projected to change from 12% in 2010 to 24% in 2060 (EU-27: from 13% in 2010 to 19% in 2060).

The employment rate for older workers (55 to 64 years)[118] in IT in 2010 was below the EU-27 average: 36.6% (47.6% - males, 26.2% - females) versus 46.3% at EU-27 level (54.6% - males, 38.6% - females).

The average effective exit age from the labour force in 2010 was 61.3 (61.4 – for men, 61.1 – for women) and it is below the EU-27 average (62.1 – total, 62.5 – for men, 61.7 – for women).

As long as the old rules apply, disincentives to continue to work are fairly strong. The gradual increase of minimum eligibility requirements for public pensions coupled with new incentive mechanisms are a concerted attempt to encourage work for this particular cohort.

Expenditure

According to the 2012 Ageing Report, the gross public pension expenditure will increase from 15.3% of GDP in 2010 to 15.7% of GDP in 2050, falling back to 14.4% of GDP in 2060.

[116] The 2012 Ageing report

[117] The 2012 Ageing Report

[118] EUROSTAT

In 2010 the gross old-age and early pension expenditure was 12.6% of GDP, above the EU-27 average of 9.2%. The 2012 Ageing Report projects an increase to 13.3% of GDP by 2050, which remains above the EU-27 projected average of 11.0% of GDP.

Main drivers of pension expenditure

In accordance with the 2012 Ageing Report, the demographic factor has the strongest downward effect (+9.5 p.p. of GDP) on gross public pension expenditure over 2010-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and labour intensity[119]). Strong downward effect of the coverage ratio on public pension expenditure is projected in Italy (-5.5p.p.) due to legislated increases in retirement ages. The benefit ratio (-2.9 p.p.) and the employment rate (-1.3p.p.) is lowering the public pension expenditure.

[119] As a result of the macroeconomic assumptions used in the projections, the labour intensity contribution has more or less no impact on the change in the pension expenditure/GDP ratio (EU-27 average: +0.1 p.p.). Only Greece, Spain, Luxembourg, Malta and Austria project an increasing effect of 0.1 p.p. of GDP. In all other Member States, the labour intensity effect is negligible.

Background Statistics

	Italy			EU-27		
Current adequacy (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Median relative income of people 65+ as a ratio of income of people 0-64	92	94	90	88	92	86
Aggregate replacement ratio	53	58	44	53	56	52
At-risk-of-poverty rate: 65-	18,6	17,7	19,5	16,5	16,2	16,8
65+ / 75+	16,6 / 18,5	12,6 / 13,5	19,5 / 21,6	15,9 / 18,0	12,9 / 14,4	18,1 / 20,5
Severe material deprivation: 65-	7,1	7	7,1	8,5	8,4	8,5
65+ / 75+	6,2 / 6,3	5,3 / 4,6	7 / 7,3	6,4 / 6,5	5,1 / 5,0	7,3 / 7,5
At risk of poverty or social exclusion (EU2020): 65-	25,6	24,1	27,0	24,2	23,5	25,0
65+ / 75+	20,3 / 22,3	15,5 / 16,2	23,7 / 26	19,8 / 22,1	16,2 / 17,7	22,6 / 25,0
Income distribution (S80/S20): 65- / 65+	5,5 / 4,2	5,4 / 4,2	5,7 / 4,1	5,2 / 4	5,2 / 4	5,2 / 3,9
Adequacy projections: IT						
Theoretical replacement rates (TRR):	**Net 2010**	**Net 2050**	**Difference**	**Gross2010**	**Gross2050**	**Difference**
40 years career: average income earner (basecase)	89,5	69,1	-20,4	80,2	58,8	-21,4
Low income	89,8	70,5	-19,3	80,2	58,8	-21,4
High income	86,5	55,8	-30,7	76,1	44,5	-31,6
Lower / higher future rates of return		69,1/69,1			58,8/58,8	
Lower / higher future wage growth		81,7/59,8			71,3/49,3	
38 years career: average income	83,4	63,4	-20,0	73,8	52,9	-20,9
Low / high income	84/81,4	65,2/51,2	(-18,8 / -30,2)	73,8/70,3	52,9/40,4	(-20,9 / -29,9)
42 years career: average income	89,3	75,6	-13,7	80	65,6	-14,4
Low / high income	89,6 / 86,7	76,6 / 61,6	(-13 / -25,1)	80 / 76,4	65,6 / 49,8	(-14,4 / -26,6)
10 years after retirement	84,4	60,9	-23,5	74,9	50,3	-24,6
Female worker with 3 years of career break for childcare	78,7	69,6	-9,1	68,3	59,3	-9,0
3 years of career break for unemployment	85,6	76,1	-9,5	81,5	71,8	-9,7
10 years out of the labour market	70,5	55,1	-15,4	60,3	44,3	-16,0
	2010	**2050**	**Difference**	**EU27 2010**	**EU27 2050**	**Difference**
Benefit ratio (Public pensions)	48,5	45,4	-3,1	44,7	37,0	-7,7
Gross replacement rate at retirement (Public pensions)	79,5	66,0	-13,6	48,0	39,1	-8,9
		Italy			EU-27	
Current sustainability (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Employment rates: 15-64	56,9	67,7	46,1	64,1	70,1	58,2
55-64	36,6	47,6	26,2	46,3	54,6	38,6
Effective labour market exit age****	61,3	61,4	61,1	62,1	62,5	61,7
Remaining life expectancy at 65	20,4°	18,1	21,7	19,3°	17,2	20,7
Economic old-age dependency ratio[3]	53,1			39,8		
Pension expenditure, %GDP (ESSPROS)	16°			13,1°		
Budget balance	-4,6			-6,6		
Public debt	118,4			80,1		
Sustainability projections ***		Italy			EU-27	
Old-age dependency ratio**	**2010**	**2020**	**2030**	**2010**	**2020**	**2030**
	33	38	45	28	34	42
	2040	**2050**	**2060**	**2040**	**2050**	**2060**
	56	61	62	50	55	58
	2010	**2050**	**Difference**	**2010**	**2050**	**Difference**
Public pensions, gross (% of GDP)	15,3	15,7	0,4	11,3	12,8	1,5
Old-age and early pensions, gross (% of GDP)	12,6	13,3	0,7	9,2	11,0	1,7

*: Share of statutory DB-NDC / statutory funded / occupational and other supplementary pensions

°: 2009

¹: 2008

²: 2007

3: Economic old-age dependency ratio (20-64)

** Old-age dependency ratio = Population aged 65 and over as a percentage of the population aged 20-64. Source: The 2012 Ageing Report

***Source: EC-EPC (AWG) 2012 projections

****Source: The 2012 Ageing Report

Latvia (LV)

Country profile for the Pension Adequacy Report 2012

General description of the pension system[120]

The statutory pension insurance in Latvia consists of two tiers. The 1st tier pension scheme is designed as an earnings-related, defined-contribution pension scheme, which is financed on a pay-as-you-go basis, but resembles a funded scheme in terms of its construction – a Notional Defined Contribution (NDC) scheme. The conditional pension capital, which is created as the sum of the contributions paid during one's lifetime, is protected against loss of actual value through valorisation (using the wage sum index as the balance mechanism).
Before the economic crisis, valorisation contributed to an increase in the amount of newly granted pensions. Because average earnings and number of contributors decreased in 2009 and 2010, the indexes were below the value of 1, at 0.9622 in 2009 and 0.7978 in 2010. The mechanism automatically reduced newly-granted pensions and the cumulative effect of negative indexes in 2009 and 2010 on the value of notional capital was significant. The average newly granted (only those, to whom the right to old age pension started in the given years) old-age pension amounted to LVL 266.33 in 2009, LVL 242.42 in 2010 and only LVL 157.62 in the first ten months of 2011.[121]

The 2nd pension tier operates according to the accumulation and investment principle. It was voluntary for those born between 2 July1951 and 1 July 1971 and mandatory for younger cohorts. The contribution rate for the 2nd tier funded scheme initially (in 2001) was set at 2% and subsequently was gradually raised to 8% (in 2008). Because the evasion of contributions and a decrease in the contributions base in the wake of the crisis were a serious problem, the contribution rate for the 2nd tier was decreased to the 2% and will remain so until the end of 2012. From 1 January 2013 the rate will be set permanently at 6% (not 10%, as was foreseen previously). So far, privately funded pensions have not played an important role in retirement income or in the economy of the country, their assets constituting 0.9% of GDP.[122]

The 3rd tier provides the possibility of making private savings in pension funds on a voluntary basis.

Reform trends

Until 2009, no substantial changes in the pension system were undertaken, apart from introduction of supplements to old-age pensions on 1st January 2006. The supplements were gradually increased in the following years. After the crisis hit, the revenues in the State Social Insurance Budget decreased considerably.

In reaction the Ministry of Welfare developed a Concept on Long-Term Sustainability of the Social Insurance System.[123] On 17 November 2010 the Concept was accepted as an instruction of the Cabinet of Ministers (On 5 March 2012 the amendments in Concept were

[120] Remark: the data used in this report mainly originates from Eurostat. Where national sources are used, this is noted in the text or in the footnotes.

[121] The State Social Insurance Agency.

[122] OECD 2011 – Pension Markets in Focus – July 2011 – Issue 8.

[123] Concept on Long-term Sustainability of the Social Insurance System (approved as an instruction of the Cabinet of Ministers on 17 November 2010) http://polsis.mk.gov.lv/view.do?id=3518

accepted as an instruction of the Cabinet of Ministers). The Concept envisages changes in social insurance legislation (mostly concerning pensions). Some of the legislative changes have been already implemented, others are planned in the future.

Changes in force:

- Pensions will not be indexed until 2013.
- Since 1 January 2011 the amount of old-age pensions is linked to the contributions actually paid to the State Social Insurance Agency. In December 2011 the Constitutional Court ruled the link between entitlement to social insurance benefits and actual payment of the contributions is in conformity with the Constitution.
- The contribution rate for the 2nd tier (mandatory funded scheme) remains at 2% level until 2013, after which the rate will be increased to 6%.
- The supplements to newly-granted pensions are abolished from 2012.

To be introduced in the future:

- Increase in the pensionable age:

  A gradual increase in the pensionable age has been carried out in Latvia in the past, so that the pensionable age reached 62 years for both men and women in July 2008.

  Now, due to the ageing of society and the difficult budgetary situation, the Government approved a further gradual increase in the pensionable age up to the age of 65 gradually from 2014 to 2020.

  The minimum insurance period to qualify for an old-age pension is currently 10 years. From 2014 it will be extended to 15 years and from 2020 to 20 years.
- Gradual abolition of the rights to favourable entitlement conditions for certain categories of employees and so-called "service" pensions. For example, low age requirements for those working in hard or hazardous working conditions will be abolished, because there are other compensation mechanisms.
- Expenditures unrelated to social insurance will be removed from the social insurance system from 2014**.**

Maintaining long-term sustainability was the main preoccupation of policy makers also in 2011. However, the policy planning documents set no targets for improving the management of funded pension schemes. ISSA points to poor investment performance and shows that all 25 social security funds recorded on average a negative rate of return since the beginning of their operation in July 2001.[124] At the same time the operating costs as a percentage of total assets are high in comparison with the OECD countries (1.9% in Latvia, compared with 0.1% in Denmark, 0.2% in Belgium and 0.4% in Poland, higher costs observed only in Ukraine).[125]

[124] "Crisis country case study – Latvia", ISSA, Geneva, 2010. WB staff, using data from national sources, in: "Pensions in Crisis: Europe and central Asia regional Policy Note", Document of the World Bank, 12 November 2009.

[125] OECD 2011 – Pension Markets in Focus – July 2011 – Issue 8.

Assessment of adequacy and sustainability pension indicators

Current adequacy / Future adequacy

Pensioners[126] are not the group of population the most affected by the crisis. Nevertheless, poverty is widespread in Latvia, also among pensioners.

Several indicators in the EU are used to measure poverty. The aggregate indicator of risk of poverty and social exclusion is based on three sub-indicators: (1) at-risk-of-poverty, which measures relative monetary poverty, (2) severe material deprivation, which is a more absolute measure of poverty, and (3) people living in households with low work intensity (which is not applied to older population). For more analysis, please refer to the Pensions Adequacy Report.

In 2010 the risk of poverty or social exclusion in Latvia at 38.1% for population under the age of 65, was the third highest in the EU after Bulgaria and Romania. This is due to the fact that still more than ¼ of population faces severe material deprivation. Following rapid economic growth, the deprivation rate dropped considerably between 2005 and 2008, but after 2008 the decline was arrested due to the economic crisis.

Latvia also has the highest level of relative monetary poverty: the at-risk-of-poverty rate after social transfers encompasses 21.3% of total population. According to Eurobarometer No. 76, the latest surveys demonstrate a slight improvement in the financial situation of households in Latvia (by 4%) in comparison with the previous year (2010), although it remains far from the EU average.[127]

The risk of poverty or social exclusion rises slightly with age, being the highest in the age group 75 years and over. A large gender gap is also visible, as the rate is especially high for women aged 75+ (44.3% in 2010) in contrast to the rate for men – 30.6%. This is due to the fact that people aged 75 years and over is exposed to a higher risk of severe material deprivation: this applies to 32.6% of women and 25.2% of men, and women aged 75+ are exposed to higher monetary poverty (22.3%, compared to 10.4% of men 75+). Even if no data are available, it can be presumed that no significant changes occurred during 2011 with regard to average income, the growing number of needy people etc.

The median relative income of people aged 65 and over as a ratio of the income of people aged 0–64 (the indicator covers income from pensions and other sources) could be characterised as sufficiently correct: 82% for men and 74% for women. The aggregate replacement ratio, which is a measure of the median individual gross pension (of people aged 65-74) relative to median individual gross earnings (of people aged 50-59), at 45% for men and 50% for women is lower than the EU-27 average.

In July 2011 the average old-age pension (LVL 184,69) was over to the subsistence minimum level (LVL 176,63 LVL). 58% of all old-age pensions are below the subsistence minimum. There is a considerable difference between pensions granted to older pensioners (70+) and those granted during and after the years of growth. As mentioned above, the notional capital in the NDC system is wage sum-indexed and was negatively affected by the significant drop in wages and contributors occurring due to the crisis. In 2009 and 2010 11% of all newly-granted old-age pensions were minimum pensions.[128]

[126] Defined according to the specific pensionable age in Latvia: 62 years and more.

[127] Eurobarometer No.76, http://ec.europa.eu/public_opinion/archives/eb/eb76/eb76_first_en.pdf

[128] Ministry of Welfare, information for the media "Arī nākamajos gados saglabās pašreizējos minimālo pensiju apmērus", 5 December 2011, http://www.lm.gov.lv/news/id/3173

Thus, the difference between the 'old' pensions and the newly-granted pensions (where 'notional capital' is wage sum-indexed) could grow further in the medium term and price indexation might erode the value of benefits for older pensioners as compared to real wages, thus leading to higher at-risk-at poverty.

In the previous years pensioners improved their financial situation by continuing to work after receiving first pension. Now the number of employed pensioners is shrinking each year: in 2008, 18% of all old-age pensioners were employed, whereas in September 2011 only 10.2% of all pensioners (62+) were employed.

The overall unemployment rate, although it has decreased notably (from 23.9% at the end of 2009 to 14.8% in September 2011), still remains high, which influences the employment level of older workers, too. In 2009 employment rate in the group 55-59 was at 67.2%. Now the situation has changed significantly. Not only pensioners, but also many people in pre-retirement age are jobless. In 2010, 47.6% of men and 48.7% of women aged 55-64 were in employment.

Sustainability and adequacy of pension system can be also negatively affected by adverse demographic changes. The natural growth has been negative over the recent years and the population is decreasing. According to the data of the Central Statistical Bureau (CSB) Latvia had 2.28 million people in 2011,[129] but the provisional results of the spring 2011 population census give a number closer to 2 million. Some independent researchers estimate that in recent years Latvia lost 200 thousand inhabitants due to international long-term migration[130] (13 thousand persons according to the CSB).

For the base case of a worker retiring at 65 after 40 years of career at the average wage, the net replacement rate (NRR) would fall from 80.4% in 2010 to 55.3% in 2050, whereas the gross replacement rate (GRR) declines from 63.9% to 43.6% over the same period. This means drops of 25.1 p.p. (NRR) and 20.3 p.p. (GRR) in the next 40 years. People with higher incomes will suffer smaller decreases in NRR than low-wage earners: respectively 17.2 p.p. and 28.3 p.p. in 40 years.

The decrease is due to the fact that the new system combines NDC and DC components with the in-built automatic adjustment mechanisms. For instance, the value of pension benefit takes into account a life expectancy adjustment factor putting the longevity risk fully onto the individual. Meanwhile, the remaining life expectancy at 65 in Latvia was projected to increase by 7.1 years for men and 5.2 years for women between 2010 and 2060. [131]

The drops in replacement rates would occur not only for the base case male worker retiring at 65 after 40 years career, but also for the "variant" cases careers. Individual decisions to work longer could help preserve the level of the NRR in the future. According to calculations the NRR is projected to reach 61.2% for those who intend to retire in 2050 at the age of 67 with 42 year contributory period.

For people with 40-year careers, the shares of the funded scheme (DC) are expected to increase considerably from 0% to 39% of the gross replacement rate in 2050, reflecting maturation of the funded scheme.

[129] http://www.csb.gov.lv/statistikas-temas/iedzivotaji-galvenie-raditaji-30260.html

[130] Hazans: emigrācijas rezultātā Latvija zaudējusi 100 miljardus latu, Db.lv, 10 November 2011, http://www.db.lv/finanses/makroekonomika/hazans-emigracijas-del-latvija-zaudejusi-100-miljardus-latu-247967?

[131] Data of the Ministry of Welfare and CSB.

SUSTAINABILITY

Demography

The old-age dependency ratio[132] (population aged 65 and over as a percentage of the population aged 20-64) in LV is projected to increase from 27.6% in 2010 (EU-27: 28.4%) to 59.4% in 2050 (EU-27: 55.0%) and 74.1% in 2060 (EU-27: 57.7%).

LV belongs to the group of Member States where the increase in old-age dependency ratio is projected to be above the EU-27 average. LV will be one of the fastest ageing countries in the EU. Over the period 2010 to 2060, the old-age dependency ratio is projected to increase by 46.5 percentage points (EU-27: 29.2 percentage points).

LV will be one of the fastest ageing countries in the EU. The share of working-age population (15-64) (68.9% of the total population in 2010) is projected to drop by 16.4 percentage points by 2060 (to 52.5% of the total population), compared with 10.7 percentage points for the EU as a whole by 2060.

Employment

The labour market participation rate[133] (15-64) in LV was above the EU-27 average in 2010 (LV: 73.7%, EU-27: 71.1%), and is projected to remain higher also in 2060 (LV: 76.9%, EU-27: 73.8%). Over the period 2010 to 2060, the participation rate of older workers (55-64) is it projected to increase by 7.5 percentage points (from 57.1% in 2010 to 64.7% in 2060), but will be lower than in the EU-27 in 2060 (EU-27: 49.7% in 2010; 66.5% in 2060).

According to the 2012 Ageing Report, employment rate (15-64) is projected to increase from 59.7% in 2010 (EU-27: 64.1%) to 69.7% in 2050 (EU-27: 68.9%) and to 71.3% in 2060 (EU-27: 69.0%). The share of older (55-64) in employment is projected to change from 14% in 2010 to 17% in 2060 (EU-27: from 13% in 2010 to 19% in 2060).

The employment rate for older workers (55 to 64 years)[134] in LV in 2010 was above the EU-27 average: 48.2% (47.6% - males, 48.7% - females) versus 46.3% at EU-27 level (54.6% - males, 38.6% - females).

The average effective exit age from the labour force in 2010 was 63.3 (63.6 – for men, 63.2 – for women) and it is above the EU-27 average (62.1 – total, 62.5 – for men, 61.7 – for women).

Expenditure

According to the 2012 Ageing Report, the gross public pension expenditure will increase from 9.7% of GDP in 2010 to 6.4% of GDP in 2050 and to 5.9% of GDP in 2060.

In 2010 the gross old-age and early pension expenditure was 8.7% of GDP, below the EU-27 average of 9.2%. The 2012 Ageing Report projects a decrease to 5.9% of GDP by 2050, which remains below the EU-27 projected average of 11.0% of GDP.

Main drivers of pension expenditure

In accordance with the 2012 Ageing Report, the demographic factor has the strongest downward effect (+7.0 p.p. of GDP) on gross public pension expenditure over 2010-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage

[132] The 2012 Ageing Report
[133] The 2012 Ageing Report
[134] EUROSTAT

ratio, employment rate, benefit ratio and labour intensity[135]). Latvia projects a strong downward pressure on expenditure due to an increasing benefit ratio effect (-6.8 p.p.). There is a lowering effect of coverage ratio (-1.9 p.p.) and employment rate (-1.2 p.p.) on the public pension expenditure.

[135] Increasing the intensity of work, i.e. working more hours per day, could have a decreasing effect on the public pension expenditure over GDP comparable to the effect of higher employment rates (yet, not in terms of size). However, the contribution of the labour intensity effect to a decrease in public pension expenditure is only marginal, due to the macroeconomic assumption of unchanged per capita-hours worked by gender and age.

Background Statistics

	Latvia			EU-27		
Current adequacy (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Median relative income of people 65+ as a ratio of income of people 0-64	77	82	74	88	92	86
Aggregate replacement ratio	46	45	50	53	56	52
At-risk-of-poverty rate: 65-	21,8	22,9	20,9	16,5	16,2	16,8
65+ / 75+	18,8 / 19	12,9 / 10,4	21,6 / 22,3	15,9 / 18,0	12,9 / 14,4	18,1 / 20,5
Severe material deprivation: 65-	27,4	27,4	27,4	8,5	8,4	8,5
65+ / 75+	27,5 / 30,5	22,4 / 25,2	29,9 / 32,6	6,4 / 6,5	5,1 / 5,0	7,3 / 7,5
At risk of poverty or social exclusion (EU2020): 65-	38,1	38,6	37,7	24,2	23,5	25,0
65+ / 75+	37,7 / 40,5	29,5 / 30,6	41,6 / 44,3	19,8 / 22,1	16,2 / 17,7	22,6 / 25,0
Income distribution (S80/S20): 65- / 65+	7,7 / 3,9	8,3 / 3,7	7,3 / 3,9	5,2 / 4	5,2 / 4	5,2 / 3,9
Adequacy projections: LV						
Theoretical replacement rates (TRR):	**Net 2010**	**Net 2050**	**Difference**	**Gross2010**	**Gross2050**	**Difference**
40 years career: average income earner (basecase)	80,4	55,3	-25,1	63,9 (100/0/0)*	43,6 (61/39/0)*	-20,3
Low income	86,8	58,5	-28,3	63,9 (100/0/0)*	43,6 (61/39/0)*	-20,3
High income	57	39,8	-17,2	47,5 (100/0/0)*	32,8 (61/39/0)*	-14,7
Lower / higher future rates of return		52,8 / 58,3			41,2 / 46,5	
Lower / higher future wage growth		59,5 / 52,2			47,7 / 40,5	
38 years career: average income	65,9	50,2	-15,7	48,2	38,6	-9,6
Low / high income	65,6 / 46,7	51,7 / 35,9	(-13,9/-10,8)	48,2 / 36,2	38,6 / 29	(-9,6/-7,2)
42 years career: average income	77,6	61,2	-16,4	58,3	49,4	-8,9
Low / high income	82 / 54,9	65 / 44,3	(-17/-10,6)	58,3 / 43	49,4 / 37,1	(-8,9/-5,9)
10 years after retirement	68,8	47,5	-21,3	51,1	35,9	-15,2
Female worker with 3 years of career break for childcare	56,8	44,8	-12,0	40,3	33,2	-7,1
3 years of career break for unemployment	59,4	44,9	-14,5	42,3	33,4	-8,9
10 years out of the labour market	63,5	43,7	-19,8	47,5	32,2	-15,3
	2010	**2050**	**Difference**	**EU27 2010**	**EU27 2050**	**Difference**
Benefit ratio (Public pensions)	:	:	:	44,7	37,0	-7,7
Gross replacement rate at retirement (Public pensions)	48,2	15,8	-32,4	48,0	39,1	-8,9
	Latvia			EU-27		
Current sustainability (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Employment rates: 15-64	59,3	59,2	59,4	64,1	70,1	58,2
55-64	48,2	47,6	48,7	46,3	54,6	38,6
Effective labour market exit age****	63,3	63,6	63,2	62,1	62,5	61,7
Remaining life expectancy at 65	16,3	13,5	18,1	19,3°	17,2	20,7
Economic old-age dependency ratio[3]	40,0			39,8		
Pension expenditure, %GDP (ESSPROS)	8,4°			13,1°		
Budget balance	-8,3			-6,6		
Public debt	44,7			80,1		
Sustainability projections ***	Latvia			EU-27		
Old-age dependency ratio**	**2010**	**2020**	**2030**	**2010**	**2020**	**2030**
	28	31	40	28	34	42
	2040	**2050**	**2060**	**2040**	**2050**	**2060**
	47	59	74	50	55	58
	2010	**2050**	**Difference**	**2010**	**2050**	**Difference**
Public pensions, gross (% of GDP)	9,7	6,4	-3,3	11,3	12,8	1,5
Old-age and early pensions, gross (% of GDP)	8,7	5,9	-2,8	9,2	11,0	1,7

*: Share of statutory DB-NDC / statutory funded / occupational and other supplementary pensions

°: 2009

[1]: 2008

[2]: 2007

[3]: Economic old-age dependency ratio (20-64)

: Data not available

** Old-age dependency ratio = Population aged 65 and over as a percentage of the population aged 20-64. Source: The 2012 Ageing Report

***Source: EC-EPC (AWG) 2012 projections

****Source: The 2012 Ageing Report

Lithuania (LT)

Country profile for the Pension Adequacy Report 2012

General description of the pension system

Lithuania's statutory social insurance pension system consists primarily of two tiers: the State pay-as-you-go defined-benefit scheme and a mandatory funded defined-contribution scheme. This is complemented with a universal non-contributory social pension, and a voluntary fully funded defined-contribution scheme.

The State social insurance pension (first tier) was reformed in 1995 with introduction of a flat rate basic pension, pension supplement (introduced in 2007) and a supplementary part depending on the years of service, individual wage and average insurable income in the country. The disability pension is designed and calculated in the same way as old-age pension. Years of insurance missing to full retirement are granted for a disabled person. Orphan's pension is related to deceased parent's pension. The widow's pension is flat rate. The system is contributory, consisting of 23.3% of gross wage paid by the employer and 3% by the employee (data as of 2012). This contribution covers old age, inability to work and survivors' social insurance pensions.

The mandatory funded pension scheme (second tier) was introduced in 2004. Participation is actually voluntary though irreversible. The scheme is based on defined-contribution principle and financed by a fraction of the social insurance contribution (5.5% of gross wage by 2007, reduced to 3% in January, later to 2% in July 2009, and 1.5% from 2012 with a legislated promise to increase the rate to 2.5% from 2013). At retirement, the participant has to purchase a pension annuity (annuity is not obligatory if the amount of monthly benefit is below 50% of basic pension).

Supplementary voluntary pension provision also exists but its take-up remains marginal at 0.16% of the labour force (2011). The number of participants has increased by 8.8% in 2011. It is possible to establish occupational pension schemes though none have been created yet despite the fact that a special "Law on Funded Occupational Pensions" has been adopted in 2006.

Those not having the minimum qualifying period for entitlement to social insurance pensions may receive a social assistance pension. In 2006 its coverage was extended to all elderly and disabled without entitlements (or with benefits below assistance pension level) in the social insurance system. Lithuania also has a non-contributory State pensions system which grants additional pensions for some professional groups (military, police, judges, etc.)

The pensionable age was set at 62.5 years for men and 60 for women until the end of 2011. Starting from 2012, it is increased by 2 months per year for men and 4 months per year for women up to 65 in 2026.

The qualifying period to receive full social insurance basic pension is 30 years (a minimum qualifying period being 15 years), with a full year consisting of at least 12 minimum monthly salaries. In a case when a person has less than 30 years of insurance, the flat-rate part is proportionally reduced; for each year of insurance above 30 years the 3% of basic pension supplement is paid.

An early retirement pension scheme was introduced for the long-term unemployed in 2004. Under that scheme pensions are reduced by 0.4% for every full month remaining until the

retirement age and the reduced pension is indexed in line with other pensions, starting from the reduced level. Staying longer in the labour force (and not claiming pension benefits) is rewarded by a pension bonus of 8% per year of longer working.

The new pension legislation adopted in June 2011 has expanded the opportunity for early retirement, as it will no longer be limited to long-term unemployed. Though early retirement scheme in Lithuania is less popular than in other countries (about 1.8% of all old-age pensions at the beginning of 2011), the number of such pensioners is climbing up (from 1.1 % of all old-age pensions at the beginning of 2009) and this poses an additional pressure on the State Social Insurance Fund, undermines the attempts to promote active ageing and creates an additional challenge for the adequacy of pensions.

Reform trends

There were no essential pension reforms introduced between 2009 and 2011, apart from the decision to increase statutory retirement age up to 65 by 2026. Other ad hoc changes were adopted in the wake of the severe recession. In 2009, in order to improve financial viability of social insurance pension system the transfer rate from pay-as-you-go into the funded system was reduced, a new, more expensive (adopted in 2008) pension calculation rule was postponed and obligatory pension insurance was extended to additional groups of self-employed.

As these measures were insufficient and indebtedness of the pension system was growing, a decision to reduce pensions was taken in 2010. Pension reduction was realised in a progressive way with proportionally bigger reductions of higher pensions. Pensions of working pensioners were reduced to a smaller extent than those of non-working retirees. The original 2009 pension values have been restored in 2012 and the underpayment difference is to be refunded in the future.

Despite the modest recovery of the economy in 2010-2011 and the reduction of pensions, the Social Insurance Fund recorded a deficit of LTL 2.74 billion in 2010 and LTL 2.1 billion in 2011 (this also corresponds to other benefits than pensions). Further deficit of LTL 2.3 billion is approved for 2012. In consequence, the total debt at the end of the year is expected to reach about LTL 9 billion (EUR 2.6 billion) and will exceed the yearly pension expenditures by about LTL 1 billion.

The deficit was an unquestionable argument for a reform of the pension system and many options were intensively discussed by the Government, the Parliament and different stakeholders (Medaiskis 2011). As a result two important documents were drafted: *Concept of Social Insurance and Pensions System Reform* (approved by the Government on 15 June, 2010) and *Guidelines of Social Insurance and Pensions System Reform* (approved by the Parliament on 24 May, 2011). Both documents are not yet integrated into the present pension legislation (except the increase in pensionable age). There is also a risk that the ruling coalition will not have enough time to implement the reforms before the elections in autumn 2012.

The *Guidelines* declare the necessity to create a more viable and transparent pension system which also ensures adequate benefits. Among the main foreseen measures are *inter alia*:

- new calculation of pensions with a strict dependence on full life contributions (supported with assistance from non-contributory sources): NDC or "pension points" alternatives of calculation should be evaluated;

- shift of financing of basic pension into general taxation, leaving only supplementary (earnings-related) part of pension on contributory basis;
- introduction of pension incentives to work longer, applying flexible retirement age;
- establishing clear rules of pension indexation.

The *Guidelines* also foresee certain improvements of the funded system, e.g. increasing efficiency of the system, reducing the risk of investment, lowering the fees paid by participant, etc.

It should also be mentioned that the importance and role of the funded system has been diminished, partly due to unsuccessful performance of the funds in the last years. Though the promises to restore 5.5% contribution rates into the funded system are not formally withdrawn, in June 2011 the Government proposed a so called "2+2+2" approach: only 2% contribution rate (of obligatory pension contribution) supplemented by 2% voluntarily paid by the plan member and an additional 2% of country average wage granted by State and transferred into personal account in the funded system. This proposition was not yet approved by the Parliament.

Assessment of adequacy and sustainability pension indicator

Current adequacy / Future adequacy

Adequacy indicators show a relatively good income situation of people above 65 years in 2010. The median relative income of older people (65+) is not much lower than the median income of population 0-64 (there is only an 8% difference).

Several indicators in the EU are used to measure poverty. The aggregate indicator of risk of poverty and social exclusion is based on three sub-indicators: (1) at-risk-of-poverty, which measures relative monetary poverty, (2) severe material deprivation, which is a more absolute measure of poverty, and (3) people living in households with low work intensity (which is not applied to older population). For more analysis, please refer to the Pensions Adequacy Report.

In 2010 the risk of poverty or social exclusion in Lithuania at 34.1% for population over the age of 65, was the fifth highest in the EU. This is due to the fact that still almost ¼ of the elderly population faces severe material deprivation. Following rapid economic growth, the deprivation rate dropped considerably between 2005 and 2008, but after 2008 the decline was arrested due to the economic crisis.

In 2010 the at-risk-of-poverty rate, which measures relative income poverty, was much lower than the corresponding total rates of the population. As there is one year time lag in data reporting in the EU-SILC database, the 2010 data represent the situation in 2009. It is important to note that the household income of the population has dropped down by 15.9% in 2009, but pensions were not reduced (Lithuanian Department of Statistics, 2011a, p.19). This extraordinary situation contributed to a reduction in the thresholds of poverty and resulted in an exceptional decrease of relative poverty rate of elderly (see Table 1). This also explains why median relative income of people above 65 jumped up from 72.5% in the previous year to 92% in 2010 (as compared with median relative income of people younger than 65). In the same time the indicator of material deprivation reflects a slight worsening of living standards of the elderly, increasing from 18.6% in 2009 to 23.7% in 2010 (65 years and older).

Table 1: At-risk-of-poverty rate (%)

Year	2006	2007	2008	2009	2010
Younger than 65	19,6	17,2	18,2	19,7	22,1
65 and above	22,0	29,8	29,5	25,2	10,2

Source: Eurostat database. SILC [ilc_li02]

The relatively good pensions' adequacy indicators of the year 2010 are exceptional because they are based on the data of a year when household's income dropped down considerably, while pensions were not reduced. The cost of this "improvement" in adequacy seems to be unaffordable in the medium-term. This is the reason why pensions' adequacy should be also evaluated in the light of the earlier data. The situation of females above 65 and especially those above 75 years old should be mentioned as one of the serious challenges of the current pension policy.

It should also be mentioned that the situation of women despite relative "statistical" improvement remains worse than the situation of men, especially in terms of at poverty risk for women above 75 (the rate is 1.5% for men and 13.4% for women). The data of the previous years show that the risk of poverty of the male population above 65 years was lower than the country average, and of the female – much higher (Medaiskis et al, 2011, p.3). Having in mind that pensions were reduced in 2010, it is highly probable that it will be reflected in worsening of the adequacy indicators in 2011 and 2012.

The challenges in the long-run arise from the two main sources: population ageing (common for the EU) and intense emigration of workforce (this aspect is more specific for Lithuania). These factors have important financial impact on pension finances. If strict obligatory rules of pensions' indexation will not be legislated and implemented, shortage in financing will necessary result in a decrease of pensioners' living standards.

Low fertility rates are the main reason of population ageing in Lithuania. A few years ago the rate was at 1.3 children per woman and in the last two years increased to 1.55. Despite recent state support for families, it is doubtful whether improvement in fertility will remain permanent. It is also important to mention that the remaining life expectancy at age 65 has not changed considerably in recent years: since 2000 it has remained more or less stable for men at 13.5 years and has slightly increased from 17.8 to 18.3 years for women (Lithuanian Department of Statistics, 2011b, p.135).

According to the recent data, 83 and 54 thousand Lithuanian citizens emigrated abroad in 2010 and 2011 (5% and 3.3% of labour force respectively). Some of the emigrants come back, but the loss of people in working age who contribute to pension system affects its sustainability (Lithuanian Department of Statistics, 2012, p.55).

For the base case of a worker retiring at 65 after 40 years of career at the average wage, net replacement rate (NRR) would fall from 61.5% in 2010 to 60.3% in 2050, whereas the gross replacement rate (GRR) declines from 47.7% to 47.1% over the same period. This means drops of 1.2 p.p. (NRR) and 0.6 p.p. (GRR) in the next 40 years.

The shares of the funded scheme are expected to increase from 4% to 13% of the gross replacement rate. This reflects maturation of the funded scheme (and no increase in the contribution rate as was proposed by some policy makers). The scale of the negative effects of career breaks due to unemployment and childcare on replacement rates, reflect the basic contributory principle of the current system. A stronger link between contributions and

benefits introduced in the future (as proposed in the *Guidelines*) could lead to a decrease in these replacement rates.

SUSTAINABILITY

Demography

The old-age dependency ratio[136] (population aged 65 and over as a percentage of the population aged 20-64) in LT is projected to increase from 26.1% in 2010 (EU-27: 28.4%) to 51.8% in 2050 (EU-27: 55.0%) and 62.4% in 2060 (EU-27: 57.7%).

LT belongs to the group of Member States where the increase in old-age dependency ratio is projected to be above the EU-27 average. Over the period 2010 to 2060, the old-age dependency ratio is projected to increase by 36.4 percentage points (EU-27: 29.2 percentage points).

LT will be one of the fastest ageing countries in the EU. The share of working-age population (15-64) (68.9% of the total population in 2010) is projected to drop by 13.8 percentage points by 2060 (to 55.0% of the total population), compared with 10.7 percentage points for the EU as a whole by 2060.

The emigration from LT is one of the highest in the EU. The net migration is negative (-0.4% of the total population in 2010) and is projected to stay negative until 2025 (-0.1% of the total population).

Employment

The labour market participation rate[137] (15-64) in LT was below the EU-27 average in 2010 (LT: 71.0%, EU-27: 71.1%), and is projected to remain lower also in 2060 (LT: 73.0%, EU-27: 73.8%). Over the period 2010 to 2060, the participation rate of older workers (55-64) is it projected to increase by 9.7 percentage points (from 56.5% in 2010 to 66.1% in 2060) but will be lower than in the EU-27 in 2060 (EU-27: 49.7% in 2010; 66.5% in 2060).

According to the 2012 Ageing Report, employment rate (15-64) is projected to increase from 58.2% in 2010 (EU-27: 64.1%) to 67.8% in 2050 (EU-27: 68.9%) and decrease to 67.7% in 2060 (EU-27: 69.0%). The share of older (55-64) in employment is projected to change from 13% in 2010 to 18% in 2060 (EU-27: from 13% in 2010 to 19% in 2060).

The employment rate for older workers (55 to 64 years)[138] in LT in 2010 was above the EU-27 average: 48.6% (52.3% - males, 45.8% - females) versus 46.3% at EU-27 level (54.6% - males, 38.6% - females).

The average effective exit age from the labour force in 2010 was 62.3 (63.2 – for men, 61.5 – for women) and it is slightly above the EU-27 average (62.1 – total, 62.5 – for men, 61.7 – for women).

Expenditure

According to the 2012 Ageing Report, the gross public pension expenditure will increase from 8.6% of GDP in 2010 to 10.8% of GDP in 2050 and to 12.1% of DGP in 2060.

In 2010 the gross old-age and early pension expenditure was 6.2% of GDP, below the EU-27 average of 9.2%. The 2012 Ageing Report projects an increase to 8.5% of GDP by 2050, which remains below the EU-27 projected average of 11.0% of GDP.

[136] The 2012 Ageing Report

[137] The 2012 Ageing Report

[138] EUROSTAT

Main drivers of pension expenditure

In accordance with the 2012 Ageing Report, the demographic factor has the strongest downward effect (+8.2 p.p. of GDP) on gross public pension expenditure over 2010-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and labour intensity[139]). The coverage ratio has a lowering effect on public pension expenditure (-2.9 p.p.). Lithuania projects downward pressure on expenditure due to an increasing benefit ratio effect (-0.2 p.p.).There is a lowering effect of employment rate (-1.1 p.p.) on the public pension expenditure.

[139] As a result of the macroeconomic assumptions used in the projections, the labour intensity contribution has more or less no impact on the change in the pension expenditure/GDP ratio (EU-27 average: +0.1 p.p.). Only Greece, Spain, Luxembourg, Malta and Austria project an increasing effect of 0.1 p.p. of GDP. In all other Member States, the labour intensity effect is negligible.

Background Statistics

	Lithuania			EU-27		
Current adequacy (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Median relative income of people 65+ as a ratio of income of people 0-64	92	101	89	88	92	86
Aggregate replacement ratio	60	62	59	53	56	52
At-risk-of-poverty rate: 65-	22,1	22,3	21,9	16,5	16,2	16,8
65+ / 75+	10,2 / 9,9	8,1 / 1,5	11,2 / 13,4	15,9 / 18,0	12,9 / 14,4	18,1 / 20,5
Severe material deprivation: 65-	18,7	19,4	18,1	8,5	8,4	8,5
65+ / 75+	23,7 / 24	20,7 / 20,6	25,3 / 25,4	6,4 / 6,5	5,1 / 5,0	7,3 / 7,5
At risk of poverty or social exclusion (EU2020): 65-	34,1	34,0	34,1	24,2	23,5	25,0
65+ / 75+	30 / 30,8	24,7 / 22	32,6 / 34,5	19,8 / 22,1	16,2 / 17,7	22,6 / 25,0
Income distribution (S80/S20): 65- / 65+	8,2 / 3,6	8,9 / 3,9	7,7 / 3,5	5,2 / 4	5,2 / 4	5,2 / 3,9
Adequacy projections: LT						
Theoretical replacement rates (TRR):	**Net 2010**	**Net 2050**	**Difference**	**Gross2010**	**Gross2050**	**Difference**
40 years career: average income earner (basecase)	61,5	60,3	-1,2	47,7 (96/4/0)*	47,1 (87/13/0)*	-0,6
Low income	78,9	74,7	-4,2	63,1 (97/3/0)*	60,2 (90/10/0)*	-2,9
High income	39,2	38,1	-1,1	29,8 (94/6/0)*	29,1 (84/16/0)*	-0,7
Lower / higher future rates of return		59 / 62			46,3 / 48,2	
Lower / higher future wage growth		62,2 / 58,9			48,6 / 46	
38 years career: average income	54,4	52,3	-2,1	40,7	40,8	0,1
Low / high income	67,6 / 36,9	64,7 / 33	(-2,9 / -3,9)	52,3 / 26,8	52,1 / 25,2	(-0,2 / -1,6)
42 years career: average income	76,8	72,5	-4,3	59,7	56,7	-3,0
Low / high income	95,7 / 51,1	89,9 / 45,8	(-5,8 / -5,3)	76,8 / 38,8	72,5 / 34,9	(-4,3 / -3,9)
10 years after retirement	67,6	58,6	-9,0	52,6	45,7	-6,9
Female worker with 3 years of career break for childcare	49,8	58,6	8,8	36,3	45,8	9,5
3 years of career break for unemployment	51,1	56,1	5,0	38,2	43,8	5,6
10 years out of the labour market	48	46,2	-1,8	37,3	36,1	-1,2
	2010	**2050**	**Difference**	**EU27 2010**	**EU27 2050**	**Difference**
Benefit ratio (Public pensions)	38,7	34,9	-3,7	44,7	37,0	-7,7
Gross replacement rate at retirement (Public pensions)	38,2	35,7	-2,5	48,0	39,1	-8,9
	Lithuania			**EU-27**		
Current sustainability (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Employment rates: 15-64	57,8	56,8	58,7	64,1	70,1	58,2
55-64	48,6	52,3	45,8	46,3	54,6	38,6
Effective labour market exit age****	62,3	63,2	61,5	62,1	62,5	61,7
Remaining life expectancy at 65	16,4	13,5	18,4	19,3°	17,2	20,7
Economic old-age dependency ratio[3]	38,7			39,8		
Pension expenditure, %GDP (ESSPROS)	9,6°			13,1°		
Budget balance	-7			-6,6		
Public debt	38			80,1		
Sustainability projections ***	**Lithuania**			**EU-27**		
Old-age dependency ratio**	**2010**	**2020**	**2030**	**2010**	**2020**	**2030**
	26	29	39	28	34	42
	2040	**2050**	**2060**	**2040**	**2050**	**2060**
	46	52	62	50	55	58
	2010	**2050**	**Difference**	**2010**	**2050**	**Difference**
Public pensions, gross (% of GDP)	8,6	10,8	2,1	11,3	12,8	1,5
Old-age and early pensions, gross (% of GDP)	6,2	8,5	2,3	9,2	11,0	1,7

*: Share of statutory DB-NDC / statutory funded / occupational and other supplementary pensions

°: 2009

¹: 2008

²: 2007

³: 2006

[3]: Economic old-age dependency ratio (20-64)

** Old-age dependency ratio = Population aged 65 and over as a percentage of the population aged 20-64. Source: The 2012 Ageing Report

***Source: EC-EPC (AWG) 2012 projections

****Source: The 2012 Ageing Report

Luxembourg (LU)

Country profile for the Pension Adequacy Report 2012

General description of the pension system

The public pension system in Luxembourg is divided into a general scheme for private sector employees and the self-employed as well as a special scheme for civil servants and other public sector employees. Both systems are organised as pay-as-you-go (PAYG) systems and, together, cover the whole of economically active society on a mandatory basis. The civil servants' scheme, despite being harmonised with the general scheme as regards contributions and determination of benefits, is still kept separate.

Pension benefits are provided to the insured based on the length and accumulated amount of lifetime contributions. In addition the system grants survivors' and invalidity benefits.

The financial model of the public system is based on a contribution rate, which is always fixed for a period of seven years, a government participation of one third of the individual pension contribution, and a reserve fund for compensation. The contributions are paid in equal shares of 8% of gross salary by employers, employees and the state. Over the last decades, Luxembourg has enjoyed a period of continuous economic growth, which, along with a large influx of cross-border workers, has built a very solid economic basis for the pension fund. By the end of 2010 the pension system was able to accumulate a large reserve of 3.8 times yearly expenditure, which equalled 27% of GDP[140].

The old-age pension formula is composed of three major shares that are paid all together in one-twelfth instalments:

- A lump sum of 23.5% of the minimum income for up to 40 years of an insurance career as well as an end-of-year allowance of EUR 1.67 per year (at index 100), both taking into account the periods of contributions and recognised non-contributable pension periods (studies, child-raising, etc.). Under the current index level (as of 1 January 2012), the lump sum element (for 40 pension years) equates to EUR 423+ EUR 58 = EUR 481 per month.[141]
- An accrual rate of 1.85% of the sum of lifetime contributable wages and income;
- An additional increase of 0.01% of the accrual for each eligible pension year beyond the age of 55 on the one hand, and exceeding 38 eligible pension years on the other (combined up to a total maximum of 2.05%).

Pension benefits are calculated on both length of contributions and the accumulated lifetime amount[142] and are linked to two indices, a consumer-price and a wage index. Price-linking becomes automatic as pensions directly follow increases in the consumer-price index. If the six-monthly cost-of-living index exceeds the index for the preceding period by 2.5%, an index-linked increase is made to pensions the following month. The last automatic adjustment of the price index became effective from 1 October 2011 (+2.5%). Wage indexation of pension benefits is done bi-annually by means of a specific law. Every two years the

[140] IGSS 2011, 195.

[141] Social parameters, valuable as of 1 January 2012, www.mss.public.lu.

[142] Accrued benefit rights also encompass periods of involuntary unemployment and temporary work-incapacity due to illness and accidents.

government proposes to the Chamber of Deputies an appropriate wage indexation that takes into account the financial resources of the pension scheme and the evolution of the average level of wages and income. The wage index, also called the adjustment factor, is added to the price-index, but be calculated by a separate procedure.

The public pension system guarantees a minimum pension at a level of 90% of minimum income in case of completion of 40 eligible pension years, or a proportion of that amount otherwise.[143] This minimum pension (of which the maximum amount equals EUR 1,621 in January 2012) is paid for an insurance career of at least 20 years, but then proportionally reduced by 1/40 for each missing year below 40. In 2010, the average gross pension amounted to EUR 1,974 per month for men and EUR 1,283 for women. These figures are somewhat misleading, as almost 50% of it represents partial pensions that are subject to international transfers according to European social security coordination under Regulation 883/2004/EC. In comparison, for the same year, the average gross pension of male residents was equal to EUR 3,102 per month [144].

In order to become eligible for a pension at the age of 65, a minimum of 10 contributable years have to be met. Early retirement is possible from the age of 60 by fulfilling a total of 40 pensionable or eligible years with a minimum of 10 mandatory insurance years. Under certain circumstances, a person can already qualify for early retirement from the age of 57 as soon as the professional career amounts to the minimum of 40 mandatory pension insurance years.

In periods of unemployment, the benefits are subject to pension contributions, of which two thirds are paid by the state and one third by the beneficiary. The unemployment period is included in the qualifying periods. Baby-years are also credited as insured time, counting as qualifying period, with two years for one and four years for two children. Pensionable earnings are based on pay immediately before the baby years. Employees who could not claim baby-years due to an insufficient contribution period have the right to a special monthly allowance in retirement, the so-called "Mammerent", of EUR 87 per child per year.[145] As of 2011, payment of the latter is postponed to as of the age of 65 (previously 60).[146]

The second and third pension tiers play an increasing but still marginal role in Luxembourg. Based on an estimated overall contributory amount of EUR 4,386 million in 2010 to all pension systems together[147], the public system alone represents 91.83 % of all pension contributions, followed by the supplementary company-based pension plan with 6.65%. Almost exclusively, the latter are provided by group insurance policies. Direct pension commitments and pension funds play only a marginal role. Private insurance-based plans, as the third pension tier, enjoy a constant increase (9% in 2010), but with a total of 1.53% of all annual pension contributions, they still remain insignificant. [148]

[143] Art. 223 of the Social Security Code (CSS).

[144] IGSS 2011, 185-186.

[145] Social parameters, valuable as of 1st January 2011, www.mss.public.lu.

[146] Law of 16 December 2010, Memorial A236, 3909.

[147] IGSS 2011, 193; Commissariat aux Assurances, 2011, 101; own calculation. The public system includes both the general public pension system and the special civil servant scheme. As any information for the second tier is only available for 2003, the increase in contributions between 2003 and 2009 has been set equivalent to the increase in the number of supplementary pension plans, a method that is also used by Wictor 2009.

[148] Wictor 2009, 8. Commissariat aux Assurances, 2011, 101.

Reform trends

During the first wave of the international financial and economic crisis, Luxembourg's long-lasting period of considerable economic expansion came to an end. Since then, continuous debates on necessary austerity measures to keep both the pension system and the public budget in balance have dominated political affairs.

In July 2009, right from the start of the legislative period, the current government announced the development of a strategy for a pension reform guided by principles of linking active working life to longevity, ensuring equity of disposable income between the working population and pensioners, guaranteeing an adequate level of pensions and avoiding poverty among pension beneficiaries.[149]

A temporary remedy was found for the controversial wage indexation policy of pensions, which in 2011 was once more subject to strong criticism by the International Monetary Fund (IMF)[150]. By means of a particular law, the calculated wage increase for 2011 (+1.9%) was staggered over two years, and was thus awarded at +0.95% from the beginning of the years 2011 and 2012 respectively.[151] The increase for 2007 had already been staggered over two years, 1.0% in July 2007 and 0.9% in July 2008. In addition, the law of 31 January 2012[152] temporarily modified the price index mechanisms for wages and pensions for the period until 2014. It stipulates postponement of the next index adjustment to 1 October 2012 (which under constant legislation would have been due as of March 2012) and to introduce a minimum space of 12 month for any subsequent adjustment. After that period, the automatic price-index mechanism will be re-established, without, however, compensating for any loss of intermediate adjustments that might result from these temporary measures. In the recent past four similar postponements have been made. The index adjustment for June 2006 was postponed to December 2006, the July 2007 adaptation was made applicable in March 2008, the July 2008 adaptation was postponed to March 2009 and the May 2011 adaptation was applied in October 2011.

On March 17, 2011, the government put forward a pension reform proposal, which after another year of negotiations with the social partners, resulted in the creation of a draft bill on pension reform, which was deposited on 31 January 2012 at the Chamber of Deputies[153].

The concept lays its main emphasis on a moderate adjustment of the pension formula, which foresees a lower replacement rate after 40 years of contribution, but gives room for amplification if the pensioner decides to remain in the labour market for further three years. The proposal, however, keeps the current configuration of benefits unchanged. Its macro-economic assumptions are built on an underlying demographic and financial model with continuing constant annual 3% growth of the Luxembourg economy, workforce growth of 1.5%, productivity growth of 1.5% and net yield of the reserve fund of 3%.[154] Admittedly, these projections are much more cautious than the 2011 mid-term provisions until 2014, which portrayed an annual growth of GDP (+3.5%) and of workforce (+2%).[155]

[149] Government of the Grand-Duchy of Luxembourg, July 2009, 122-125.

[150] IMF 2011, 14; IMF 2011a, 3. The IMF described the wage indexation as backward looking and recommended limiting the pension benefit indexation to no more than cost of living adjustments.

[151] Law of 17 December 2010, Memorial A236, 3911.

[152] Law of 31 January 2012, Memorial A16, 224.

[153] Government of the Grand-Duchy of Luxembourg 2012.

[154] Government of the Grand-Duchy of Luxembourg 2012, 31 and 37

[155] Statec 2011a, 7.

As a cornerstone of the reform bill, the future value of certain parameters will be made conditional on the wealth of the pension scheme. Once the balance of current revenues and expenditures turn negative, a scenario that is expected as of 2022, the end-of-life allowance will be abolished and, in addition, the contribution rate can be raised with a maximum binding period of 5 years.

In addition, the wage index applicable on pensions, defined in the reform by a new readjustment factor, will be reduced by at least the half of the wage increase. The present adjustment mechanism of pensions on real wage evolution does not only act on the level of the pension stock, but also defines the level of new pensions. Contributory career is recorded in wage level of the reference year (1984). For this purpose, current contributory income is reduced to the wage level in the reference year by applying an adjustment coefficient. At the moment of retirement, the valorisation of wages recorded in the career is done by applying an adjustment factor which should adjust wages in the career to the level of wages in the total economy at the moment of retirement. The same adjustment factor is also applied to adjust current pension benefits to the wage evolution.

The pension reforms tend to disentangle both mechanisms. The present adjustment factor intervening in the valorisation process at the moment of the computation of the new pension and defined as a new revalorisation factor will be fixed in line with wage evolution in order to maintain future replacement rates at constant levels. On the other hand, the new readjustment factor, is reduced to at least 50% if contributory income does not cover pension expenditure.

Other reform issues, equally largely parametric, are as follows: [156]

- The lump-sum element of the annual pension, based on a percentage of the minimum income, should be increased from 23.5 to 26%. Together with a (for the time being) unchanged end-of-year allowance it will lead to a nominal increase of EUR 45 (from 481 to 526) at current prices and will thus be particularly beneficial for low-income earners.
- In contrast, the pro-rata enhancement as a percentage of the sum of lifetime contributable wages is supposed to be lowered from 1.85% to (ultimately) 1.6%. This measure will lower the replacement rate (limited to this factor) after 40 contributable years from 75 to 65%.
- Further, this reduction can optionally be compensated through additional pro-rata points for prolongation of a fictive 100 age points, composed of the sum of age and eligible contributory pension years, of which each additional age point (age plus pension year) will bring 0.05 percentage points (from currently 0.02) for each age point above 93 (sum of years above 55 years of age and 38 eligible pension years).
- Eligibility criteria will largely remain unchanged (minimum pension at a level of 90% of minimum income in case of completion of 40 years, and minimum qualification for early retirement from the age of 57). However, supplementary employment during retirement will be simplified. In the future, only those additional revenues above the previous annual average salary will result in partial benefit cuts. Finally, the number of years spent studying, which will count as non-contributory complementary pension years, is proposed to be lowered from currently 9 to a maximum of 7.

The proposed change of the pension formula is considered a soft measure to increase the retirement age. It remains up to each person (and, admittedly, his/her job opportunities) either

[156] Government of the Grand-Duchy of Luxembourg (2012), 42-52.

to accept the reduction or to prolong the working career by at least three years in order to end up with the same level of pension as today with 40 eligible pension years. Otherwise, the reduction will amount up to 15% of the current pension level, but the full effects will only be experienced by those who enter the labour market by 2013.

On the second and third pension tiers, there is ample room for measures aiming at the enhancement of private pension plans to increase pension income. A study on a new national provident fund is under way, which aims at analysing the access to a second tier pension scheme for those population groups for which no such offer yet exists (civil servants, self-employed and employees not covered by a second tier scheme).[157]

Assessment of adequacy and sustainability indicators

Current adequacy / Future adequacy

With regard to the risk of impoverishment, Luxembourg pensioners are in a very favourable situation. In 2009, the at-risk-of-poverty rate for the population of 65+, at only 6%, was on the EU baseline and nearly two thirds below the EU 27 average (17.8%). They only show minor deviation from the prospects for 2010 (Luxembourg 5.9% vs. EU-27: 15.9%). For the population of 75+ the situation is quite similar (Luxembourg 5.3% vs. EU-27: 20% in 2009). The risk of poverty for the elderly is less than 40% as high as the average for the country's population below 65 (15.8% in 2010). The risk of poverty among the elderly has even decreased since 2003, and is much lower than for the working age population.

This economic situation for the elderly may be explained by the following factors:

- Generous pension benefits, including minimum pensions, which grant at least 90% of the minimum salary for a full pension career.
- Compulsory membership of the social security system that avoids penalising the self-employed, people with interrupted careers and other insecurities.[158]
- A guaranteed minimum income of monthly EUR 1,283 in 2012 and a yearly tax credit of EUR 300 equally apply to the elderly.
- Long-term care insurance grants generous long-term care benefits with almost no co-payments.
- The elderly spend a relative low share of disposable income on housing, as roughly 85% of the population aged 65 or over are owner-occupiers.[159]
- A particular situation of migration with a high share of non-national residents (43% in 2010)[160] does not apply to the elderly (only 15%). The fact that migrant workers have both shorter careers in Luxembourg and, on average, less income than the autochthonous resident population, may lead to the assumption that those who return in old age to their home countries receive pensions below the average of the resident pensioner population.[161] This phenomenon further reduces the number at risk of poverty among the elderly.

In 2010, the pension system showed a gross replacement rate of 87% for an average-earner retiring after a 40-years contribution, which places Luxembourg together with Iceland, Greece and the Netherlands at the top end of all EU countries[162] at a significant distance from the

[157] Source: IGSS.
[158] Clément 2009.
[159] Zahlen 2011, 2.
[160] Statec 2011
[161] Schronen and Urbé 2011, 282.
[162] OECD 2011, 129-135.

neighbouring countries France (49%), Germany and Belgium (both 42%). By including the voluntary private pension strands, the two latter reach 59% and 58% respectively. An additional OECD indicator, called "Gross pension wealth by earnings", expresses the total amount of pensions received over the pension period in relation to the gross average annual income during the professional career. According to this indicator, a Luxembourg average-earner receives a total pension income of 21.2 times the average of his gross annual salary during the professional career. Comparisons with the EU-27 average (10.2 times), France (9.3), Germany (7.7) and Belgium (6.8) require no further explanations.[163]

The long-term sustainability of the pension system is far from being secured. Luxembourg is in the group of Member States where the increase in public pension expenditure is projected to be very significant.

As of 2022, the combination of demographic and structural changes will bring the sustainability of the Luxembourg pension system into a precarious situation. By then, the effects of labour-induced immigration and cross-border commuting will attain a high level of maturity. It will fall together with a significant increase in number of pensioners as well as the transfer of pensions outside Luxembourg, as the group of cross-border workers starts to retire en masse.[164] Thus, the balance of current revenues and expenses will also turn negative and as of 2029, the currently huge reserve is expected to fall below the minimum level of 1.5 times annual contributions.

The ISG-TRR assumptions comply fully with the Ageing Working Group (AWG) assumptions, and in special with the AWG constant-policy scenario. Recurring AWG projection exercises downgraded economic growth of Luxembourg constantly: if in 2006 average growth rate over the period 2010-2050 was about 3.1%, this level reduced to 2.7% in the 2009 projection exercise and to 2.1% in the present projection. Whereas macroeconomic assumptions in the 2006 and 2009 AWG projection exercise were in line with the national reference growth scenario of 3%, present growth scenario is sensibly lower. Taking into account that the average economic growth of Luxembourg over the period 1980-2010 was 4.3%, the present macroeconomic projection scenario has to be considered being the worst-case scenario for Luxembourg.

For the base case of a worker retiring at 65 after 40 years of career at the average wage, net TRR would fall from 99.9% in 2010 to 83.0% in 2050 (by -16.9 p.p.), whereas gross TRR decreases from 91.2% to 71.7% over the same period (by -19.5 p.p.).

In this respect the 2012 AWG pension projections assume that the adjustment mechanism will be modulated once the financial resources of the general pension scheme are insufficient. AWG projection results show that pension expenditures exceed contribution income by 2020 and that the general pension scheme pension fund will run out of money by 2030. In accordance with article 225 of the Code of social security, current pension expenditure projections assume that the adjustment mechanism will only act partly to the evolution of the average level of wages once financial resources are insufficient. Taking account of the extreme pessimistic macroeconomic assumptions in the projection exercise, a full abolition of this mechanism could also be justified. In order not to produce optimistic projection results regarding future pension expenditure evolution it was decided to limit the pension adjustment mechanism to 50% of the wage evolution from 2019 onwards, in line with government decision behaviour over the period 2006-2012. Therefore new pension benefit, as well as pension stock expenditure evolution will be impacted.

[163] OECD 2011, 143.

[164] Schronen and Urbé 2011, 282.

SUSTAINABILITY

Demography

The old-age dependency ratio (population aged 65 and over as a percentage of the population aged 20-64) in LU is projected to increase from 22.3% in 2010 (EU-27: 28.4%) to 46.0% in 2050 (EU-27: 55.0%) and 49.5% in 2060 (EU-27: 57.7%).

LU belongs to the group of Member States where the increase in old-age dependency ratio is projected to be below the EU-27 average. Over the period 2010 to 2060, the old-age dependency ratio is projected to increase by 27.1 percentage points (EU-27: 29.2 percentage points).

The share of working-age population (15-64) (68.4% of the total population in 2010) is projected to drop by 9.9 percentage points by 2060 (to 58.5% of the total population), compared with 10.7 percentage points for the EU as a whole by 2060.

Employment

The labour market participation rate[165] (15-64) in LU was below the EU-27 average in 2010 (LU: 67.9%, EU-27: 71.1%), and is projected to decrease and remain lower also in 2060 (LU: 67.5%, EU-27: 73.8%). Over the period 2010 to 2060, the participation rate of older workers (55-64) is it projected to increase by 1.5 percentage points (from 40.1% in 2010 to 41.6% in 2060) and will stay lower than in the EU-27 (EU-27: 49.7% in 2010; 66.5% in 2060).

According to the 2012 Ageing Report, employment rate (15-64) is projected to decrease from 64.9% in 2010 (EU-27: 64.1%) to 64.7% in 2050 (EU-27: 68.9%) and to 64.6% in 2060 (EU-27: 69.0%). The share of older (55-64) in employment is projected to change from 10% in 2010 to 13% in 2060 (EU-27: from 13% in 2010 to 19% in 2060).

The employment rate for older workers (55 to 64 years)[166] in LU in 2010 was below the EU-27 average: 39.6% (47.7% - males, 31.3% - females) versus 46.3% at EU-27 level (54.6% - males, 38.6% - females).

The average effective exit age from the labour force in 2010 was 60.0 (59.5 – for men, 60.5 – for women) and it is below the EU-27 average (62.1 – total, 62.5 – for men, 61.7 – for women).

Expenditure

According to the 2012 Ageing Report, the gross public pension expenditure will increase from 9.2% of GDP in 2010 to 18.1% of GDP in 2050 and to 18.6% of DGP in 2060.

In 2010 the gross old-age and early pension expenditure was 5.2% of GDP, well below the EU-27 average of 9.2%. The 2012 Ageing Report projects an increase to 14.3% of GDP by 2050, which is above the EU-27 projected average of 11.0% of GDP.

Main drivers of pension expenditure

In accordance with the 2012 Ageing Report the demographic factor has the strongest downward effect (+11.2 p.p. of GDP) on gross public pension expenditure over 2010-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and labour intensity167). The benefit ratio has a lowering

[165] The 2012 Ageing Report
[166] EUROSTAT
[167] As a result of the macroeconomic assumptions used in the projections, the labour intensity contribution has more or less no impact on the change in the pension expenditure/GDP ratio (EU-27 average: +0.1 p.p.). Only

effect (-2.1 p.p.) on public pension expenditure. The employment rate (+0.1 p.p.) and the coverage ratio (+0.3 p.p.) increase the public pension expenditure. [168]

Greece, Spain, Luxembourg, Malta and Austria project an increasing effect of 0.1 p.p. of GDP. In all other Member States, the labour intensity effect is negligible.

[168] As cross-border workers in Luxembourg are not covered in the labour force projections for the pension projection exercise, a deeper analysis of the employment effect contribution as well as the coverage ratio contribution is not meaningful.

Background Statistics

	Luxembourg			EU-27		
Current adequacy (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Median relative income of people 65+ as a ratio of income of people 0-64	105	106	105	88	92	86
Aggregate replacement ratio	68	65	74	53	56	52
At-risk-of-poverty rate: 65-	15,8	15,8	15,8	16,5	16,2	16,8
65+ / 75+	5,9 / 6,7	5,5 / 6,3	6,3 / 7	15,9 / 18,0	12,9 / 14,4	18,1 / 20,5
Severe material deprivation: 65-	0,6	0,4	0,8	8,5	8,4	8,5
65+ / 75+	0,1 / 0	0 / 0	0,2 / 0	6,4 / 6,5	5,1 / 5,0	7,3 / 7,5
At risk of poverty or social exclusion (EU2020): 65-	18,7	17,9	19,6	24,2	23,5	25,0
65+ / 75+	6,1 / 6,7	5,5 / 6,3	6,5 / 7	19,8 / 22,1	16,2 / 17,7	22,6 / 25,0
Income distribution (S80/S20): 65- / 65+	4,3 / 3,2	4,4 / 3,6	4,1 / 3	5,2 / 4	5,2 / 4	5,2 / 3,9
Adequacy projections: LU						
Theoretical replacement rates (TRR):	**Net 2010**	**Net 2050**	**Difference**	**Gross2010**	**Gross2050**	**Difference**
40 years career: average income earner (basecase)	99,9	83,0	-16,9	91,2 (100/0/0)*	71,7 (100/0/0)*	-19,5
Low income	105,6	86,4	-19,2	97,6 (100/0/0)*	76,9 (100/0/0)*	-20,7
High income	77,7	64,9	-12,8	65,5 (100/0/0)*	51,4 (100/0/0)*	-14,1
Lower / higher future rates of return		83,0/83,0			71,7/71,7	
Lower / higher future wage growth		83,0/83,0			71,7/71,7	
38 years career: average income	95,4	78,9	-16,5	85,7	67,4	-18,3
Low / high income	100,6 / 73,9	82,2 / 61,9	(-18,4 / -12)	92,0 / 61,3	72,5 / 48,2	(-19,5 / -13,1)
42 years career: average income	99,9	83,0	-16,9	91,2	71,7	-19,5
Low / high income	105,6/77,7	86,4 / 64,9	(-19,2 / -12,8)	97,6 / 65,6	76,9 / 51,4	(-20,7 / -14,2)
10 years after retirement	99,9	78,3	-21,6	91,2	66,6	-24,6
Female worker with 3 years of career break for childcare	99,9	83,0	-16,9	91,2	71,7	-19,5
3 years of career break for unemployment	97	80,4	-16,6	87,7	68,9	-18,8
10 years out of the labour market	86,9	71,5	-15,4	76,0	59,7	-16,3
	2010	**2050**	**Difference**	**EU27 2010**	**EU27 2050**	**Difference**
Benefit ratio (Public pensions)	58,7	53,7	-5,0	44,7	37,0	-7,7
Gross replacement rate at retirement (Public pensions)	78,3	63,2	-15,1	48,0	39,1	-8,9
	Luxembourg			**EU-27**		
Current sustainability (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Employment rates: 15-64	65,2	73,1	57,2	64,1	70,1	58,2
55-64	39,6	47,7	31,3	46,3	54,6	38,6
Effective labour market exit age****	60,0	59,5	60,5	62,1	62,5	61,7
Remaining life expectancy at 65	19,6	17,3	21,1	19,3°	17,2	20,7
Economic old-age dependency ratio[3]	31,0			39,8		
Pension expenditure, %GDP (ESSPROS)	9,5°			13,1°		
Budget balance	-1,1			-6,6		
Public debt	19,1			80,1		
Sustainability projections ***	**Luxembourg**			**EU-27**		
Old-age dependency ratio**	**2010**	**2020**	**2030**	**2010**	**2020**	**2030**
	22	25	33	28	34	42
	2040	**2050**	**2060**	**2040**	**2050**	**2060**
	41	46	49	50	55	58
	2010	**2050**	**Difference**	**2010**	**2050**	**Difference**
Public pensions, gross (% of GDP)	9,2	18,1	9,0	11,3	12,8	1,5
Old-age and early pensions, gross (% of GDP)	6,2	14,3	8,1	9,2	11,0	1,7

*: Share of statutory DB-NDC / statutory funded / occupational and other supplementary pensions

°: 2009

¹: 2008

²: 2007

3: Economic old-age dependency ratio (20-64)

** Old-age dependency ratio = Population aged 65 and over as a percentage of the population aged 20-64. Source: The 2012 Ageing Report

***Source: EC-EPC (AWG) 2012 projections

****Source: The 2012 Ageing Report

Malta (MT)

Country profile for the Pension Adequacy Report 2012

General description of the pension system

In Malta, public pension provision consists of mandatory earnings related pension scheme, financed on pay as you go basis, which provides old-age pensions, survivor's benefits and invalidity pensions. The scheme is supported by a means-tested (non-contributory) welfare programme. The entire population is covered under either the contributory or non-contributory pension schemes.

The contributory public pension system is classified as an unfunded, defined-benefit scheme. The system operates exclusively on a first pillar Pay-As-You-Go (PAYG) basis. The benefit formula for the persons born before 1 January 1962 is calculated as two-thirds of the average income of the best three consecutive years during the last ten years increasing to thirteen years prior to retirement, after a contribution period of 30 years. For self-employed people the income averaging period is extended to the last ten years. Maximum earning amount to be used for pension calculation was 16,813 euros in 2009 and 17,116 euros in 2010, however this cap is set to be progressively increased in the future as a result of 2006 pension reform.

Under the class one system, the contribution payable by employees and employers represents 10 % of the basic weekly wage matched by the State contributions equivalent to 50 % of the total amount paid by both employee and employer. Contributions are payable by all persons between age 16 and their pension age. Contributions are also payable by pensioners in gainful employment that retired after 5 of January 2008. Pensioners who retired earlier than this date are allowed to work without prejudicing their pension rights in the ages of 61 years to 65 years without paying social security contributions, subject to a ceiling on earnings equivalent to the national minimum wage. For this group, ceiling on earnings is removed at age of 65 years and no further contributions are due. Under the class two systems, a self-employed worker pays a contribution based on their total net income, with a maximum rate of 15%. Contributions may be credited to a person under certain circumstances, such as during sickness, unemployment, widowhood, invalidity and career breaks for up to a maximum period of 2 years.

The system offers a generous benefit to contribution ratio resulting in a theoretical 66% replacement rate out of a 20% contribution rate. Higher income levels are excluded from this system by means of ceilings, expressed in absolute terms, on contribution and pension levels. These offer better replacement rates to lower income earners while containing the financial cost of the system. In the past two decades, however, the ceilings have restrained the living standards of pensioners while not fending off excessive pressures on its cost.

There are no provisions that provide for anticipated old-age pension and early retirement due to labour market reasons. The invalidity pension for employed and self-employed persons is awarded to persons[169] who are suffering from a medical condition (which according to the

[169] These persons must have at least paid 250 contributions. Such persons must be incapable for work (suffering from their medical condition) for at least six months prior to their claim and in continuous employment and/or registering for work for at least one year. This waiting period does not apply in the case of sudden severe or terminally-ill persons. There are eight rates of Invalidity Pension according to the yearly average of contributions paid and/or credited and the civil status of the claimant. These rates are not related to the salary earned while in employment.

medical board of the Social Security Department) renders them as permanently incapable for any full-time and/or any part-time employment. The Maltese Government introduced changes to regime regulating the award of the invalidity pensions and the review procedure. The new regime was implemented over the course of 2007 after the necessary legislative and organisational changes were instituted. These measures introduced a new medical review process for this benefit and measures included (i) change in the application format; (ii) change in the current medical panel system; (iii) an establishment of specific medical criteria for the award of benefits; and (iv) an establishment of an independent systems audit.

Occupational pension schemes and personal pension provisions are still in a very nascent stage of development in Malta although occupational schemes did exist before the introduction of the "Two-Thirds-Pension" in 1979.

In fact, the Retirement Pensions Act (Cap. 514) of 2011 has been approved by the House of Representatives, but has not yet come into force. This Act allows for the licensing of retirement schemes in Malta. Retirement schemes may take the form of either a defined benefit or defined contribution and may be either occupational or personal retirement schemes. This legislation lays down the requirements for the application, granting of a licence and prudential supervision of service providers. Service providers are offering one or more services to retirement schemes and include: retirement schemes administrators, custodians, and investment managers. Moreover, this Act allows for the recognition of persons providing back-office administrative activities which do not constitute as a licensable activity under this legislation. In Malta, the requirements of the Institutions for Occupational Retirement Provision (IORP) Directive have been transposed through this legislation. This Act is expected to provide the regulatory framework for establishing retirement schemes in the eventuality that the Maltese Government introduces second pillar pensions as well as the regulatory framework for third pillar pensions.

Reform trends

Following an extensive national consultation and discussion period, the Maltese Government has implemented in 2006 a vast reform programme to improve the financial sustainability and adequacy of the pensions system. The Government has opted for the phased implementation of the reform, giving the priority first to overhaul the parameters of the public pension scheme.

The key reform measures include:

- The gradual increase in retirement ages for females and males from the current 61 years (in 2012), to 62 years in 2014 reaching 65 years of age by 2026;
- The progressive increase in the contribution period to be entitled to the full two-thirds pension is gradually lengthened, to reach 40 years by 2026 as opposed to the current 30 years;
- The calculation base will be the yearly average income during the best ten years within the last 40 years, and will be the same for all born after 1961;
- The guaranteed national minimum pension, currently based on the national minimum wage, will be calculated at a rate of 60% of the national median income, representing a higher rate than presently and offering a minimum that enhances the overall adequacy of pensions;
- The maximum pension income is to increase to € 20,970 by 2014. Pension benefits are to be calculated in a way that keeps track of increases in national average wages and inflation at 30% and 70%, respectively;

- Amendments were made to the "contributions credit system" by introducing credits for children together with provisions encouraging work beyond the new statutory retirement age (to curb early exit from the labour market);
- Five yearly reports were also scheduled to elaborate on results obtained by the system. The first of these reports, to contain recommendations concerning adaptations and ameliorations, was scheduled for 2010.

The first five yearly review of the pension system took place in 2010. The Pensions Working Group presented 45 additional recommendations to ensure pension sustainability and adequacy so as to pave the way for the second phase of the reform. Some of these recommendations made are still under consideration. However, some measures such as crediting of social security contributions for child rearing have been legislated and implemented.

At present there are no voluntary or mandatory third pillar private pension schemes. There are a number of voluntary long term savings products (that do not provide incentives to save); however the latter are not pension products.

Assessment of adequacy and sustainability indicators

Current adequacy / Future adequacy

An analysis of the at 'risk of poverty or exclusion' for different age cohorts reveals that Malta has lower poverty rates than the EU-27 within the -65 age cohort, due to the relatively lower unemployment rate[170] when compared to the EU-27 average. But this does not hold for the age 65 plus cohort where in 2010; the people aged 65 plus at 'risk of poverty or exclusion' in Malta stood at 21.9% compared to an EU-27 average of 19.8%. However, Malta has registered positive development in the recent years i.e. a decline from 26.4% in 2008 to 21.9% in 2010. This stems from the 'at risk of poverty indicator' (ARPR) since material deprivation indicators fare well with the rest of the EU. The typically lower female participation rate in the labour market corresponding to this age cohort results in one earnings related pension that has to be shared between both married persons. Due to the higher life expectancy amongst females relative to that of males, the at-risk-of-poverty rate diminishes substantially for women within the 75+ age cohort, since widows typically continue to receive five-sixths of their husband's pension. This makes widows financially better off compared to married retired couples on a per capita basis. Therefore, counter to the tendency in the EU, Maltese females aged 65+ are in a better financial position than males, markedly in the 75+ category.

Severe material deprivation in Malta is positively affected by free health care because it addresses one of the nine deprivations (unexpected expenses) and leaves more disposable income to eliminate other deprivations. This causes the severe material deprivation indicator to be lower for Malta when compared to the EU-27 for all age categories. An important point to note is that males within the 75+ category are recorded to have a very low rate of material deprivation at 1.9%.

The median relative income of older people in Malta fares worse than that of the EU-27 reflecting a lower overall income situation of older people relative to the active population, possibly reflecting adequacy issues of the PAYG system and the lack of financial savings during one's lifetime (within the context of non-existing second pillar and third pillar elements).

[170] Unemployment rate (20-64 years), 2010: Malta 6.8%, Malta annual average 6.1%; EU-27 9.6%.
Source: http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/3-13012012-BP/EN/3-13012012-BP-EN.PDF

With reference to future adequacy based on the theoretical replacement rates for a new retiree (with an average income during working life), the gross and net replacement rates (GRR & NRR), after 40 years of contribution came to 67% and 80%, respectively in 2010. These are expected to decline in 2050. The NRR is higher since income taxation whilst working is higher than that in retirement. Higher income earners have a lower replacement rate due to the ceiling on pensionable income and consequently on benefits received. Changes in future rates of return do not affect the replacement rate since interest rates are not a determining factor of PAYG benefits. On the other hand, the PAYG system is sensitive to wage growth such that higher rates of future wage growth yield a lower replacement rate due to established ceilings on contributions and the indexation of pension benefits. Thus, pension adequacy can be viewed to be negatively affected by economic performance.

An analysis of differences in the number of working years on GRR and NRR reveals that currently, retirees are not affected if working lives vary from 38 to 42 years. This is due to the fact that a full pension benefit is received upon 30 years of contributions. However, in 2050, retirees are penalized for careers shorter than 40 years and not rewarded for longer ones. Currently, the NRR 10 years after retirement stands at 6 percentage points less than that of a new retiree, at 74%, since increases in pension benefits do not move in line with increases in wages and inflation. This decline is less pronounced in 2050, where the difference will stand at 2 percentage points due to the 2006 reform which enhanced indexation adequacy.

Career breaks including 3 years for females due to childcare, 3 years due to unemployment and 10 years out of the labour market, are expected to provide a different NRR than that for an average income earner working for a full 40 year career, in the future. For 2010, the NRR does not change under these scenarios because in each case the 30 year contributions period is achieved. This is confirmed by the EPC-SPC Joint Report on pensions. A different set of results is however expected for 2050. This is due to the reform measure that will require a 40 year contribution period for a full pension rather than the current 30. Female employees, and the long term unemployed, have lower wages than the average worker, which will lead them to have higher replacement rates. The same applies for workers with an absence of 10 years from the labour market which very often would also be females and low skilled workers. This is because the positive effect of lower incomes on their replacement rates outweighs the negative effect of lower years of contributions. In this regard, females benefit from only 2 years of free credits applicable with the birth of every child while the unemployed get their social security contributions credited as long as they keep on registering as unemployed with the national employment and training corporation.

SUSTAINABILITY

Demography

The old-age dependency ratio[171] (population aged 65 and over as a percentage of the population aged 20-64) in MT is projected to increase from 24.1% in 2010 (EU-27: 28.4%) to 50.7% in 2050 (EU-27: 55.0%) and 60.9% in 2060 (EU-27: 57.7%).

MT belongs to the group of Member States where the increase in old-age dependency ratio is projected to be above the EU-27 average. Over the period 2010 to 2060, the old-age dependency ratio is projected to increase by 36.8 percentage points (EU-27: 29.2 percentage points).

[171] The 2012 Ageing Report

The emigration from MT is one of the highest in the EU. The net migration is negative (-0.3% of the total population in 2010) and is projected to stay negative until 2015 (-0.1% of the total population).

MT will be one of the fastest ageing countries in the EU. The share of working-age population (15-64) (69.4% of the total population in 2010) is projected to drop by 13.6 percentage points by 2060 (to 55.8% of the total population), compared with 10.7 percentage points for the EU as a whole by 2060.

Employment

The labour market participation rate[172] (15-64) in MT was below the EU-27 average in 2010 (MT: 60.7%, EU-27: 71.1%), and is projected to remain lower also in 2060 (MT: 70.3%, EU-27: 73.8%). Over the period 2010 to 2060, the participation rate of older workers (55-64) is it projected to increase by 26.0 percentage points (from 32.6% in 2010 to 58.5% in 2060) but will stay lower than in the EU-27 (49.7% in 2010; 66.5% in 2060).

According to the 2012 Ageing Report, employment rate (15-64) is projected to increase from 56.5% in 2010 (EU-27: 64.1%) to 65.6% in 2050 (EU-27: 68.9%) and is projected to remain in that position also in 2060 (EU-27: 69.0%). The share of older (55-64) in employment is projected to change from 11% in 2010 to 18% in 2060 (EU-27: from 13% in 2010 to 19% in 2060).

The employment rate for older workers (55 to 64 years)[173] in MT in 2010 was below the EU-27 average: 30.2% (47.9% - males, 13.0% - females) versus 46.3% at EU-27 level (54.6% - males, 38.6% - females).

The average effective exit age from the labour force in 2010 was 60.9 (61.1 – for men, 60.3 – for women) and it is below the EU-27 average (62.1 – total, 62.5 – for men, 61.7 – for women).

Expenditure

According to the 2012 Ageing Report, the gross public pension expenditure will increase from 10.4% of GDP in 2010 to 13.4% of GDP in 2050 and to 15.9% of GDP in 2060.

In 2010 the gross old-age and early pension expenditure was 5.8% of GDP, below the EU-27 average of 9.2%. The 2012 Ageing Report projects an increase to 10.8% of GDP by 2050, which remains below the EU-27 projected average of 11.0% of GDP.

Main drivers of pension expenditure

In accordance with the 2012 Ageing Report, the demographic factor has the strongest downward effect (+11.3p.p. of GDP) on gross public pension expenditure over 2010-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and labour intensity[174]). The lowering effect of coverage ratio (-2.6 p.p.) and employment rate (-1.5 p.p.) on the public pension expenditure are more pronounced than the benefit ratio effect (-1.0 p.p.).

[172] The 2012 Ageing Report

[173] EUROSTAT

[174] As a result of the macroeconomic assumptions used in the projections, the labour intensity contribution has more or less no impact on the change in the pension expenditure/GDP ratio (EU-27 average: +0.1 p.p.). Only Greece, Spain, Luxembourg, Malta and Austria project an increasing effect of 0.1 p.p. of GDP. In all other Member States, the labour intensity effect is negligible.

Background Statistics

	Malta			EU-27		
Current adequacy (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Median relative income of people 65+ as a ratio of income of people 0-64	82	81	82	88	92	86
Aggregate replacement ratio	46	45	45	53	56	52
At-risk-of-poverty rate: 65-	14,9	14,2	15,7	16,5	16,2	16,8
65+ / 75+	18,8 / 18,9	20,4 / 22,8	17,5 / 16,2	15,9 / 18,0	12,9 / 14,4	18,1 / 20,5
Severe material deprivation: 65-	5,9	5,8	6	8,5	8,4	8,5
65+ / 75+	4,7 / 3,7	4,5 / 1,9	5 / 4,9	6,4 / 6,5	5,1 / 5,0	7,3 / 7,5
At risk of poverty or social exclusion (EU2020): 65-	20,3	19,2	21,5	24,2	23,5	25,0
65+ / 75+	21,9 / 21,3	22,7 / 23,3	21,4 / 20,1	19,8 / 22,1	16,2 / 17,7	22,6 / 25,0
Income distribution (S80/S20): 65- / 65+	4,3 / 3,8	4,3 / 4	4,4 /3,6	5,2 / 4	5,2 / 4	5,2 / 3,9
Adequacy projections: MT						
Theoretical replacement rates (TRR):	**Net 2010**	**Net 2050**	**Difference**	**Gross2010**	**Gross2050**	**Difference**
40 years career: average income earner (basecase)	79,7	70,5	-9,2	67,3 (100/0/0)*	59,5 (100/0/0)*	-7,8
Low income	77,7	71,1	-6,6	67,3 (100/0/0)*	61,9 (100/0/0)*	-5,4
High income	43,2	39,6	-3,6	32,9 (100/0/0)*	29,8 (100/0/0)*	-3,1
Lower / higher future rates of return		70,5 / 70,5			59,5 / 59,5	
Lower / higher future wage growth		76,8 / 61,1			64,6 / 51,7	
38 years career: average income	79,7	67,4	-12,3	67,3	56,5	-10,8
Low / high income	77,7 / 43,2	67,6 / 37,9	(-10,1/-5,3)	67,3 / 32,9	58,8 / 28,3	(-8,5/-4,6)
42 years career: average income	79,7	70,5	-9,2	67,3	59,5	-7,8
Low / high income	77,7 / 43,2	71,1 / 39,6	(-6,6/-3,6)	67,3 / 32,9	61,9 / 29,8	(-5,4/-3,1)
10 years after retirement	73,8	68,2	-5,6	61,8	57,4	-4,4
Female worker with 3 years of career break for childcare	79,7	70,5	-9,2	67,3	59,5	-7,8
3 years of career break for unemployment	79,7	70,5	-9,2	67,3	59,5	-7,8
10 years out of the labour market	79,7			67,3		
	2010	**2050**	**Difference**	**EU27 2010**	**EU27 2050**	**Difference**
Benefit ratio (Public pensions)	51,2	47,6	-3,6	44,7	37,0	-7,7
Gross replacement rate at retirement (Public pensions)	58,5	51,6	-6,9	48,0	39,1	-8,9
	Malta			**EU-27**		
Current sustainability (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Employment rates: 15-64	56,1	72,4	39,3	64,1	70,1	58,2
55-64	30,2	47,9	13	46,3	54,6	38,6
Effective labour market exit age****	60,9	61,1	60,3	62,1	62,5	61,7
Remaining life expectancy at 65	19,9	17,0	20,2	19,3°	17,2	20,7
Economic old-age dependency ratio[3]	39,0			39,8		
Pension expenditure, %GDP (ESSPROS)	9,7°			13,1°		
Budget balance	-3,6			-6,6		
Public debt	69			80,1		
Sustainability projections ***	**Malta**			**EU-27**		
Old-age dependency ratio**	**2010**	**2020**	**2030**	**2010**	**2020**	**2030**
	24	35	43	28	34	42
	2040	**2050**	**2060**	**2040**	**2050**	**2060**
	44	51	61	50	55	58
	2010	**2050**	**Difference**	**2010**	**2050**	**Difference**
Public pensions, gross (% of GDP)	10,4	13,4	3,0	11,3	12,8	1,5
Old-age and early pensions, gross (% of GDP)	5,8	10,8	5,0	9,2	11,0	1,7

*: Share of statutory DB-NDC / statutory funded / occupational and other supplementary pensions

°: 2009

¹: 2008

²: 2007

[3]: Economic old-age dependency ratio (20-64)

** Old-age dependency ratio = Population aged 65 and over as a percentage of the population aged 20-64.
Source: The 2012 Ageing Report

***Source: EC-EPC (AWG) 2012 projections

****Source: The 2012 Ageing Report

The Netherlands (NL)

Country profile for the Pension Adequacy Report 2012

General description of the pension system

First pillar

The Dutch pension system consists of three pillars. The basic state old-age pension under a statutory insurance scheme (AOW – General Old-Age Pension Act), the supplementary pension schemes through agreements between social partners on company or sector level and the private savings for retirement. The first pillar AOW provides for basic state pensions for people aged 65 and older. In addition, another state benefit (ANW – Surviving Dependants Act) provides income dependent state benefits for people below age 65 whose partner has died and for children younger than 16 years who have lost one or both parents. The AOW is a pay-as-you-go scheme financed by a contribution rate of 17.9% (statutorily limited to a maximum of 18.25%) that applies to the lowest two income tax brackets (€ 33,863) for all people below age 65. If the total amount of contributions is not sufficient to pay the benefits, the deficit will be covered by the State Budget. All residents of the Netherlands between the ages of 15 and 65 are insured by the AOW. During the period of insurance entitlement is accumulated at a rate of 2% for each year of insurance. Provided there are no gaps, like e.g. working periods abroad, this results in full entitlement when reaching the age of 65 (70% of the minimum wage for a single person; for married persons or couples living together 50% of the minimum wage of each person). By its linkage to the minimum wage the AOW benefit also profits from the indexation of the minimum wage to the contractual wage increases. Since the end of the last century, the number of AOW benefits paid has been steadily increased, illustrating the demographic changes of the Dutch society. At the end of 2008, 2.7 million people were receiving AOW pension benefits, in September 2011, this number was already 3 million.[175] The demographic transition to an older population and, as a consequence, the payment of more AOW benefits causes a significant increase in public pension expenditure. By the end of 2050, the gross public pension expenditure is expected to be 10.4% of GDP which is an increase of 3.6 p.p. in the period 2010-2050.

Second pillar

The second pillar consists of funded occupational pension schemes whose main characteristics are collectivity, solidarity and mandatory participation. Every year employees build up pension rights for each year of service of about 2% of their salary. These pension rights are regarded as deferred salary. The employer usually pays the major part of the contributions for supplementary pensions, currently about 16% of the gross income. Solidarity is achieved by levying an equal contribution rate to be paid by all members. The mandatory coverage ensures a participation of 95% of the employed population. The occupational schemes can cover the pension rights of employees industry-wide or company-specific, based on social partner agreements. Also certain professions can organise in a profession-wide pension scheme which follows the same pattern and principles as the other industry-wide or company pension schemes.[176] The second pillar serves to supplement the first one. The number of Dutch supplementary pension schemes has gradually decreased over the past few

[175] 1 Figures from CBS on number of AOW benefits.

[176] 0.5% of the total member population; http://www.statistics.dnb.nl/index.cgi?lang=nl&todo=PenReg.

years from 579 in 2009, to 545 by the end of 2011.[177] The reason for this decline is that pension funds merge into bigger entities in order to reduce costs. A distinctive feature of the second pillar pension schemes is that they are jointly managed by trade unions and employers organisations. The second pillar pension arrangements, as agreed by the employers and employees, can have the character of a defined benefit (DB) scheme in which the payment of a defined benefit is agreed, or a defined contribution (DC) scheme in which the benefits are solely based on the amount contributed to the scheme and any return of investment accrued under the scheme. There are also mixed Collective Defined Contribution (CDC) schemes, which combine a defined benefit promise to the participant and a fixed premium for the employer. In order to qualify for a defined benefit, the financial buffers of the involved schemes should be high enough. The height of the required financial buffer depends on the risks that a pension fund takes in its investment policy.

In the aftermath of the financial crisis of 2002, the pension schemes based on final payments were changed into schemes on average earnings over the accrued period. In this way risks are better balanced between the employer and the employee. In 2000, 59% of the active members of pension funds had a final pay pension scheme and in 2008, this percentage was reduced to 1% with 87% having a career-average scheme.[178] Together with the first pillar the second pillar provides for a gross replacement rate of 88.3%.[179]

The legal framework of occupational pensions consists of the Pensions Act which constitutes the supervisory framework for occupational pension schemes. This framework ensures that pension entitlements are actually fulfilled. A number of other acts are also of importance:

- the Mandatory Participation in an Industry-wide Pension Fund Act in which it is regulated to declare a collective pension agreement generally binding for a whole sector by the Minister for Social Affairs and Employment.
- the mandatory Pensions for Professional Groups Act by which the Minister for Social Affairs and Employment may declare a collective pension agreement binding for a whole professional group.
- the Equalisation of Pension Rights in the Event of a Divorce Act, which regulates that in the case of a divorce or termination of a partnership both former spouses and former partners are entitled to 50% of the old-age pension accrued during marriage or registered partnership.

Third pillar

The third pillar consists of individual funded pension provisions encouraged by tax advantages within certain limits. This pillar is relatively small and employees use it mostly to compensate pension deficits due to deficits in their work record. In recent years, the third pillar gained importance because of the growing number of self-employed who depend on the third pillar for their pension provisions as a supplement to the first pillar AOW. Currently, about 5% of the total pension provisions in the Netherlands are covered by the third pillar.[180] The increasing importance of individual pensions also fuelled the debate on the effectiveness of these provisions. Consumer organisations negotiate with the main players in the field of individual pensions on the costs of these products and the promised yield compared with the actual results. A share of 10% of the working population is not covered by the second pillar and therefore depends on the first and third one. The government has asked the Social

[177] http://www.statistics.dnb.nl/index.cgi?lang=nl&todo=PenReg

[178] Source: Dutch National Bank Statistics Bulletin December 2008.

[179] Dutch National Bank, working paper 258, August 2010.

[180] Bulletin CBS on pension statistics. Money for now and later 2010.

Economic Council for advice on the position of self-employed, amongst other things also on pensions. In its advice the Council recommends to study pensions for self-employed.[181]

Reform trends

The financial and economic crisis with rising public deficits, falling interest rates and disadvantageous performance on the stock exchange opened the debate on the sustainability of the first and second pillar pension system. The coverage ratios dropped with many funds below 100% and the restoration of these ratios are very urgent. Several funds are now forced to reduce pension benefits or raise contributions, in order to restore the balance between capital and future obligations.

The debate on reforming the pension system has not been finalised yet, but is in its final stages. The retirement age will probably be connected to the remaining life expectancy at age 65. Every five years the life expectancy will be monitored and the retirement age adapted accordingly. The first step is to raise the retirement age from 65 years to 66 years in 2020. The legislative proposal in this direction, connecting the retirement age with life expectancy has been send to Parliament in October and was adopted[182]. The law is part of an agreement with social partners concluded in June 2011 which also involves the second pillar pension arrangements. Within the law a mechanism is included to enable flexible retirement. For people of 65 and older earlier retirement will become possible for at most 2 years below the enhanced statutory retirement age. For every year earlier the benefit will be shortened with 6.5%. Working longer than the statutory retirement age will be rewarded by a bonus of 6.5% per year with a maximum of 5 years. In this law also the AOW-benefit will be increased with 0.6% per year starting in 2013. This increase will take place on a yearly basis until 2028. This raise of the old-age pension in the first pillar has to be regarded as a compensation for the raise of the retirement age and makes it possible for some occupational groups to retire earlier. This is important for workers with demanding jobs and people who started working at an early age.

These reforms were preceded by a Pension Agreement between social partners (of June 2010) underlining that the main features of the occupational pensions in the second pillar, i.e. collectivity, solidarity, and compulsory membership, should be maintained. In view of the already high contribution rates the pension accord strives to highlight the need for a new balance between ambition, security and costs. Within this balance the social partners stress the importance of the supplementary character of the second pillar to the first one. Therefore, they also propose to link the second pillar pension age to increased life expectancy similar to the first pillar. Moreover, they recommended introducing mechanisms that make pension benefits more adaptive to the developments on the financial markets for better and for worse. These mechanisms should avoid shifting the burdens to future generations.

[181] ZZP'ers in beeld, SER advies 10/04 October 2010.

[182] Law regarding the change of the AOW connecting the retirement age with the life expectancy, Parliamentary document 12-10-2011 SZW.

Assessment of adequacy and sustainability pension indicators

Current adequacy / Future adequacy

The risk of poverty or social exclusion is relatively modest in the Netherlands. These figures match also with the figures presented by the EUROSTAT the risk-of-poverty and social exclusion for elderly is considerable below EU average[183]. At risk of poverty or social exclusion rate (65+) in the NL was 6.2% in 2010 (EU-27: 19.8%). Also severe material deprivation is below the EU-27 average. Women above 65 have a higher risk of poverty and social exclusion then men. This is mainly caused by the fact that women build up lesser pension then men. Their career pattern is characterised by lower labour force participation when getting children. When returning to work, this is usually on a part-time basis.[184] The average number of working hours of women is 28.4 hours per week, for men 39.2. Because of this and other factors, women pay less contributions then men and therefore build up lesser pensions. The consequences of this are however limited, because most women are also entitled to survivor benefits from their husbands pension (on top of their first pillar pension) or to pensions rights after divorce. Gaps in the build-up of second pillar pensions for women therefore do not necessarily lead to poverty and social exclusion.

An explanation for the low poverty rates in general is that the benefit level of the first pillar pension is slightly above the welfare level (and not means tested). Furthermore most of the people above 65 years receive next to their AOW benefit also a second pillar pension. The biggest risk of poverty exists for those (low paid) people, who have gaps in their pension build up, due to residence abroad, like immigrants or returning emigrants. In general however, the risk-of-poverty for the elderly is better than for people below 65. A younger person without a job for a longer period depends on social benefits which are considerable lower than the pension benefits.

In the current financial and economic crisis some pension funds are forced to lower the pension benefits because of the low coverage ratios[185]. The average cut will be about 2-3% with a maximum (set by DNB) of 7%. It is difficult to predict the effect of these reductions on the risk of poverty. The current (2010) net theoretical replacement rate (for a worker retiring at 65 years after 40 years of contributions with average earnings) is 105% and the gross replacement rate 84.5%. These figures are higher than other countries in the EU like Belgium (net 74%) Luxemburg (net 96.6%) and Denmark (net 69.4%). An explanation for this could be that for a given total of labour cost, a higher share of contributions paid by the employer implies lower gross earnings of the employee and hence a higher gross replacement rate. Provided that the pension fund returns develop as expected, replacement rates may remain constant the coming four decades. In the light of the past financial crisis such predictions have to be handled with caution. The whole debate in the Netherlands about the sustainability of the Dutch pension system and the role of pension funds illustrates that measures are necessary to make the system more robust against fluctuations in the financial markets. Especially the unpredictability of the interest rates on the long-term created considerable problems with the coverage ratios of the pension funds. Several committees advised the government and social partners how to deal with these uncertainties in the future.[186] The Pension Agreement of June

[183] http://epp.eurostat.ec.europa.eu/portal/page/portal/income_social_inclusion_living_conditions/data/database

[184] 18 Labour participation of women, 2011.
http://www.cbs.nl/nl-NL/menu/themas/arbeid-sociale-zekerheid/publicaties/arbeidsmarktvogelvlucht/structuur-arbeidsmarkt/2006-arbeidsmarkt-vv-participatie-art.htm

[185] Coverage ratio's of pension funds. Statistics Dutch National Bank.
http://www.statistics.dnb.nl/index.cgi?lang=nl&todo=Pen2

[186] Report Committee Goudswaard: A strong Second Pillar: Towards a sustainable system of supplementary pensions and Report Committee Frijns: Pension: 'Uncertain security'.

2011 aims at making the Dutch pension system sustainable for the future. The unrest on the financial markets autumn 2011 showed how vulnerable predictions for the future are.

According to the calculations of the future theoretical replacement rates (TRR), for the base case of a worker retiring at 65 after 40 years of career at the average wage, net TRR would fall from 105% in 2010 to 101% in 2050, whereas gross TRR increases from 84.5% in 2010 to 86.3% over the same period.

The drop in net TRR will be more visible for high-wage (-24.1 p.p.) than the low-wage earners (-3.6 p.p).

SUSTAINABILITY

Demography

The old-age dependency ratio[187] (population aged 65 and over as a percentage of the population aged 20-64) in the NL is projected to increase from 25.3% in 2010 (EU-27: 28.4%) to 51.3% in 2050 (EU-27: 55.0%) and 52.3% in 2060 (EU-27: 57.7%).

The NL belongs to the group of Member States where the increase in old-age dependency ratio is projected to be below the EU-27 average. Over the period 2010 to 2060, the old-age dependency ratio is projected to increase by 26.9 percentage points (EU-27: 29.2 percentage points).

The share of working-age population (15-64) (67.0% of the total population in 2010) is projected to drop by 9.8 percentage points by 2060 (to 57.3% of the total population), compared with 10.7 percentage points for the EU as a whole by 2060.

Employment

The labour market participation rate[188] (15-64) in the NL was above the EU-27 average in 2010 (NL: 78.2%, EU-27: 71.1%), and is projected to remain higher also in 2060 (NL: 79.9%, EU-27: 73.8%). Over the period 2010 to 2060, the participation rate of older workers (55-64) is it projected to increase by 6.5 percentage points (from 56.0% in 2010 to 62.4% in 2060) and will be lower than in the EU-27 in 2060 (EU-27: 49.7% in 2010; 66.5% in 2060).

According to the 2012 Ageing Report, employment rate (15-64) is projected to increase from 74.7% in 2010 (EU-27: 64.1%) to 77.1% in 2050 (EU-27: 68.9%) and is projected to remain in that position also in 2060 (EU-27: 69.0%). The share of older (55-64) in employment is projected to change from 14% in 2010 to 16% in 2060 (EU-27: from 13% in 2010 to 19% in 2060).

The employment rate for older workers (55 to 64 years)[189] in the NL in 2010 was above the EU-27 average: 53.7% (64.5% - males, 42.8% - females) versus 46.3% at EU-27 level (54.6% - males, 38.6% - females).

The average effective exit age from the labour force in 2010 was 63.1 (63.9 – for men, 62.2 – for women) and it is above the EU-27 average (62.1 – total, 62.5 – for men, 61.7 – for women).

The Netherlands perform better than the EU average on all the current (2010) sustainability indicators. In particular the high employment rates both in general and especially for the 55-64 age group and the relatively high effective labour market exit age provide a good base for

[187] The 2012 Ageing Report
[188] The 2012 Ageing Report
[189] EUROSTAT

affordable pension provision. Policy actions to increase the effective pension age should continue to support later effective retirement ages.

Expenditure

According to the 2012 Ageing Report, the gross public pension expenditure will increase from 6.8% of GDP in 2010 to 10.4% of GDP in 2050 and will stay 10.4% of GDP in 2060.

In 2010 the gross old-age and early pension expenditure was 4.8% of GDP, well below the EU-27 average of 9.2%. The 2012 Ageing Report projects an increase to 8.9% of GDP by 2050, which remains below the EU-27 projected average of 11.0% of GDP.

Main drivers of pension expenditure

In accordance with the 2012 Ageing Report, the demographic factor has the strongest downward effect (+6.0 p.p. of GDP) on gross public pension expenditure over 2010-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and labour intensity[190]). The lowering effect of coverage ratio (-1.0 p.p.) and benefit ratio (-0.8 p.p.) on the public pension expenditure are more pronounced than the employment rate effect (-0.2 p.p.).

[190] As a result of the macroeconomic assumptions used in the projections, the labour intensity contribution has more or less no impact on the change in the pension expenditure/GDP ratio (EU-27 average: +0.1 p.p.). Only Greece, Spain, Luxembourg, Malta and Austria project an increasing effect of 0.1 p.p. of GDP. In all other Member States, the labour intensity effect is negligible.

Background Statistics

	Netherlands			EU-27		
Current adequacy (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Median relative income of people 65+ as a ratio of income of people 0-64	87	89	86	88	92	86
Aggregate replacement ratio	47	53	49	53	56	52
At-risk-of-poverty rate: 65-	11	10,4	11,7	16,5	16,2	16,8
65+ / 75+	5,9 / 7,1	5,5 / 7,1	6,3 / 7,1	15,9 / 18,0	12,9 / 14,4	18,1 / 20,5
Severe material deprivation: 65-	2,6	2,6	2,5	8,5	8,4	8,5
65+ / 75+	0,3 / 0,4	0,2 / 0	0,4 / 0,7	6,4 / 6,5	5,1 / 5,0	7,3 / 7,5
At risk of poverty or social exclusion (EU2020): 65-	16,6	15,4	17,8	24,2	23,5	25,0
65+ / 75+	6,2 / 7,5	5,6 / 7,1	6,7 / 7,8	19,8 / 22,1	16,2 / 17,7	22,6 / 25,0
Income distribution (S80/S20): 65- / 65+	3,8 / 3,1	3,7 / 3,2	3,8 / 3,1	5,2 / 4	5,2 / 4	5,2 / 3,9
Adequacy projections: NL						
Theoretical replacement rates (TRR):	**Net 2010**	**Net 2050**	**Difference**	**Gross2010**	**Gross2050**	**Difference**
40 years career: average income earner (basecase)	105	101	-4,0	84,5 (48/0/52)*	86,3 (48/0/52)*	1,8
Low income	106,9	103,3	-3,6	87,4 (69/0/31)*	92,7 (68/0/32)*	5,3
High income	97,2	73,1	-24,1	84,2 (25/0/75)*	61,8 (34/0/66)*	-22,4
Lower / higher future rates of return		101 / 101			86,3 / 86,3	
Lower / higher future wage growth		101 / 101			86,3 / 86,3	
38 years career: average income	98,1	98,7	0,6	77,9	84,1	6,2
Low / high income	105,5/87,9	101,9/71,4	(-3,6/-16,5)	83,4 / 74,7	91,2 / 59,8	7,8 / -14,9
42 years career: average income	109,6	108,3	-1,3	88,9	93,4	4,5
Low / high income	107,7/102,6	107,6/78,7	(-0,1/-23,9)	90,1 / 90,5	97,3 / 68,3	7,2 / -22,2
10 years after retirement	105	101	-4,0	84,5	86,3	1,8
Female worker with 3 years of career break for childcare	101,5	97,5	-4,0	81,2	83	1,8
3 years of career break for unemployment	102,7	97,5	-5,2	82,3	83	0,7
10 years out of the labour market	93,4	89,5	-3,9	73,5	75,2	1,7
	2010	**2050**	**Difference**	**EU27 2010**	**EU27 2050**	**Difference**
Benefit ratio (Public pensions)	:	:	:	44,7	37,0	-7,7
Gross replacement rate at retirement (Public pensions)	:	:	:	48,0	39,1	-8,9
	Netherlands			EU-27		
Current sustainability (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Employment rates: 15-64	74,7	80	69,3	64,1	70,1	58,2
55-64	53,7	64,5	42,8	46,3	54,6	38,6
Effective labour market exit age****	63,1	63,9	62,2	62,1	62,5	61,7
Remaining life expectancy at 65	19,5	17,5	20,9	19,3°	17,2	20,7
Economic old-age dependency ratio[3]	31,2			39,8		
Pension expenditure, %GDP (ESSPROS)	12,8°			13,1°		
Budget balance	-5,1			-6,6		
Public debt	62,9			80,1		
Sustainability projections ***	Netherlands			EU-27		
Old-age dependency ratio**	**2010**	**2020**	**2030**	**2010**	**2020**	**2030**
	25	34	45	28	34	42
	2040	**2050**	**2060**	**2040**	**2050**	**2060**
	52	51	52	50	55	58
	2010	**2050**	**Difference**	**2010**	**2050**	**Difference**
Public pensions, gross (% of GDP)	6,8	10,4	3,6	11,3	12,8	1,5
Old-age and early pensions, gross (% of GDP)	4,8	8,9	4,1	9,2	11,0	1,7

*: Share of statutory DB-NDC / statutory funded / occupational and other supplementary pensions

°: 2009

¹: 2008

²: 2007

3: Economic old-age dependency ratio (20-64)

: Data not available

** Old-age dependency ratio = Population aged 65 and over as a percentage of the population aged 20-64. Source: The 2012 Ageing Report

***Source: EC-EPC (AWG) 2012 projections

****Source: The 2012 Ageing Report

Poland (PL)

Country profile for the Pension Adequacy Report 2012

General description of the pension system

Most people in Poland, employees and self-employed outside agriculture, are covered by the general obligatory (statutory) pension system (European Commission, 2010). Apart from it, there are special schemes for farmers (social insurance scheme of KRUS - *Kasa Rolniczego Ubezpieczenia Społecznego*, Agricultural Social Insurance Fund, financed mainly from taxes), separate state provision, tax-financed schemes for 'uniformed services' such as military, police and prison service, as well as state provision for judges and prosecutors. Within the general scheme, there are special rules for miners.

After the reform of 1999, the new general pension system consists of two 'pillars', both obligatory for all new members (at the beginning of the reform, those between 30 and 50 could choose whether to participate in both new 'pillars' or to be entirely in the first one, and those above 50 remained in the old system). The 'first pillar' is an unfunded NDC scheme, administered by the Social Insurance Institution (*Zakład Ubezpieczeń Społecznych, ZUS*). The 'second pillar' is a fully funded scheme of open pension funds (*otwarte fundusze emerytalne, OFE*), managed by private investment companies – general pension societies (*powszechne towarzystwa emerytalne, PTE*). The 'second pillar' is a privately managed, but supervised by the State element of the statutory pension insurance. Thus, Poland has now a mixed pension system - funded and unfunded, publicly and privately managed, but both elements are defined-contribution schemes (the first one notionally).

The statutory pension system is financed by the old–age pension contributions (the contribution rate is equal to 19.52% of gross salary), paid in equal shares by employees and their employers. The contribution is collected by ZUS and divided into the contribution for the 'first pillar' (NDC pensions) and for the 'second pillar' (OFE). Since May 2011, the contribution rate for OFE is at 2.3% (and thus the pay-as-you-go part at 17.22%) and it will be gradually increased to the 3.5% in 2017. The only eligibility condition is the standard retirement age, 60 for women and 65 for men; there is no minimum insurance period. Extensive early retirement possibilities were abolished and replaced since 2009 by bridging pensions – a temporary solution for some categories of workers (see chapter 2).

Almost all pensions currently paid come from the old system before the reform of 1999 (see chapter 2). One should thus be very careful in assessing the current adequacy of the Polish pension system (see chapter 3).

Pension payments are adjusted annually according to the consumer price index of the households of pensioners (or the general consumer price index, if it is higher than the index for the households of pensioners), increased by at least 20% of real growth of average earnings in the previous year.

As pensions are financed from contributions before taxes, old-age pensions are subject to personal income tax.

Additional sources of income security, among them the 'employee pension programmes' (*pracownicze programy emerytalne*, PPE) - occupational pension schemes or 'individual retirement accounts' (*indywidualne konta emerytalne*, IKE) constitute the voluntary 'third pillar'. The coverage of the 'third pillar' has remained very low, for example less than 4% of the employees belong to occupational pension schemes.

Reform trends

A structural pension reform in Poland was legislated in 1997 and 1998 and started in 1999. The reform replaced the entirely public pension system administered by ZUS, pay-as-you-go, defined-benefit, and strongly redistributive, by the new mixed system (see chapter 1). Poland has thus been one of the 'paradigmatic' pension system's reformers in Central and Eastern Europe.

In the 2000s the system remained relatively stable. The reform debates concerned the 'completing' of the reform started in 1999 (e.g. legislation of the pay-out phase in the funded scheme).

In 2008, the access to early retirement was tightened. At the inception of the reform of 1999, it was planned that early retirement would be abolished by 2006. Those who would fulfil the previous conditions of early retirement (among others women aged 55 with 30-year qualifying period) were given the chance to go on early pension, provided they did not choose the mixed option (with the 'second pillar'). However, in face of political protests, access to early retirement was maintained until the end of 2007 and then once more until the end of 2008. While generally early retirement possibilities should have been abolished, some restricted categories of workers who have worked under special (difficult) conditions should have been given compensation in form of bridging pensions. Their legislation was postponed several times and finally introduced in December 2008, coming into force in 2009.

In January 2010 the Minister of Labour and Social Policy proposed to reduce the contribution to the funded 'second pillar', from 7.3% to 3%. Low investment efficiency (low rate of return), high share of investments in state securities (*de facto* financing the debt) and high managing costs were the main reasons behind the proposal. The idea of reducing the transition costs resulting from the pension reform was supported by the Ministry of Finance. In the end of December 2010 the government proposed to reduce the contribution rate to OFE even further to 2.3%. Clearly, the main argument was to lower the budget subsidies to the pension system and thus to lower the public debt.

A public debate started in early 2011 with clear polarisation of positions. Many economists criticised the proposal as a step to 'rescue' the present public finances at the costs of further 'generations' or at least governments and 'dismantling' the pension system and pension reform of 1999, based on a broad consensus. The government was successful in passing the law in the Parliament. From 1 May 2011 the contribution rate to the 'second pillar' has been limited to 2.3%. This change would reduce the importance of the funded part of the system, thus decreasing the necessary subsidies from the state budget to the pension system (to ZUS).

As a 'compensation' of the reduction of the pension system's funded part, a new form of supplementary voluntary old-age income security 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.

After the Parliamentary elections in October 2011, the new government backed by the same Parliamentary coalition and led by the same prime minister announced plans to increase the pensionable age. Starting in 2013, the pensionable age should be raised by three months every year, reaching 67 years for both ages (by 2020 for men and by 2040 for women). At the present, a large political resistance to the increase of the pensionable age has grown, primarily organised by trade unions.

The farmers' social security fund (KRUS) has been slightly changed. Health contribution for the smallest farms (up to 6 ha) will be still paid by the state, whereas for bigger farms by

farmers themselves. However, this reform is superficial (valid only for 2012) and will not bring any noticeable effect. The timetable for a comprehensive reform of KRUS is still missing.

Assessment of adequacy and sustainability pension indicators

Current adequacy / Future adequacy

One should be careful while assessing the current pension adequacy in Poland (illustrated below with indicators reported for 2010 and usually reflecting the situation in 2009). The country experienced a structural pension reform (started in 1999) but pension benefits in payment are still based on the old defined-benefit system. As the post-1999 system will mature, one can expect a drop in value of different adequacy indicators.

In 2010 the at-risk-of-poverty rate (indicator of relative income poverty) for people aged 65 and more was 14.2% in Poland, compared with 15.9% for the EU-27. For people aged 75 and more it was 12.4%, compared with 18.0% in EU-27. The rate was much lower in Poland for older people than for people under the age of 65 (18.1%).

A challenge has been an insufficient poverty protection of women in old age - the difference between pension adequacy for men and women in Poland is even bigger than in the EU-27 (9.9% for men 65+ in 2010 compared with 16.8% for women).

Due to the redistributive nature of the old system and the weaker contribution-benefit link, shorter careers or low income have not led to lower pension adequacy. Due especially to special allowance for those above 75, the older elderly have been even better protected (the at-risk-of-poverty rate was 15.7% for people over 75 compared to 16.5% for those over 65).

Severe material deprivation rate (a more absolute measure of poverty) of people over 65 was much higher in Poland (16.5%) than in EU-27 (6.4%). Poland scores worse in the severe material deprivation indicator due to lower living standards (Poland's GDP per capita in PPS was 63% of the EU-27 average in 2010 – EUROSTAT 2012). Severe material deprivation rate is much higher in Poland than in the EU 27, but it has decreased substantially between 2005 (36.7%) and 2010 (16.5%). The improvement can be explained by income increase and improvement of living standards. The crisis has slowed down the economic growth, but Poland has avoided recession and the convergence towards the EU has continued.

In consequence, the risk of poverty or social exclusion (Europe 2020 indicator that combines both relative income poverty with severe material deprivation) for people aged over 65 was higher in Poland (24.4%) than in EU-27 (19.8%).

Median relative income of people over the age of 65 as a ratio of income of people aged under 65 was higher in Poland (93%) than in EU-27 (88%). The same was true for the aggregate replacement ratio: 57% in Poland and 53% in EU-27.

The indicators of relative adequacy suggest that the old pension system in Poland has been successful in protecting pensioners from income poverty and in guaranteeing a relatively high income replacement. This results from the redistributive character of the old pension system, where pensions have been based on best earnings and the defined-benefit formula. As a result, income distribution in Poland has been considerably more equal for those over the age of 65 than those below (3.5 compared to 5.2).

The universal pension coverage of the labour force, full employment and non-existence of open unemployment in the communist period, when most entitlements to current pensions have been earned, are additional reasons for the relatively high current pension adequacy.

Adequacy projections for 2050 show that the situation will change substantially and the theoretical replacement rates (TRR) in Poland will almost be halved in that period. In the base case (40 years career and average income earner), the net TRR will decrease from 75.5% in 2010 to 43.3% in 2050.

A challenge related to pension system is the long-term adequacy of pensions. Pension replacement rates will decrease substantially, increasing the risk of poverty in old age, which is rather low at present. In the mixed NDC-DC system the link between contributions and benefits is considerably strengthened, so that people with short working lives risk to receive inadequate income in the old age. The substantial decrease in replacement rates can be explained by the new pension system's solutions:

- The pension entitlement will be based on life-time earnings while it was the best earnings in the old system;
- The new pension system is based on a notional defined-contribution and defined-contribution formula (NDC-DC), thus life expectancy is fully taken into account, putting the longevity risk fully onto the individual.

The net theoretical replacement rate (NRR) for a hypothetical male worker retiring at 65 after 40-years career is projected to decrease from 75.5% in 2010 to 43.3% in 2050. While all but a few Member States will experience a decline in replacement rates, the decline in Poland is amongst the highest.

In the mixed NDC-DC system the link between contributions and benefits is considerably strengthened, so that people with short working lives risk to receive inadequate income in the old age. People with broken careers would see considerable drops in the value of their NRR, e.g. 23.3 p.p. for those with a 10-year break from the labour market, 35.3 p.p. for those with a 3-years break for childcare, and 31.5 p.p. for those with a 3-year break due to unemployment.

Even if they start from a higher relative level, the decreases for low-wage earners, whether with 38, 40, or 42-years careers, will be more visible than drops for high-wage earners. The NRR for low earners with a 38-year career would be reduced from 81.7% in 2010 to 48.2% in 2050. The NRR for high earners with a 38-year career would drop from 56.4% to as little as 30.6%.

As indexation reflects only a fraction of increase in wages, the NRR 10 years after retirement in 2060 would be lower by 23.3 p.p. for pensioners retired in 2050 compared to the situation in 2020 of pensioners retired in 2010.

Following the projected decline in the theoretical replacement rate, the adequacy of pensions may become an issue in the future, notably for low-wage earners and those with short careers, predominantly women. To improve adequacy of women' pensions, the pensionable age for women (60 at present) should be equalised to that of men (65). After, or alongside that step, the pensionable age should be raised further. It is to hope that the present government will be successful in implementing the announced plans.

Higher retirement ages should be accompanied by measures of active ageing, e.g. improving attitudes towards older people on the workplace, removing barriers to work continuation, or life-long learning. The culture of early exit from the labour force which is rather strong in Poland among employees and employers has to be transformed.

SUSTAINABILITY

Demography

The old-age dependency ratio[191] (population aged 65 and over as a percentage of the population aged 20-64) in PL is projected to increase from 20.9% in 2010 (EU-27: 28.4%) to 58.0% in 2050 (EU-27: 55.0%) and 70.7% in 2060 (EU-27: 57.7%).

PL belongs to the group of Member States where the increase in old-age dependency ratio is projected to be above the EU-27 average. Over the period 2010 to 2060, the old-age dependency ratio is projected to increase by 49.9 percentage points (EU-27: 29.2 percentage points).

PL will be one of the fastest ageing countries in the EU. The share of working-age population (15-64) (71.3% of the total population in 2010) is projected to drop by 18.0 percentage points by 2060 (to 53.4% of the total population), compared with 10.7 percentage points for the EU as a whole by 2060.

Employment

The labour market participation rate[192] (15-64) in PL was below the EU-27 average in 2010 (PL: 65.8%, EU-27: 71.1%), and is projected to remain lower also in 2060 (PL: 67.2%, EU-27: 73.8%). Over the period 2010 to 2060, the participation rate of older workers (55-64) is it projected to increase by 10.5 percentage points (from 36.8% in 2010 to 47.4% in 2060) but will stay lower than in the EU-27 in 2060 (EU-27: 49.7% in 2010; 66.5% in 2060).

According to the 2012 Ageing Report, employment rate (15-64) is projected to increase from 59.3% in 2010 (EU-27: 64.1%) to 61.7% in 2050 (EU-27: 68.9%) and to 62.3% in 2060 (EU-27: 69.0%). The share of older (55-64) in employment is projected to change from 11% in 2010 to 15% in 2060 (EU-27: from 13% in 2010 to 19% in 2060).

The employment rate for older workers (55 to 64 years)[193] in PL in 2010 was below the EU-27 average: 34.0% (45.3% - males, 24.2% - females) versus 46.3% at EU-27 level (54.6% - males, 38.6% - females).

The average effective exit age from the labour force in 2010 was 60.1 (61.8 – for men, 58.6 – for women) and it is below the EU-27 average (62.1 – total, 62.5 – for men, 61.7 – for women).

Expenditure

According to the 2012 Ageing Report, the gross public pension expenditure will decrease from 11.8% of GDP in 2010 to 10.0% of GDP in 2050 and to 9.6% of GDP.

In 2010 the gross old-age and early pension expenditure was 10.2% of GDP, above the EU-27 average of 9.2%. The 2012 Ageing Report projects a decrease to 9% of GDP by 2050, which is below the EU-27 projected average of 11.0% of GDP.

Main drivers of pension expenditure

In accordance with the 2012 Ageing Report, the demographic factor has the strongest downward effect (+14.0 p.p. of GDP) on gross public pension expenditure over 2010-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage

[191] The 2012 Ageing Report
[192] The 2012 Ageing Report
[193] EUROSTAT

ratio, employment rate, benefit ratio and labour intensity[194]). Poland projects a strong downward pressure on expenditure due to an increasing benefit ratio effect (-8.7 p.p.). A strong downward effect of the coverage ratio is projected in Poland (-5.0 p.p.).The employment rate has a lowering effect (-0.4 p.p.) on public pension expenditure.

[194] As a result of the macroeconomic assumptions used in the projections, the labour intensity contribution has more or less no impact on the change in the pension expenditure/GDP ratio (EU-27 average: +0.1 p.p.). Only Greece, Spain, Luxembourg, Malta and Austria project an increasing effect of 0.1 p.p. of GDP. In all other Member States, the labour intensity effect is negligible.

Background Statistics

	Poland			EU-27		
Current adequacy (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Median relative income of people 65+ as a ratio of income of people 0-64	93	103	88	88	92	86
Aggregate replacement ratio	57	64	55	53	56	52
At-risk-of-poverty rate: 65-	18,1	18,3	17,9	16,5	16,2	16,8
65+ / 75+	14,2 / 12,4	9,9 / 7	16,8 / 15,1	15,9 / 18,0	12,9 / 14,4	18,1 / 20,5
Severe material deprivation: 65-	13,9	14,2	13,5	8,5	8,4	8,5
65+ / 75+	16,5 / 15,7	12,9 / 12,3	18,6 / 17,4	6,4 / 6,5	5,1 / 5,0	7,3 / 7,5
At risk of poverty or social exclusion (EU2020): 65-	28,3	28,0	28,6	24,2	23,5	25,0
65+ / 75+	24,4 / 22,9	18,4 / 16,1	28 / 26,3	19,8 / 22,1	16,2 / 17,7	22,6 / 25,0
Income distribution (S80/S20): 65- / 65+	5,2 / 3,5	5,3 / 3,4	5,1 / 3,5	5,2 / 4	5,2 / 4	5,2 / 3,9
Adequacy projections: PL						
Theoretical replacement rates (TRR):	**Net 2010**	**Net 2050**	**Difference**	**Gross2010**	**Gross2050**	**Difference**
40 years career: average income earner (basecase)	75,5	43,3	-32,2	65,2 (100/0/0)*	34,6 (54/46/0)*	-30,6
Low income	87,1	48,2	-38,9	75,8 (100/0/0)*	38,3 (59/41/0)*	-37,5
High income	60,7	32,2	-28,5	52,3 (100/0/0)*	26 (54/46/0)*	-26,3
Lower / higher future rates of return		41,7 / 45,3			33,2 / 36,3	
Lower / higher future wage growth		47,6 / 40,1			38,3 / 31,8	
38 years career: average income	70,5	41,2	-29,3	60,8	32,8	-28
Low / high income	81,7 / 56,4	48,2 / 30,6	(-33,5/-25,8)	71,1 / 48,4	38,3 / 24,6	(-32,8/-23,8)
42 years career: average income	78	48,6	-29,4	67,5	39,1	-28
Low / high income	89,7 / 63,1	49,3 / 36,2	(-40,4/-26,9)	78,1 / 54,4	39,1 / 29,4	(-39/-25)
10 years after retirement	58,4	35,1	-23,3	50,2	27,5	-22,7
Female worker with 3 years of career break for childcare	67,7	32,4	-35,3	58,4	25,3	-33,1
3 years of career break for unemployment	72,3	40,8	-31,5	62,4	32,4	-30,0
10 years out of the labour market	62,9	33,9	-29,0	54,1	26,5	-27,6
	2010	**2050**	**Difference**	**EU27 2010**	**EU27 2050**	**Difference**
Benefit ratio (Public pensions)	46,7	22,4	-24,3	44,7	37,0	-7,7
Gross replacement rate at retirement (Public pensions)	49,1	19,6	-29,5	48,0	39,1	-8,9
	Poland			**EU-27**		
Current sustainability (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Employment rates: 15-64	59,3	65,6	53	64,1	70,1	58,2
55-64	34	45,3	24,2	46,3	54,6	38,6
Effective labour market exit age****	60,1	61,8	58,6	62,1	62,5	61,7
Remaining life expectancy at 65	17,6	14,8	19,1	19,3°	17,2	20,7
Economic old-age dependency ratio[3]	31,0			39,8		
Pension expenditure, %GDP (ESSPROS)	12,4°			13,1°		
Budget balance	-7,8			-6,6		
Public debt	54,9			80,1		
Sustainability projections ***	**Poland**			**EU-27**		
Old-age dependency ratio**	**2010**	**2020**	**2030**	**2010**	**2020**	**2030**
	21	30	39	28	34	42
	2040	**2050**	**2060**	**2040**	**2050**	**2060**
	44	58	71	50	55	58
	2010	**2050**	**Difference**	**2010**	**2050**	**Difference**
Public pensions, gross (% of GDP)	11,8	10,0	-1,8	11,3	12,8	1,5
Old-age and early pensions, gross (% of GDP)	10,2	9,0	-1,2	9,2	11,0	1,7

*: Share of statutory DB-NDC / statutory funded / occupational and other supplementary pensions

°: 2009

¹: 2008

²: 2007

[3]: Economic old-age dependency ratio (20-64)

: Data not available

** Old-age dependency ratio = Population aged 65 and over as a percentage of the population aged 20-64. Source: The 2012 Ageing Report

***Source: EC-EPC (AWG) 2012 projections

****Source: The 2012 Ageing Report

Portugal (PT)

Country profile for the Pension Adequacy Report 2012

General description of the pension system

The Portuguese public pension system is based on the social security (SS) regimes providing universal coverage against social risks. The statutory SS regime is a mandatory earnings-related unfunded scheme for private sector employees, self-employed workers and civil servants. There is a SS non-contributory regime whose pension scheme covers the aged population not eligible for social statutory benefits due to the lack of contributory records and in need. The SS statutory pensioners accounted for 89% of the 2.9 million SS pensioners (and 89.4% of the 1.9 million old-age SS pensioners) in 2011. There are residual mandatory schemes in transition.[195] A non-mandatory SS complementary funded scheme ("Certificados de reforma") has been set in place in 2008.

The statutory pensions are financed on a pay-as-you-go basis by social contributions, complemented by a small fraction of the "social" value added tax (IVA "social"), both earmarked revenues for the contributory system. The global contribution rate is 34.75% of gross earnings (11% paid by the worker and 23.75% by the employer) for employees, where 26.94 percentage points are earmarked for pensions. For the self-employed the global rate of contribution is 29.6% of gross revenue. A share of the SS contributions is annually transferred to the Social Security Trust Fund (FEFSS). Non-contributory pension benefits are fully financed by state transfers.

The statutory retirement age is 65 for both men and women. There is a special pathway to retirement at the age of 62 for long-term unemployed older workers if unemployment occurs after the completion of 57 years. Workers having completed 30 years of insurance at the age of 55 can retire after that age subject to a 6% penalty upon the benefit per anticipated year of retirement (the so called flexible retirement). Already in 2012, and considering not only the concerns with the budgetary stability within the framework of the Economic and Financial Assistance Programme, but also to ensure the financial sustainability of the social security system, it was approved the Decree-Law no. 85-A/2012 of 5 April, that establishes the immediate suspension of the flexibility scheme rules concerning the pensionable age anticipation. To be entitled to the old-age pension a qualifying period of 15 years of insurance is required. Regarding disability, SS beneficiaries are entitled to a disability pension with a reduced qualifying period. In the event of death, the surviving spouse and/or dependent children are entitled to a fraction of the deceased beneficiary's old-age pension, the survivor pension. Minimum benefits for pensions are defined by law accordingly to the length of contributory records, and the difference between the actual statutory pension and the minimums will be financed by state transfers. The elderly missing contributory records to fulfil qualifying periods may be entitled to the old age "social" pension paid within the non-contributory regime under strict means testing criteria. An additional means-tested non-contributory old age benefit has been implemented after 2007, to fight poverty amongst the elderly: the Solidarity Supplement for the Elderly.

[195] Public employees appointed before 2005 are covered by a special unfunded scheme (CGA) that is now closed and phasing out (close to 0.4million pensioners in 2011). Occupational mandatory funded schemes still in place for telecommunications and part of the financial sector, covering the employees of most banks, have been closed to new entrants in 2010, and are also being phased out.

The old-age pension is calculated using a defined benefit formula that relies on a grid of decreasing accrual rates (varying between 2.3 and 2.0%) to be applied to the specified increasing fractions of the yearly average pensionable earnings times the number of years with contributory record times, subject to a maximum of 40 years. To account for the increase of life expectation, the adjustment of the statutory pension by a "sustainability factor" was introduced in 2008, so that the benefit became hybrid as risk is shared by the scheme's operator and the beneficiary.

Complementary private retirement schemes play a modest role. Large companies have set up occupational pension plans with defined contributions that are fully funded. Individuals have subscribed to fully funded private pension plans with defined contributions, largely due to the tax deductions allowed until recently.

Reform trends

The Portuguese pensions system was significantly reformed in 2007, with the stated goal of providing adequate and sustainable retirement income for all within one unified social security system. The SS earnings-related scheme will be in transition for some years and pension benefits will be calculated combining the different legal formulas in force throughout the life cycle of beneficiaries during the transitional period. The mandatory schemes outside the SS statutory regime are now closed. The eligibility rules and the calculating formulas for benefits under the remaining public schemes will converge with SS reformed pension scheme until 2012. From now on for those entering the labour market mandatory pensions will be provided by the SS system alone.

The present statutory formula (adopted in 2002) to calculate earnings-related pensions reduced the expected value of benefits by considering as pensionable wage the average wage of the whole length of the beneficiary's working life cycle (previously, the best 10 out of the last 15 years in the labour market). On the other hand it raised the accrual rate up to 0.3 percentage points for the lowest fractions of the pensionable wage (previously, a flat 2% accrual rate). Provisions regarding minimum pension benefits and periodic adjustments (to account for inflation and productivity gains) were later adopted to improve the current adequacy of pensions.

Regarding the long-term financial sustainability of pensions, SS budget deficits have been expected after 2035 in spite of recent reforms. In the Budget Law for 2012 the Government even acknowledges an aggravation of such prospects, and already by 2030 there would be an SS deficit. The main threat to sustainability comes from the ageing demography as Portugal has an extremely low fertility rate and, at the same time, there is a rising life expectancy. Life expectancy after 65 should rise until 2060 by 5.1 additional years from the 2008 level of 18.1 years.[196]

To account for the increasing life expectancy, the statutory pension is adjusted by the "sustainability factor" that was introduced in 2008. This discount factor is calculated by dividing the average life expectancy at 65 in the year 2006 by the average life expectancy at 65 in the year before of retirement of the beneficiary. The application of the sustainability factor means a growing cut of the statutory value of the benefit for successive new retirees.[197] In consequence, the SS pension defined benefit becomes hybrid and the increasing longevity risk is shared by the scheme's operator and the beneficiary.

[196] According to the EPC-SPC (2010).

[197] EPC (AWG) 2009 population projections indicate that it may drop considerably from the initial 2007 neutral level (=1) to 0.779 in 2060.

Regarding private pensions, a comprehensive legal framework is in place covering management and investment rules as well as the tax regime for such private provision to promote complementary funded occupational and individual schemes. The Institutions for Occupational Retirement Provision (IORP) directive was transposed in 2006, while some efforts are still needed to improve portability. Nevertheless, occupational schemes covered only 3.7% of the labour force.[198] These schemes account not only for complementary retirement benefits for employees provided by their companies ("second pillar" schemes), but also for the closed mandatory earnings related protection ("first pillar" scheme) of workers in the banking sector and telecommunications, which will become extinct in the future. From now on, pension plans in telecommunications and banking will act as standard complementary retirement defined contribution schemes in the future.

Following the austerity measures within the bailout assistance agreement with the European Union and the International Monetary Fund, the use of means testing and better target social support has been reinforced. There will be taxation for all types of cash social transfers and convergence of personal income tax deductions for pensions and labour income. For 2012 and 2013 a further cut on pension benefits has been decided, supressing 2 of the 14 standard monthly payments of higher pensions (in 2012 and 2013 pensions over €1100 will only receive 12 monthly payments and pensions between €600 and €1100 will suffer a gradual reduction). Lower pensions (under €600) will remain to receive 14 payments in 2012 and 2013.Such measures will most likely impact negatively on pensions adequacy and slow down or even reverse the adequacy improvements of the previous years.

Companies' dedicated pension funds to finance benefits for the closed groups of pensioners in the banking and telecommunications industries in 2011 concerning past entitlements have been integrated in the public sector. Losses in the value of pension fund portfolios due to turbulence in financial markets had placed a serious strain upon these schemes and endangered the effective funding of liabilities. Such financial risk has now been transferred to the state, increasing challenges to the sustainability of public finances.

Assessment of adequacy and sustainability pension indicators

Current adequacy / Future adequacy

The current adequacy indicators for 2010 send mixed signs concerning the evolution of the improvements that have been steadily achieved throughout the previous decade.

The risk of poverty or social exclusion (EU2020) rate for people 65+ is 26.1%, 6.3 percentage point (p.p.) above the European average, and has been dropping significantly from higher levels over the last years (35.2% in 2004).

On the other hand, the at-risk-of-poverty rate for people 65+ rose to 21.0% in 2010 (20.1% in 2009), well above the EU-27 average (15.9%). For people 75+ the gap to the EU rate is even larger: 26% versus 18%. Until 2009 the at-risk-of-poverty rates for elderly had being fallen significantly from the high figure of 28.9% in 2004, due to the improvement of minimum old-age pension and to the introduction of the Solidarity Supplement for the Elderly. The measure of absolute (not relative) poverty that is the severe material deprivation rate has been falling constantly (including in 2010) from levels around 13.5% in 2005, but it is still well beyond the EU average (9.6% for 65+ and 10.9% for 75+ in Portugal versus 6.4% for 65+ and 6.5%

[198] Source: SPC (2008).

for 75+ for the EU average). Better targeting of social transfers and tax exemption of the poorest aged population should account for such performance.

The median relative income ratio for people 65+, as a ratio of income of the age group 0-64, dropped to 78% in 2010, decreasing by 3 p.p. from the 2009 figure (81%), also departing from the rising trend of former years, and is significantly lower than the EU-27 average (86%). The new tax status of retirees and the suspension of adjustments by indexation of pension benefits should explain this evolution.

The aggregate replacement ratio (median individual pensions of 65-74 year olds relative to median individual earnings of 50-59 years old) equalled the EU-27 average of 53% in 2010 for the total population.

The gender break-up of all these indicators show that old-age women currently present higher risk of poverty or social exclusion and severe material deprivation and in general enjoy lower standards of living that old-age men.

The net theoretical replacement (NRR) rate in 2010 was 85.8%, one of the highest in the EU. The gross theoretical replacement rate (GRR) is 72.5% in 2010. Net replacement rates are always higher than gross replacement rates because pension benefits are exempt from income tax to a higher level than wages.

Regarding the adequacy projections, net theoretical replacement rates (NRR) are expected to fall sharply over the long-run. For the base case of a worker retiring at 65 after 40 years of career at the average wage, NRR would fall 23.3% between 2010 and 2050, whereas GRR declines 19.1% over the same period. 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.

Higher incomes will suffer larger decreases: 44.4% (NRR) and 37.8% (GRR) in 40 years than lower incomes (-18.5%. drop in NRR and -18.2% drop in GRR).

Such sharp drops in replacement rates would occur not only for the base case male worker retiring at 65 after 40 years career, but also for the "variant" cases careers. Unemployment affects both NRR and GRR, even if its impact is slight for a 3 years career break, and the reduction of both rates over the 40 year span would run by a similar measure as the base case.

The impact in NRR 10 years after retirement compared to the year of retirement will be stronger, causing a reduction by 33.2% and by 29.4% for GRR (i.e. comparing the income situation in 2020 of a worker who retired in 2010 to the income situation in 2060 of a worker who retired in 2050). This shows the effect of the Portuguese indexation rules.

The fall over time of replacement rates is the result of changes introduced in the pension benefit formula, namely, full length consideration of the workers' career and the increasing impact of the sustainability factor. The effect of the sustainability factor could be countered through postponing of the retirement decision. In the coming years workers may retire later to compensate for the cut resulting from the sustainability factor. TRR calculations reveal that while currently the bonus/malus effect of retiring 2 years later/earlier would change NRR to 121%/98% of the base case NRR (for the average income retiring at 65), in the future late retirement will be relatively more rewarded (125% of the NRR in the case of retirement at 65). On the other hand, in the 2 years earlier retirement case the future loss would be similar to the current situation (96.8 % of NRR in case of retirement at 65). This means that Portugal is also relying on incentives to longer working lives to offset long term demographic pressures. Policies to promote longer working lives have been implemented in the last decade. The bonus for delayed pension to stay in employment after 65 was increased. The exit from labour market became less smooth for the long-term unemployed in order to prevent a further

strain upon pension expenditure and to stimulate longer working life. Non-contributory minimum income provisions were revised in order to provide more pro-employment incentives, namely the RSI (minimum guaranteed income) allowance, which became strongly contingent on side-line contracts for the professional integration of beneficiaries.

To finance more adequate pensions, Social Security revenues were to be increased by tapping on new sources as established by the 2009 Code of Social Contributions. It was expected that the rules for pension benefit calculation and eligibility could control aggregate expenditure while enabling more positive discrimination towards low income people and families. However, the 2009 increase in social spending to counteract recession together with other increases in public expenditure brought new pressure upon Social Security and state budget. At the same time, the Portuguese external indebtedness grew enormously, leading to the sovereign debt crisis and the downturn of the economic situation in 2010. As the economy went into recession, pension expenditure was propelled by several factors besides the ageing of the population, namely by unemployment's special pathway to early retirement as unemployment rose. The deterioration of the economic situation led also to the suspension of the reformed indexation mechanism for pensions and to a 3-10% cut on pension benefits above EUR 1,500 per month after 2011. In the context of the current recession, new concerns for the long-run sustainability and adequacy of pensions arise.

SUSTAINABILITY

Demography

The old-age dependency ratio[199] (population aged 65 and over as a percentage of the population aged 20-64) in PT is projected to increase from 29.3% in 2010 (EU-27: 28.4%) to 60.6% in 2050 (EU-27: 55.0%) and 62.1% in 2060 (EU-27: 57.7%).

PT belongs to the group of Member States where the increase in old-age dependency ratio is projected to be above the EU-27 average. Over the period 2010 to 2060, the old-age dependency ratio is projected to increase by 32.9 percentage points (EU-27: 29.2 percentage points).

The share of working-age population (15-64) (66.8% of the total population in 2010) is projected to drop by 10.9 percentage points by 2060 (to 56.0% of the total population), compared with 10.7 percentage points for the EU as a whole by 2060.

Employment

The labour market participation rate[200] (15-64) in PT was above the EU-27 average in 2010 (PT: 74.1%, EU-27: 71.1%), and is projected to remain higher also in 2060 (PT: 76.7%, EU-27: 73.8%). Over the period 2010 to 2060, the participation rate of older workers (55-64) is it projected to increase by 15.2 percentage points (from 54.2% in 2010 to 69.4% in 2060) and will stay higher than in the EU-27 in 2060 (EU-27: 49.7% in 2010; 66.5% in 2060).

According to the 2012 Ageing Report, employment rate (15-64) is projected to increase from 65.6% in 2010 (EU-27: 64.1%) to 71.3% in 2050 (EU-27: 68.9%) and decrease to 71.1% in 2060 (EU-27: 69.0%). The share of older (55-64) in employment is projected to change from 13% in 2010 to 21% in 2060 (EU-27: from 13% in 2010 to 19% in 2060).

[199] The 2012 Ageing Report

[200] The 2012 Ageing Report

The employment rate for older workers (55 to 64 years)[201] in PT in 2010 was above the EU-27 average: 49.2% (55.7% - males, 43.5% - females) versus 46.3% at EU-27 level (54.6% - males, 38.6% - females).

The average effective exit age from the labour force in 2010 was 63.5 (63.4 – for men, 63.7 – for women) and it is above the EU-27 average (62.1 – total, 62.5 – for men, 61.7 – for women).

Expenditure

According to the 2012 Ageing Report, the gross public pension expenditure will increase from 12.5% of GDP in 2010 to 13.1% of GDP in 2050 and decrease to 12.7% of GDP in 2060.

In 2010 the gross old-age and early pension expenditure was 10.2% of GDP, above the EU-27 average of 9.2%. The 2012 Ageing Report projects an increase to 11.1% of GDP by 2050, which remains above the EU-27 projected average of 11.0% of GDP.

Main drivers of pension expenditure

In accordance with the 2012 Ageing Report, the demographic factor has the strongest downward effect (+10.4p.p. of GDP) on gross public pension expenditure over 2010-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and labour intensity[202]). The lowering effect of coverage ratio (-2.5 p.p.) and benefit ratio (-5.5 p.p.) on the public pension expenditure are more pronounced than the employment rate effect (-1.0 p.p.).

[201] EUROSTAT

[202] As a result of the macroeconomic assumptions used in the projections, the labour intensity contribution has more or less no impact on the change in the pension expenditure/GDP ratio (EU-27 average: +0.1 p.p.). Only Greece, Spain, Luxembourg, Malta and Austria project an increasing effect of 0.1 p.p. of GDP. In all other Member States, the labour intensity effect is negligible.

Background Statistics

	Portugal			EU-27		
Current adequacy (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Median relative income of people 65+ as a ratio of income of people 0-64	82	88	78	88	92	86
Aggregate replacement ratio	53	57	55	53	56	52
At-risk-of-poverty rate: 65-	17,2	17,3	17,2	16,5	16,2	16,8
65+ / 75+	21 / 26	17,5 / 21,3	23,5 / 29	15,9 / 18,0	12,9 / 14,4	18,1 / 20,5
Severe material deprivation: 65-	8,9	9,5	8,3	8,5	8,4	8,5
65+ / 75+	9,6 / 10,9	7,9 / 8	10,8 / 12,7	6,4 / 6,5	5,1 / 5,0	7,3 / 7,5
At risk of poverty or social exclusion (EU2020): 65-	25,1	25,3	25,0	24,2	23,5	25,0
65+ / 75+	26,1 / 31,2	22,3 / 25	28,9 / 35	19,8 / 22,1	16,2 / 17,7	22,6 / 25,0
Income distribution (S80/S20): 65- / 65+	5,7 / 5	5,7 / 5,2	5,7 / 4,8	5,2 / 4	5,2 / 4	5,2 / 3,9
Adequacy projections: PT						
Theoretical replacement rates (TRR):	**Net 2010**	**Net 2050**	**Difference**	**Gross2010**	**Gross2050**	**Difference**
40 years career: average income earner (basecase)	85,8	65,9	-19,9	72,5 (100/0/0)*	58,7 (100/0/0)*	-13,9
Low income	81,7	66,6	-15,1	72,6 (100/0/0)*	59,3 (100/0/0)*	-13,3
High income	85,2	47,4	-37,8	67,7 (100/0/0)*	42,1 (100/0/0)*	-25,6
Lower / higher future rates of return		65,9 / 65,9			58,7 / 58,7	
Lower / higher future wage growth		76 / 57,6			67,7 / 51,3	
38 years career: average income	83,9	63,7	-20,2	70,9	32,8	-38,1
Low / high income	79,8 / 81,6	64 / 45,2	(-15,8/-36,4)	70,9 / 64,8	57,4 / 40,3	(-13,5/-24,5)
42 years career: average income	103,8	82,2	-21,6	90,8	39,1	-51,7
Low / high income	102,3/97,4	82,6 / 58,7	(-19,7/-38,7)	90,8 / 85,7	73 / 51,8	(-17,9/-34)
10 years after retirement	78	52,1	-25,9	65,5	46,2	-19,3
Female worker with 3 years of career break for childcare	83,8	64,5	-19,3	70,7	57,4	-13,3
3 years of career break for unemployment	85,7	65,1	-20,6	72,4	57,9	-14,5
10 years out of the labour market	64,4	52,1	-12,3	54,4	46,4	-8,0
	2010	**2050**	**Difference**	**EU27 2010**	**EU27 2050**	**Difference**
Benefit ratio (Public pensions)	:	:	:	44,7	37,0	-7,7
Gross replacement rate at retirement (Public pensions)	56,9	48,2	-8,7	48,0	39,1	-8,9
	Portugal			EU-27		
Current sustainability (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Employment rates: 15-64	65,6	70,1	61,1	64,1	70,1	58,2
55-64	49,2	55,7	43,5	46,3	54,6	38,6
Effective labour market exit age****	63,5	63,4	63,7	62,1	62,5	61,7
Remaining life expectancy at 65	19,0	17,1	20,4	19,3°	17,2	20,7
Economic old-age dependency ratio[3]	36,7			39,8		
Pension expenditure, %GDP (ESSPROS)	14,1°			13,1°		
Budget balance	-9,8			-6,6		
Public debt	93,3			80,1		
Sustainability projections ***	Portugal			EU-27		
Old-age dependency ratio**	**2010**	**2020**	**2030**	**2010**	**2020**	**2030**
	29	34	41	28	34	42
	2040	**2050**	**2060**	**2040**	**2050**	**2060**
	51	61	62	50	55	58
	2010	**2050**	**Difference**	**2010**	**2050**	**Difference**
Public pensions, gross (% of GDP)	12,5	13,1	0,6	11,3	12,8	1,5
Old-age and early pensions, gross (% of GDP)	10,2	11,1	0,9	9,2	11,0	1,7

*: Share of statutory DB-NDC / statutory funded / occupational and other supplementary pensions

°: 2009

¹: 2008

²: 2007

3: Economic old-age dependency ratio (20-64)

: Data not available

** Old-age dependency ratio = Population aged 65 and over as a percentage of the population aged 20-64. Source: The 2012 Ageing Report

***Source: EC-EPC (AWG) 2012 projections

****Source: The 2012 Ageing Report

Romania (RO)

Country profile for the Pension Adequacy Report 2012

General description of the pension system

The Romanian pension system consists of a pay-as-you-go scheme (based on intergenerational solidarity), a mandatory, but privately administered defined-contribution funded scheme (part of the individual contribution from the public pension system is accumulated in individual accounts) and voluntary private pensions (defined-contribution scheme with voluntary participation and individual accounts).

The pay-as-you-go scheme covers the employed persons with individual labour contract, civil servants, diplomatic personnel, legislative and juridical authorities, craft cooperative members, and recipients of unemployment benefits. The pension benefits are calculated on the basis of individuals' accumulated points, which are determined by contributor's wage relative to the average wage in the economy. Since January 2011 the point value has been set at RON 732.8, which is equivalent to EURO 174. The contribution rates depend on the working conditions; currently, they represent 31.3% for normal conditions, 36.3% for arduous conditions, respectively 41.3% for very arduous conditions. The employee contributes by 10.5% in all situations, the difference being covered by the employer.

A special regime exists within the unfunded scheme – the so called "service pensions" – for magistrates, judges and prosecutors. In November 2011, 2837 persons benefited from this scheme; their average pension amounted to RON 9034 (EUR 2146), of which 88.6% paid from the state budget and the rest from the contributions to the PAYG scheme.

In 2009, the Romanian government introduced the *minimum guaranteed social pension*, the difference between the pension resulting from the calculation and the minimum guaranteed social pension (350 ron) is financed from the state budget. In 2010, this benefit was renamed *social indemnity for pensioners* but the eligibility rules remained the same.

The mandatory funded scheme was introduced in 2007 and was made compulsory for all persons below the age of 35 on January 1st 2008 and optional for those aged between 36 and 45 years at that date. The initial 2% contribution rate is gradually increased by 0.5 percentage points every year, to reach 6% by the end of 2016. In December 2011, a total of 5.52 million contributors were paying their contributions to 9 pension funds.

The voluntary scheme was introduced in May 2007, equally as a DC system, and is alimented through voluntary contributions. The individual contribution rate is limited at maximum 15% of the gross wage. In December 2011 there were 260.4 thousand persons contributing to the voluntary pillar, and 13 pension funds received accreditations.

The pensionable age of 60 years for women and 65 years for men will be reached by the end of 2014. By January, 2030 the pensionable age for women will be 63 years old. The standard contribution period giving rights to full pension benefits will attain 35 years for women and 35 years for men. In January 2012 the pensionable age was 59 years and 3 months for women and 64 years and 3 months for men, while the full contribution period 28.6 years for women and 33.6 years for men.

There are two early retirement options in the Romanian old-age pension system. Employees aged maximum 5 years below the pensionable age and who contributed for at least 8 years above the standard contribution period are eligible for a full early retirement pension. The

partial early retirement is allowed for those having completed their contribution period and who are up to 5 years below the pensionable age. In case of partial early retirement, the benefit is penalised by 0.75% for each month below the pensionable age.

Reform trends

The reform of the Romanian pension system started with the adoption of Law 19/2000, which replaced the former public scheme inherited from the communist period by a new PAYG scheme based on pension points. Four years later, the Law 411/2004 introduced the second compulsory scheme, which is privately administrated through individual accounts. These initial reforms were completed by the adoption of Law 204/2006, which introduced the third (voluntary) pillar, equally privately administrated.

In the mandatory funded scheme the Law 187/2011 sets the rules and mechanisms for the establishment of the Guarantee Fund. The fund, which will be fully functional in the first semester of 2012, has two roles: to guarantee the payment of benefits if the pension funds fail to fulfil their payment obligations and to finance pensions in case when pension fund companies come under strain because of increased longevity. The resources of the Guarantee Fund will come from a 1% contribution on the minimum required capital of pension funds[203] but cannot be smaller than EURO 50,000.

In 2010 the Parliament passed the Law 263/2010 on the unified public pension system, which replaces all the previously adopted legislation in the field. The new law, which entered into force on 1st January 2011, unified the various public regimes into a single one under the PAYG scheme.[204] Military and police personnel that benefited from "special pension regimes" were included in the public system. At the same time, according to a Government Emergency Ordinance from November 2011, all the employees belonging to these professional categories have to adhere to a pension fund of the mandatory funded scheme by July 2012. The contribution rules, the benefit entitlement and the retirement age were equally harmonized, which required the adoption of a long and complex mechanism for recalculating those special pensions.

The law introduced more restrictive conditions for early retirement and partial early retirement by increasing the reduction up to 45% the pension benefit in case of incomplete contributory period or when retirement takes place before the pensionable age. This measure was introduced to limit a surge in the number of early retirement pensions granted after 2001, when the first law on pension reform entered into force: In 5 years after the adoption of the law, Romania recorded a 6.7-fold increase in the number of early retirements applications, according to the official statistics.

The new law has also tightened retirement conditions in the regime of disability pensions. The number of disability retirements increased from 208,000 in 1990 to 920,000 in 2009, when the share of disability pensioners represented 16% of the total number of retirement beneficiaries. Since a relatively large proportion of beneficiaries obtained the disability status and therefore the benefit fraudulently the law stipulates the obligation of medical re-expertise of all existing beneficiaries of a disability pension.

Law 263/2010, changed indexation rules, so that pensions will be indexed solely by the inflation rate starting with 2030.

[203] EURO 4 million in Pillar II, respectively EURO 1.5 million in Pillar III.

[204] The judges, the magistrates and the prosecutors are exempted and they keep their special regime of pensions.

Assessment of adequacy and sustainability pension indicators

Current adequacy / Future adequacy

In terms of adequacy, the indicators of the Romanian pension system present contradictory results. On one hand, the indicators measuring income replacement or the relative income are over the EU-27 average. On the other hand, in terms of poverty and material deprivation Romanian pensioners are largely worse off than their EU counterparts.

For instance, the aggregate replacement ratio in Romania was 12 percentage points above the EU-27 average in 2010, with a significant gender gap (10 p.p., as compared to only 4 p.p. in EU-27). The median relative income of persons aged 65+ was in Romania (88% in EU-27), with the same considerable gender gap (15 p.p., versus 6 p.p. in EU). It follows that the median income of older people in Romania measured at household level is almost equal to the median income of active population.

Several indicators in the EU are used to measure poverty. The aggregate indicator of risk of poverty and social exclusion is based on three sub-indicators: (1) at-risk-of-poverty, which measures relative monetary poverty, (2) severe material deprivation, which is a more absolute measure of poverty, and (3) people living in households with low work intensity (which is not applied to older population). For more analysis, please refer to the Pensions Adequacy Report.

The risk of poverty or social exclusion of older people in Romania is more than double that of the EU-27 average. This is mainly due to the fact that the severe material deprivation, which reflects the level of living conditions in the country, is for 65+ 5 times superior (and even 6.5 times in case of men aged 75+) than the EU-27 average. The at-risk-of-poverty rate (which reflects income inequalities) is close to the EU-27 average, but the gender gap is much more visible. The situation is aggravated by the fact that health care is the main spending item of a Romanian pensioner, and while medical treatment in many Member States is almost entirely reimbursed by social security, this is not the case in Romania.

The most challenging element for the pension system is the demographic factor. The Romanian population is expected to accelerate its decline, passing from 21.4 million inhabitants in 2008 to 16-17 million in 2050 (accordingly to the APAPR NGO, 2012). This is equivalent to a reduction by almost 25% as compared to the 1990 level. Combined with the increase in life expectancy, these demographic tendencies will end up with an accentuated phenomenon of population ageing in the next three decades.[205]

The second important element affecting the system is the drastic reduction of the number of contributors. The ratio between the number of persons contributing to the system and the number of pension beneficiaries passed from 3.28 in 1990 to 1.04 in 2008. The third challenge, related to the above two factors, refers to the enormous deficit accumulated by the public system of pensions, which in 2010 represented about 50% of the collected contributions (Ghetu, 2012). Although each additional year of increase in retirement age reduces the deficit by 0.7% of GDP (Fernandez-Ansola and Klemm, 2007), the public pillar is projected to continue generating deficits that are expected to grow for the next three decades relative to GDP (Holzmann and Guven, 2009). Revenues are expected to decline from 6.6% of GDP in 2008 to 3.4% by 2050, while expenditures to increase from 7.2% to 9.6% of GDP over the same period. The net result is thus a projected deficit of 6.2% of GDP in 2050 (Holzmann and Guven, 2009).

[205] According to IMF, in 2050 one out of three Romanians will be aged above 65 years (Fernandez-Ansola and Klemm (2007). For comparison, the share of this age category in total population represented 14% in 2000 (APAPR, 2012).

According to projections, replacement rates are supposed to decrease in the future if people would not extend their careers. For the base case of a worker retiring at 65 after 40 years of career at the average wage, net replacement rate (NRR) would fall from 70.7% in 2010 to 45% in 2050, whereas the gross replacement rate (GRR) declines from 51.4% to 31.5% over the same period. This means drops of 25.7 p.p. (NRR) and 19.9 p.p. (GRR) in the next 40 years.

The drops in replacement rates would occur not only for the base case male worker retiring at 65 after 40 years career, but also for the "variant" cases careers. The net replacement rates of people with high incomes are expected to record the largest relative decline of 52 p.p. compared to 10.12 p.p. for those with low incomes. Labour market discontinuities due to unemployment or childcare (in both cases for a maximum of three years) would lead to lower replacement in the future than today, with a drop of 26.9 p.p. in the case of unemployment. Older pensioners (10 years after retirement) could also expect lower relative income, reflecting probably the way pensions in payment are indexed.

The effect of the demographic challenge could be countered through postponement of the retirement decision. Both people completing 38 and 42-year working careers will see a decrease in their replacement rates, but the drop is much less pronounced in the case of longer working. Later retirement could partially compensate for the cuts resulting from the adjustments of the formula to calculate pension benefits. TRR calculations reveal that while currently the bonus/malus effect of retiring 2 years later/earlier would change the NRR to 72.3%/69.2% of the last wage, in the future late retirement will be relatively more rewarded (a NRR of 66.5% in the case of retirement at 67), whilst in the 2 years earlier retirement case there will be a substantial aggravated loss in 2050 (a NRR of 43.3% in 2050). This shows that Romania is relying both on promoting longer working and especially on reducing early exit paths to increase the effective retirement age and offset the long term demographic pressures.

To avoid drops in the adequacy of pensions, Romania would need to improve its relatively low employment rates.

SUSTAINABILITY

Demography

The old-age dependency ratio[206] (population aged 65 and over as a percentage of the population aged 20-64) in RO is projected to increase from 23.2% in 2010 (EU-27: 28.4%) to 58.9% in 2050 (EU-27: 55.0%) and 70.5% in 2060 (EU-27: 57.7%).

RO belongs to the group of Member States where the increase in old-age dependency ratio is projected to be above the EU-27 average. Over the period 2010 to 2060, the old-age dependency ratio is projected to increase by 47.2 percentage points (EU-27: 29.2 percentage points).

RO will be one of the fastest ageing countries in the EU. The share of working-age population (15-64) (69.9% of the total population in 2010) is projected to drop by 16.3 percentage points by 2060 (to 53.7% of the total population), compared with 10.7 percentage points for the EU as a whole by 2060.

[206] The 2012 Ageing Report

Employment

The labour market participation rate[207] (15-64) in RO was below the EU-27 average in 2010 (RO: 63.8%, EU-27: 71.1%), and is projected to decrease and remain lower also in 2060 (RO: 60.9%, EU-27: 73.8%). Over the period 2010 to 2060, the participation rate of older workers (55-64) is it projected to increase by 4.0 percentage points (from 42.3% in 2010 to 46.3% in 2060) but will stay lower than in the EU-27 in 2060 (EU-27: 49.7% in 2010; 66.5% in 2060).

According to the 2012 Ageing Report, employment rate (15-64) is projected to decrease from 58.9% in 2010 (EU-27: 64.1%) to 56.2% in 2050 (EU-27: 68.9%) and increase to 56.8% in 2060 (EU-27: 69.0%). The share of older (55-64) in employment is projected to change from 12% in 2010 to 18% in 2060 (EU-27: from 13% in 2010 to 19% in 2060).

The employment rate for older workers (55 to 64 years)[208] in RO in 2010 was below the EU-27 average: 41.1% (50.3% - males, 33.0% - females) versus 46.3% at EU-27 level (54.6% - males, 38.6% - females).

The average effective exit age from the labour force in 2010 was 61.4 (62.3 – for men, 60.6 – for women) and it is below the EU-27 average (62.1 – total, 62.5 – for men, 61.7 – for women).

Expenditure

According to the 2012 Ageing Report, the gross public pension expenditure will increase from 9.8% of GDP in 2010 to 12.8% of GDP in 2050 and to 13.5% of GDP in 2060.

In 2010 the gross old-age and early pension expenditure was 8.1% of GDP, below the EU-27 average of 9.2%. The 2012 Ageing Report projects an increase to 11.2% of GDP by 2050, which is above the EU-27 projected average of 11.0% of GDP.

Main drivers of pension expenditure

In accordance with the 2012 Ageing Report, the demographic factor has the strongest downward effect (+12.9 p.p. of GDP) on gross public pension expenditure over 2010-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and labour intensity[209]). Strong downward effect of the coverage ratio on public pension expenditure is projected in Italy (-4.7p.p.) due to legislated increases in retirement ages. The benefit ratio (-3.7 p.p.) has lowering effect on the public pension expenditure. In contrast to the majority of the Member States, in Romania the increasing employment leads to an increase in the public pension expenditure over GDP ratio over the projection period (+0.4 p.p.).

[207] The 2012 Ageing Report

[208] EUROSTAT

[209] As a result of the macroeconomic assumptions used in the projections, the labour intensity contribution has more or less no impact on the change in the pension expenditure/GDP ratio (EU-27 average: +0.1 p.p.). Only Greece, Spain, Luxembourg, Malta and Austria project an increasing effect of 0.1 p.p. of GDP. In all other Member States, the labour intensity effect is negligible.

Background statistics

	Romania			EU-27		
Current adequacy (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Median relative income of people 65+ as a ratio of income of people 0-64	97	107	92	88	92	86
Aggregate replacement ratio	65	68	58	53	56	52
At-risk-of-poverty rate: 65-	21,8	22,1	21,6	16,5	16,2	16,8
65+ / 75+	16,7 / 20,9	10,9 / 12,7	20,7 / 26	15,9 / 18,0	12,9 / 14,4	18,1 / 20,5
Severe material deprivation: 65-	30,7	30,8	30,6	8,5	8,4	8,5
65+ / 75+	32,4 / 36,7	29,9 / 32,6	34,1 / 39,2	6,4 / 6,5	5,1 / 5,0	7,3 / 7,5
At risk of poverty or social exclusion (EU2020): 65-	41,7	41,5	41,8	24,2	23,5	25,0
65+ / 75+	39,9 / 45,5	35,2 / 38,8	43,1 / 49,6	19,8 / 22,1	16,2 / 17,7	22,6 / 25,0
Income distribution (S80/S20): 65- / 65+	6,4 / 4,1	6,4 / 3,8	6,4 / 4,2	5,2 / 4	5,2 / 4	5,2 / 3,9
Adequacy projections: RO						
Theoretical replacement rates (TRR):	**Net 2010**	**Net 2050**	**Difference**	**Gross2010**	**Gross2050**	**Difference**
40 years career: average income earner (basecase)	70,7	45	-25,7	51,4 (100/0/0)*	31,5 (75/25/0)*	-19,9
Low income	55,2	45	-10,2	35,9 (100/0/0)*	31,5 (75/25/0)*	-4,4
High income	85,3	33,3	-52	67,8 (100/0/0)*	23,7 (75/25/0)*	-44,1
Lower / higher future rates of return		43,9 / 46,2			30,8 / 32,4	
Lower / higher future wage growth		53 / 38,5			37,2 / 27	
38 years career: average income	69,2	43,3	-25,9	49,9	30,4	-19,5
Low / high income	53,6 / 84	43,3 / 32,3	(-10,3/-51,7)	34,2 / 66,2	30,4 / 22,8	(-3,8/-43,4)
42 years career: average income	72,3	66,5	-5,8	53,2	47,1	-6,1
Low / high income	56,8 / 86,9	67,2 / 47,3	10,4/-39,6	37,2 / 68,2	47,1 / 35,4	9,9/-32,8
10 years after retirement	64,2	32,9	-31,3	44,4	23	-21,4
Female worker with 3 years of career break for childcare	61,4	43,3	-18,1	42,4	30,3	-12,1
3 years of career break for unemployment	69,3	42,4	-26,9	50	29,8	-20,2
10 years out of the labour market	58,7	33,4	-25,3	47,5	23,4	-24,1
	2010	**2050**	**Difference**	**EU27 2010**	**EU27 2050**	**Difference**
Benefit ratio (Public pensions)	38,7	28,1	-10,6	44,7	37,0	-7,7
Gross replacement rate at retirement (Public pensions)	41,6	29,8	-11,8	48,0	39,1	-8,9
	Romania			EU-27		
Current sustainability (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Employment rates: 15-64	58,8	65,7	52	64,1	70,1	58,2
55-64	41,1	50,3	33	46,3	54,6	38,6
Effective labour market exit age****	61,4	62,3	60,6	62,1	62,5	61,7
Remaining life expectancy at 65	15,8°	14,1	17,2	19,3°	17,2	20,7
Economic old-age dependency ratio[3]	31,9			39,8		
Pension expenditure, %GDP (ESSPROS)	9,4°			13,1°		
Budget balance	-6,9			-6,6		
Public debt	31			80,1		
Sustainability projections ***	Romania			EU-27		
Old-age dependency ratio**	**2010**	**2020**	**2030**	**2010**	**2020**	**2030**
	23	28	33	28	34	42
	2040	**2050**	**2060**	**2040**	**2050**	**2060**
	45	59	70	50	55	58
	2010	**2050**	**Difference**	**2010**	**2050**	**Difference**
Public pensions, gross (% of GDP)	9,8	12,8	2,9	11,3	12,8	1,5
Old-age and early pensions, gross (% of GDP)	8,1	11,2	3,1	9,2	11,0	1,7

*: Share of statutory DB-NDC / statutory funded / occupational and other supplementary pensions

°: 2009

¹: 2008

²: 2007

³: 2006

[3]: Economic old-age dependency ratio (20-64)

: Data not available

** Old-age dependency ratio = Population aged 65 and over as a percentage of the population aged 20-64. Source: The 2012 Ageing Report

***Source: EC-EPC (AWG) 2012 projections

****Source: The 2012 Ageing Report

Slovakia (SK)

Country profile for the Pension Adequacy Report 2012

General description of the pension system

The Slovak pension system consists of three tiers: a mandatory defined-benefit pay-as-you-go scheme (pension insurance), a mandatory defined-contribution funded scheme (old-age pension saving)[210], and a voluntary supplementary defined-contribution funded scheme (supplementary pension saving). The first tier is administered by the public Social Insurance Agency, the second and third tiers by six private pension management companies and four supplementary pension companies, respectively. Mandatory tiers are financed from contributions paid by economically active persons each at a rate of 9% of gross earnings and/or 18% of gross earnings if a person is enrolled only in the DB scheme. Contributions as well as pensions in payment in mandatory tiers are exempt from the income tax. Supplementary pensions are financed from employers' and employees' contributions paid beyond mandatory social security contributions. Until the end of 2010, contributions up to EUR 398.33 per year in the voluntary scheme had been deductible; the tax allowance was cancelled as a part of fiscal consolidation measures.

The minimum insurance/saving period for pension entitlements in the first tier is set at 15 years and in the second tier is set at 10 years. The statutory retirement age is 62 years. For men, the retirement age has gradually increased from 60 to 62 years in 2004-2008. Women will reach the same level by 2024 (gradually from 53-57 years, depending on the number of children raised).

Early retirement is possible, but not sooner than 2 years before statutory retirement age, and restrictions apply also to a retiree's economic activity (early retirement provision may not be combined with employment, as opposite to statutory retirement) and the pension benefit amount (0.5% reduction of pension for each 30 days of early retirement).

The calculation of pensions in the earnings-related DB scheme takes account of the individual's career earnings relative to the economy-wide average and his/her contribution period. The formula is complemented by an annually adjusted (by average wage growth) coefficient called actual pension value, aiming to provide an average 50% replacement rate after a 40-years career. Pensions are indexed every twelve months as of 1 January by the arithmetic average of wage growth and inflation determined for the first half of the preceding year (so-called Swiss indexation).

The level of pension benefits in the funded scheme depends on the participant's amount of contributions paid, his/her choice among available funds (offering different level of risk in investment portfolio – conservative, balanced, and growth funds), and the performance of a chosen fund or funds. The scheme is expected to pay out first benefits in 2015; these shall be available either in the form of life annuity or programmed withdrawal combined with life annuity. For citizens who joined the funded scheme, retirement income from the public DB scheme will be reduced by half for the period of old-age saving.

[210] Between 2005 and 2007, entering the second tier was mandatory for new policyholders. Since 1 January 2008, new entrants into social security have a six months period to decide between the PAYG scheme and a two-tier system. As of 1 April 2012, mandatory participation of young people will be reinstalled as a default option with the possibility to opt out of the funded scheme in the first two years of saving.

There is no guarantee of a minimum old-age pension; persons with very low pensions or without pension may apply for a social assistance benefit. The pension system in Slovakia covers next to old-age also disability risks, and as a part of both subsystems, also survivors risks.

Certain public services (e.g. military, police, and fire department) fall under special social security systems, administered by competent ministries.

Since 2006 the government pays out a Christmas pension benefit to old-age, early retirement, disability and survivors´ pensioners. The bonus is not a component of the pension system, but a recurrent allowance (paid usually in December) to support income of pensioners whose pension benefits are below a certain level (usually 60% of average wage).

Reform trends

The foundations of the current pension system in Slovakia have been laid with a set of comprehensive pensions reforms in 2004-2005. These initiated a systemic and parametric reconstruction of the PAYG scheme from pension security to pension insurance and introduced a second mandatory funded plan. The reforms created conditions for improved future sustainability of the pension system, but soon practice showed that further adjustments were needed to stabilise the scheme on the back of a deepening shortfall in public pensions, caused by higher than projected transition costs to a two-tier system and uncompleted reforms in both mandatory tiers. Negative demographic outlook and weak labour market performance (aggravated by the economic crisis) have added to the urgency of further reforms. A number of revisions followed, most importantly:

- In 2008, the minimum period for entitlements in both tiers has been increased from 10 to 15 years. The maximum assessment base for contributions paid to the first and second tiers has been raised from three to four times of the average wage, while preserving the ceiling for pension benefits in the DB scheme. Early retirement entitlements were tightened. Entry to the funded scheme was changed to voluntary for new entrants to the labour market, resulting in a significant decrease of young people enrolling in the two-tier system (13% of new entrants, 2011 data).
- In 2008 and 2009, the DC scheme was opened twice for a total of 13.5 months, allowing people to opt-out and return to a clean PAYG scheme and/or new applicants to join (more than 170 thousand left, almost 40 thousand joined).
- In 2009, the cap for administration fees charged by pension management companies has been substantially reduced. Pension funds have been also required to balance returns in half-yearly intervals and compensate possible negative returns from own sources, resulting in the exclusion of all higher-risk securities from their portfolio. A tightening of rating requirements on stock investments had a similar effect, leading to the sell-off of Exchange-Traded Funds (ETF). The structure of assets in the different funds has thus practically harmonised and attained returns have been modest at best.
- As of 1 January 2011, the pension benefit formula in the DB scheme has been partly modified to strengthen solidarity principles in the PAYG system (correction of personal wage point). Access to early retirement has been further tightened after concurrence of early pension and gainful activity has been disallowed.
- Weak performance of pension funds incited another revision of the funded scheme in October 2011. Effective from 1 April 2012, strong guarantees will be preserved only in conservative funds (renamed to bond funds), while relaxed regulation of other funds

(renamed to mixed and equity funds, and introducing a new type of index funds) should facilitate riskier investments. Half-yearly intervals for balancing returns will be abolished and/or extended to 5 years in the bond fund. Mandatory participation of young people will be reinstalled as a default option with the possibility to opt-out of the funded scheme in the first two years of saving. The minimum contribution period for pension entitlements in the second tier was decreased to 10 years.

A revision of the PAYG scheme was also in the pipeline in late 2011, but the proposal did not find enough political support after the fall of the government on 11 October. Plans included a linking of retirement age increase to the development of life expectancy at 62 (as from 2016), automatic adjustment of the pension formula to the contributor/recipient ratio, and a reduction of the indexation formula to reflect merely so-called pensioner inflation. Proposed changes would substantially improve the sustainability outlook in the public pension system, but would also translate in the longer-term into reduced replacement rates (except for low earners). It was criticised that such important parametric adjustments have not been sufficiently debated among all stakeholders. Assigned with a reduced caretaker mandate until the early elections (12 March 2012) the coalition stopped also a long-prepared tax and contribution reform, potentially helpful to improve and streamline collection of taxes and social contributions.

The future of reforms appears to be uncertain for now. A review of already published election programmes suggests that political parties do not consider pension reforms a top policy priority and/or are not clear on how to continue reforms in the pension system. Thus far, every change in the office since 2005 entailed revisions of the key pension laws.[211]

Assessment of adequacy and sustainability pension indicators

Current adequacy

Slovakia belongs to the group of EU countries with a below-average risk of poverty or social exclusion in old age. This is given mainly by low relative monetary poverty in the 65+ population (along with HU and CZ the lowest in the EU). Material deprivation of senior citizens has more than halved since 2005 but still remains well above the EU average. Typical for the situation of Slovak senior citizens is that they face a comparatively lower risk of poverty or social exclusion than the pre-retirement population (at-risk-of-poverty rate at 7.7% against 12.7% in the 65- population). Worth mentioning is that this applies mainly to elderly men, as women encounter a poverty risk 2-3 times higher (10.1%) than men in the 65+ population (3.9%). Obvious reasons are shorter working lives, lower participation rates and lower earnings of women. In general, poverty risks increase in the advanced stages of retirement, but still remain below the 65- population levels.

The net pension replacement rate is roughly at the average of OECD countries and slightly below the EU-27 average (72.9% against 72.1% and 75.6% for median earners, respectively, Pensions at a glance 2011). According to Eurostat data, the median disposable income of pensioner households in Slovakia oscillates at around 80% of that of the 0-65 population (83% in 2010, vs. 88% in EU-27). Income from pensions compared with income from pre-retirement work (aggregate replacement ratio) is moderately above the EU average. In contrast to the working-age population, the income situation of pensioners has relatively improved during the crisis, suggesting that current provisions in old age have not suffered

[211] The Act on old age saving (2nd tier) was subject to 21 legislative amendments since 2005. The Act on social insurance (1st tier) was changed 45 times since 2003.

from the negative effects of the crisis to the extent as have earnings from work.[212] Other than that, the impact of the crisis is clearly negative in all pension tiers, as it deepened the deficit in public pensions and decreased accumulation of assets in the funded schemes, and will thus affect future retirement provisions.

The net replacement rate has grown along with increasing earnings until 2010. A partial correction (freezing) of the average personal wage point as of 2011 resulted in a modest increase of solidarity (net replacement rate now moderately decreasing with increasing earnings), but the Slovak pension scheme still exemplifies a system with relatively strong links between contributions paid and benefits received.

Available national/international data and comparisons imply that the current setup and level of pensions – seen mainly through their ability to replace pre-retirement income – appear to be relatively sufficient to preserve income and living conditions when moving from work to retirement. The system generates low pensions for low earners and those with short contributory periods, but these cohorts are helped by means of social assistance benefits. However, the replacement rates are set to decrease under the current legislative arrangements (including gradually implemented reforms) over the long term.

Future adequacy

According to the ISG exercise on current and prospective theoretical replacement rates (TRR), the percentage of an average worker's net pre-retirement income to be paid out upon retirement will decrease by 9.2 percentage points from 74.6% in 2010 to 65.4% in 2050 (-7.5 percentage points in gross terms). Similarly, replacement rates are expected to drop for most of the workers represented by the "variant cases", but mostly for low-income earners (-13.6 percentage points) and older pensioners[213] (-16.2 percentage points).

Lowest prospective TRRs are found for workers with careers breaks, but these start from rather low current levels and are expected to change just moderately (except for a 10 year career break, where the negative effect would increase by 8.4 percentage points and/or from 24.9% to 27.2% of the net TRR of an average earner). Female workers with a 3 year childcare break are the only category projected to slightly improve the respective TRR (from 52.1% to 53.6% in net terms), thus reducing the gap to the average earner substantially from 30.2% to 18.0%. The net TRR of workers with a 3 year unemployment spell would also improve vis-à-vis the average worker (22% in 2050 after 28.2% in 2010), but their pensions would decrease relative to their pre-retirement income.

The bonus and malus effects of retiring 2 years after or 2 years before age 65 remain symmetrical in the ISG projections, yet both decrease from around ±15% in 2010 to ±11% by 2050 for all income groups. Replacement rates are projected to be almost equally shared by the statutory DB and funded schemes by 2050 (52:48 for average earners), currently paid out exclusively from the DB pay-as-you-go scheme. This could add to the future adequacy of pensions, however, there is a sizeable degree of uncertainty as far as the stability of legislation (and particularly of the second tier) is concerned. Reduction of future replacement rates is seen also by national sources as a likely outcome of and/or answer to demographic developments and fiscal imbalances (Ministry of Labour, 2011).

[212] While the 0-65 population has seen a rise in the poverty and social exclusion risk in 2010 (after a decreasing trend in 2005-2009), the relevant indicator for pensioners has seen a distinct decrease from 19.7% in 2009 to 16.7% of the 65+ population in 2010 (Eurostat). Retirement provisions (including Christmas pension bonus) have not been restricted during the crisis, rather to the contrary, development of wages and consumer prices resulted in a decent increase of pensions in payment in 2009 and 2010 (6.95% and 3.05%, respectively).

[213] Ten years after retirement.

The evolution of replacement rates will be influenced by a number of variables, including demographic factors, economic development, labour market performance, financial market movements, future pension reforms adjusting parameters such as retirement age, pension formula and actuarial corrections, indexation of awarded pensions, early retirement regulation, or coverage of statutory pension tiers. The assumed effect of these factors on future adequacy can be negative (e.g., reduction of pension indexation, correction of actual pension value with respect to demographic parameters,) and positive (increase in statutory retirement age, further restrictions on early exit pathways), and in some cases uncertain (e.g. external factors such as capital markets, wage and inflation growth, political interventions, etc.).

SUSTAINABILITY

Demography

The old-age dependency ratio[214] (population aged 65 and over as a percentage of the population aged 20-64) in SK is projected to increase from 18.7% in 2010 (EU-27: 28.4%) to 56.2% in 2050 (EU-27: 55.0%) and 67.6% in 2060 (EU-27: 57.7%).

SK belongs to the group of Member States where the increase in old-age dependency ratio is projected to be above the EU-27 average. Over the period 2010 to 2060, the old-age dependency ratio is projected to increase by 48.8 percentage points (EU-27: 29.2 percentage points).

SK will be one of the fastest ageing countries in the EU. The share of working-age population (15-64) (72.4% of the total population in 2010) is projected to drop by 18.2 percentage points by 2060 (to 54.1% of the total population), compared with 10.7 percentage points for the EU as a whole by 2060.

Employment

The labour market participation rate[215] (15-64) in SK was below the EU-27 average in 2010 (SK: 68.9%, EU-27: 71.1%), and is projected to remain lower also in 2060 (SK: 67.8%, EU-27: 73.8%). Over the period 2010 to 2060, the participation rate of older workers (55-64) is it projected to increase by 5.5 percentage points (from 45.1% in 2010 to 50.7% in 2060) but will stay lower than in the EU-27 in 2060 (EU-27: 49.7% in 2010; 66.5% in 2060).

According to the 2012 Ageing Report, employment rate (15-64) is projected to increase from 59.0% in 2010 (EU-27: 64.1%) to 62.1% in 2050 (EU-27: 68.9%) and 62.8% in 2060 (EU-27: 69.0%). The share of older (55-64) in employment is projected to change from 12% in 2010 to 16% in 2060 (EU-27: from 13% in 2010 to 19% in 2060).

The employment rate for older workers (55 to 64 years)[216] in SK in 2010 was below the EU-27 average: 40.5% (54.0% - males, 28.7% - females) versus 46.3% at EU-27 level (54.6% - males, 38.6% - females).

The average effective exit age from the labour force in 2010 was 59.7 (61.3 – for men, 58.6 – for women) and it is below the EU-27 average (62.1 – total, 62.5 – for men, 61.7 – for women).

[214] The 2012 Ageing Report

[215] The 2012 Ageing Report

[216] EUROSTAT

Expenditure

According to the 2012 Ageing Report, the gross public pension expenditure will increase from 8.0% of GDP in 2010 to 12.2% of GDP in 2050 and to 13.2% of GDP in 2060.

In 2010 the gross old-age and early pension expenditure was 6.1% of GDP, well below the EU-27 average of 9.2%. The 2012 Ageing Report projects an increase to 8.5% of GDP by 2050, which remains below the EU-27 projected average of 11.0% of GDP.

Main drivers of pension expenditure

In accordance with the 2012 Ageing Report, the demographic factor has the strongest downward effect (+13.5 p.p. of GDP) on gross public pension expenditure over 2010-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and labour intensity[217]). The lowering effect of coverage ratio (-3.9 p.p.) and benefit ratio (-2.8 p.p.) on the public pension expenditure are more pronounced than the employment rate effect (-0.5 p.p.).

[217] As a result of the macroeconomic assumptions used in the projections, the labour intensity contribution has more or less no impact on the change in the pension expenditure/GDP ratio (EU-27 average: +0.1 p.p.). Only Greece, Spain, Luxembourg, Malta and Austria project an increasing effect of 0.1 p.p. of GDP. In all other Member States, the labour intensity effect is negligible.

Background statistics

	Slovakia			EU-27		
Current adequacy (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Median relative income of people 65+ as a ratio of income of people 0-64	83	86	82	88	92	86
Aggregate replacement ratio	61	59	59	53	56	52
At-risk-of-poverty rate: 65-	12,7	12,7	12,6	16,5	16,2	16,8
65+ / 75+	7,7 / 9,6	3,9 / 4,9	10,1 / 12,5	15,9 / 18,0	12,9 / 14,4	18,1 / 20,5
Severe material deprivation: 65-	11,5	11,4	11,6	8,5	8,4	8,5
65+ / 75+	11,1 / 13,2	9,3 / 13,1	12,3 / 13,2	6,4 / 6,5	5,1 / 5,0	7,3 / 7,5
At risk of poverty or social exclusion (EU2020): 65-	21,2	20,4	22,0	24,2	23,5	25,0
65+ / 75+	16,7 / 19,8	12,3 / 16,5	19,5 / 21,8	19,8 / 22,1	16,2 / 17,7	22,6 / 25,0
Income distribution (S80/S20): 65- / 65+	4 / 2,3	4,2 / 2,3	3,9 / 2,3	5,2 / 4	5,2 / 4	5,2 / 3,9
Adequacy projections: SK						
Theoretical replacement rates (TRR):	**Net 2010**	**Net 2050**	**Difference**	**Gross2010**	**Gross2050**	**Difference**
40 years career: average income earner (basecase)	74,6	65,4	-9,2	58,7 (100/0/0)*	51,3 (52/48/0)*	-7,5
Low income	78,2	64,6	-13,6	65 (100/0/0)*	53,5 (54/46/0)*	-11,5
High income	56,2	50,7	-5,5	42,7 (100/0/0)*	38 (51/49/0)*	-4,7
Lower / higher future rates of return		60,8 / 70,7			47,7 / 55,5	
Lower / higher future wage growth		72,9 / 59,6			57,2 / 46,8	
38 years career: average income	63,8	58,2	-5,6	50,2	45,6	-4,6
Low / high income	66,9 / 48	57,5 / 45,1	(-9,4/-2,9)	55,6 / 36,4	47,6 / 33,8	(-8/-2,6)
42 years career: average income	86,4	73,1	-13,3	68	57,3	-10,7
Low / high income	90,5 / 64,9	72,2 / 56,6	(-18,3/-8,3)	75,3 / 49,3	59,7 / 42,5	(-15,5/-6,8)
10 years after retirement	70	53,8	-16,2	54,2	41,9	-12,3
Female worker with 3 years of career break for childcare	52,1	53,6	1,5	41	42	1,0
3 years of career break for unemployment	53,6	51	-2,6	42,2	40	-2,2
10 years out of the labour market	56	47,6	-8,4	44,1	37,3	-6,8
	2010	**2050**	**Difference**	**EU27 2010**	**EU27 2050**	**Difference**
Benefit ratio (Public pensions)	43,7	29,7	-14,1	44,7	37,0	-7,7
Gross replacement rate at retirement (Public pensions)	50,7	40,2	-10,5	48,0	39,1	-8,9
	Slovakia			**EU-27**		
Current sustainability (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Employment rates: 15-64	58,8	65,2	52,3	64,1	70,1	58,2
55-64	40,5	54	28,7	46,3	54,6	38,6
Effective labour market exit age****	59,7	61,3	58,6	62,1	62,5	61,7
Remaining life expectancy at 65	16,3	14,1	18,0	19,3°	17,2	20,7
Economic old-age dependency ratio[3]	28,5			39,8		
Pension expenditure, %GDP (ESSPROS)	8,4°			13,1°		
Budget balance	-7,7			-6,6		
Public debt	41			80,1		
Sustainability projections ***	**Slovakia**			**EU-27**		
Old-age dependency ratio**	**2010**	**2020**	**2030**	**2010**	**2020**	**2030**
	19	26	35	28	34	42
	2040	**2050**	**2060**	**2040**	**2050**	**2060**
	42	56	68	50	55	58
	2010	**2050**	**Difference**	**2010**	**2050**	**Difference**
Public pensions, gross (% of GDP)	8,0	12,2	4,2	11,3	12,8	1,5
Old-age and early pensions, gross (% of GDP)	6,1	9,6	3,5	9,2	11,0	1,7

*: Share of statutory DB-NDC / statutory funded / occupational and other supplementary pensions

°: 2009

¹: 2008

²: 2007

3: Economic old-age dependency ratio (20-64)

** Old-age dependency ratio = Population aged 65 and over as a percentage of the population aged 20-64. Source: The 2012 Ageing Report

***Source: EC-EPC (AWG) 2012 projections

****Source: The 2012 Ageing Report

Slovenia (SL)

Country profile for the Pension Adequacy Report 2012

General description of the pension system

The public pension system (first pillar) is a PAYG system. The system has gradually evolved in time and this "incrementalism" has been present for the past 30 years. The pension reform, introduced in 1999 (and effective from January 1, 2000) tightened eligibility criteria by increasing the retirement age and lowering the value of the entry pensions. The latter was achieved through the decrease of the accrual rates and increase in the number of years used in the calculation of the pension assessment base. The basic features of the reformed pension system, introduced in the 1999 Pension and Disability Insurance Act (ZPIZ-1), are presented in Table 1.

Table 1: Characteristics of the current public pension (first pillar) in Slovenia (ZPIZ-1)

	Men	**Women**
Retirement age	63	61
Minimum insurance period (required for retirement at ages 63 (m) and 61(w))	20	20
Minimum conditions for early retirement	Age 58 with 40 years of insurance	Age 58 with 38 years of insurance
Computation of pension assessment base	Best 18 year average of (net) wages, using valorisation coefficients	
Computation of pension	Pension assessment base multiplied by accumulated accrual rates	
Accrual rates	35% for first 15 years, 1.5% for each additional year	38% for first 15 years, 1.5% for each additional year
Pension indexation	Growth of wages	
Minimum pension assessment base	Set nominally	
Maximum pension assessment base	4 times minimum pension assessment base	
Incentives and disincentives	Higher accrual rates for later retirement, negative accrual rates for early retirement	

The parameter values presented in the Table 1 for men have been reached in 2009. However, the parameter values for women are being increased more gradually, as the malus system will be fully in force by 2023 and the minimum age requirement (58 years) for early retirement will be reached in 2014. The accrual rates stated in the table refer to insurance years following the adoption of the reform; for years before 2000 higher accrual rates are applied[218]. The valorisation coefficients, used in computing the pension assessment base, amount to somewhat less than 80% of the nominal wage growth. This simply means that in calculating the pension assessment base, past contributions are valorised according to approximately 80% of the past growth of average wages. In effect, this produces the same result as if (in calculating the pension assessment base) past wages would be valorised with nominal average

[218] For men, the accrual rate under the 1992 Pension and Disability Insurance Act was 35% for the first 15 years of insurance and 2% for each additional year (above 15 years). For women the accrual rate was 40% for the first 15 years and 3% for each additional year up to 20 years of insurance, followed by 2% for each additional year up to 35 years of insurance.

wage growth, but the accrual rates would be "only" 80% of those stated. This would mean that the effective accrual rate under ZPIZ-1 is not 1.5% but 0.80 x 1.5%=1.2%.

The negative accrual rates, applied for early retirement, are relatively small and do not exceed 3.6% per year[219]. Similarly, the additional accrual rates for postponing retirement are also rather low; they are digressive and do not exceed 3.6% per year. Retirement with a shorter insurance period is possible. Persons who do not satisfy the condition of minimum insurance period of 20 years can retire at 65 (men) and 63 (women), but they must have at least 15 years of insurance.

People with long careers (respectively 40 and 38 years of work for men and women) can retire at 58 without deductions (i.e. negative accruals). Second, the retirement age can be reduced for child-rearing. ("Child's bonus"). This measure is being phased in: by 2014 the reduction for two children will amount to 18.75 months, it is gender-neutral, but being used mostly by men, who were faced with a more rapid increase in pensionable age.

Finally, ZPIZ-1 stipulates reduction in the annual indexation of pensions in payment, in line with the decreasing accrual rates for new entrants[220]. This in effect means that pensions are being increased by the growth of wages in the past year minus 0.6 percentage points. For example, as the nominal growth of average wage in 2008 was 3.5%, pensions (for most pensioners) were increased in February 2009 by 2.9%.

The second pillar pension schemes are of a funded DC type and were *de facto* introduced in ZPIZ-1[221], and some two-thirds of all employees are now enrolled. They are mandatory only for public employees (ZVPSJU: *Zaprti vzajemni pokojninski sklad za javne uslužbence)* and for persons employed in arduous occupations (SODPZ: *Sklad obveznega dodatnega pokojninskega zavarovanja)*. *Kapitalska družba (KAD),* a state-owned pension managing company, manages SODPZ, while Modra zavarovalnica, a state owned insurance company, manages ZVPSJU.

Contributions are low, even for the mandatorily insured. The average amount of assets per member of ZVPSJU is around two thousand euros, and the corresponding figure for SODPZ is around 6.4 thousand euros, despite the fact that these funds have been in operation for 9 years. It indicates that the funded scheme will not compensate for the pension shortfall in the public scheme. The ZVPSJU was introduced to prevent wage increases at time of pre-accession to the Eurozone. The 1999 reform resolved the problem of insured persons working in arduous occupations by pushing them out of the public system. The "inadequacy problem" of occupational second pillar pensions erupted in 2010, when the first occupational pensions from the SODPZ fund were disbursed.

Reform trends

After one year of preparations, the Government presented the draft Pension and Disability Insurance Act (ZPIZ-2) in March 2010. The act was approved in the Parliament with amendments on December 14. It introduced gradual changes in the pension system –

[219] The value of this deduction (negative accrual rate) depends on the actual retirement age. Thus, for a person retiring at age 58, the negative accrual rate is 3.6% per each year of early retirement, meaning the total accumulated negative accrual rate to be 5 times 3.6% = 18%, so that his entry pension will be decreased by 18%. For a person retiring at age 59 the negative accrual rate is 3.0% per each year of early retirement.

[220] It will be recalled that the »new« accrual rates are 1.5% per year, whereas the »old« accrual rates are 2% (or higher) per year.

[221] Strictly speaking, the second pillar was introduced in the 1992 PDIA, but due to the lack of tax incentives, the number of enrolled participants did not exceed several hundred.

increasing the pensionable age, tightening eligibility conditions and greatly improving transparency. A very important feature of the new pension legislation was the stabilization of replacement rates. These were set at 60 % for 40 years of work for men and 38 years of work for women to prevent further down-sliding of the effective replacement rates[222].

In reaction the Slovenian trade unions collected the required 40,000 signatures to organise a referendum, which was held on June 5, 2011 and the new pension legislation was rejected by a large margin of voters (with 72.2 % against, and 27.8 % in favour). Thus, the current pension legislation still remains in force.

In spite of this stalemate, the acting Government has proposed an emergency law freezing all indexation of social benefits, pensions and public sector salaries for the first 6 months of the year 2012. The National Assembly (*Državni zbor*) elected in December 2011, unanimously approved and passed this emergency law at its first session, on December 23, 2011.

All political parties have declared themselves in favour of pension reform in their pre-election programs, but without providing details. Only *DeSUS* (The Pensioner's party) set more detailed conditions which would have to be met. A change in referendum rules, curtailing the power of various interest groups, is under discussion but requires a constitutional (two thirds) majority in the *Državni zbor.*

Assessment of adequacy and sustainability pension indicators

Current adequacy / Future adequacy

The relative value of pensions granted to new pensioners has been decreasing since 2000 and the minimum pension assessment base (relevant for calculating minimum pensions) has also been decreasing in relative terms. If the current pension legislation remains in force, this general down-slide of entry pensions will continue. The incomplete pension indexation in 2010 and 2011, and a freeze in pension indexation for the first half of 2012, further aggravated this problem.

Newly granted pensions of people with full careers will be affected by the temporary solutions to pension indexation in 2010-2012. However, the adequacy challenge concerns especially people with incomplete or short working careers, those working in intermittent jobs and with low contribution density.

Furthermore, this problem will not go away, as the number of active persons working part-time or on temporary labour contracts is increasing. The current adequacy could be considered as problematic particularly for elderly women, as witnessed by their high at-risk-of-poverty rates. The relatively unfavourable position of this group of elderly persons is persistent, even if their income position has improved in the last ten years (see Kump and Stanovnik 2011).

Several indicators in the EU are used to measure poverty. The aggregate indicator of risk of poverty and social exclusion is based on three sub-indicators: (1) at-risk-of-poverty, which measures relative monetary poverty, (2) severe material deprivation, which is a more absolute measure of poverty, and (3) people living in households with low work intensity (which is not applied to older population). For more analysis, please refer to the Pensions Adequacy Report.

In 2010 20.2% of people aged 65 and more were exposed to the risk of poverty, 9 percentage points more than for the population below the age of 65. A considerable gender gap was also

[222] This down-sliding is caused by the gradual decrease in the valorisation coefficients.

recorded in this respect with 27% of women and 9.5% of men over the age of 65 at-risk-of-poverty.

Elderly men (65+) have relatively higher income than elderly women (65+). Administrative data from the Institute for Pension and Disability Insurance show that old-age pensions for women are some 20 % lower than those of men. Also, many women do not receive an old-age pension, but a widows' or state pension; the former is a "derived" pension, whereas the latter is actually a social assistance benefit. The value of these benefits is quite low. Consequently, the risk of poverty is much higher for women than for men.

Severe material deprivation rate for older people in Slovenia (6.3% in 2010) is close to the EU average (6.4%). The gender gap is less visible than in the case of relative income poverty, as 6.9% of women 65+ are exposed to severe material deprivation, compared to 5.4% of men (2010 data).

The aggregate replacement ratio is defined as the median individual pension income of persons 65-74 years old relative to median earnings of persons 50-59 years old, excluding other social benefits. This indicator is relevant for monitoring current adequacy of pensions in their role of income replacement.[223]

The aggregate gross replacement ratio has to be interpreted carefully, as pensions are virtually exempt from personal income tax and from social contributions.[224]

Though the ratio between the average pension and average net wage has been gradually decreasing since 2000, the aggregate (net) replacement ratio still appears to be not too low. However, this is based on a comparison of pension entitlements of elderly persons with labour income. That is why a fairly satisfactory value of this indicator does not necessarily imply a low at-risk-of-poverty rate for the elderly[225].

Regarding the adequacy projections, net theoretical replacement rates (NRR) are expected to fall over the long-run. For the base case of a worker retiring at 65 after 40 years of career at the average wage, NRR would fall from 59.2% in 2010 to 53.7% in 2050, whereas gross replacement rates (GRR) declines from 40.5% to 36.7% over the same period. This means drops of 5.5 p.p. (NRR) and 3.8 p.p. (GRR) in the next 40 years. Low incomes will see their replacement rates stay constant.

The drops in replacement rates would occur not only for the base case male worker retiring at 65 after 40 years career, but also for the "variant" cases careers.

[223] The EU-SILC indicator for Slovenia is based on gross values. However, The Statistical office of Slovenia also computes the EU-SILC indicator based on net values, which are not published. The indicator based on net values is to be preferred for Slovenia. In the methodological explanation for this indicator on the Eurostat homepage it is stated that »During the transitions to gross income collections in all countries, gross income is used, where gross is available and net otherwise«. See also footnote 9.

[224] EU-SILC data include only persons aged 50-59 who were employed for 12 months (full-time or part-time). This includes employees and self-employed. As some forms of income (compensation for meals and transportation) is not included in the PIT this data is collected separately. In the category „pensions" only old-age pensions, survivors pensions and some other allowances and social assistance benefits related to old-age are included. (Communication Stanka Intihar, SORS). Surprisingly, disability pensions are not included, even though disability pensions are disbursed without an age limit – unlike most other pension systems, where the disability pension is commuted to an old-age pension when the person reaches the „normal" retirement age.

[225] In particular, the at-risk-of-poverty rate takes the whole population as the numerator. The replacement rate for women, say, compares the pensions of women (in the age group 65-74) with the labour income of women in the age group 50-59. Thus, the gender wage gap does not influence this measure.

The effect of the demographic challenge could be countered through postponing of the retirement decision. In the coming years workers may retire later to compensate for the cuts resulting from the adjustments of the formula to calculate pension benefits. TRR calculations reveal that an average wage worker retiring at 67 in 2050 would get a 62.2% NRR.

SUSTAINABILITY

Demography

The old-age dependency ratio[226] (population aged 65 and over as a percentage of the population aged 20-64) in SI is projected to increase from 25.6% in 2010 (EU-27: 28.4%) to 60.2% in 2050 (EU-27: 55.0%) and 63.2% in 2060 (EU-27: 57.7%).

SI belongs to the group of Member States where the increase in old-age dependency ratio is projected to be above the EU-27 average. Over the period 2010 to 2060, the old-age dependency ratio is projected to increase by 37.6 percentage points (EU-27: 29.2 percentage points).

SI will be one of the fastest ageing countries in the EU. The share of working-age population (15-64) (69.4% of the total population in 2010) is projected to drop by 14.6 percentage points by 2060 (to 54.8% of the total population), compared with 10.7 percentage points for the EU as a whole by 2060.

Employment

The labour market participation rate[227] (15-64) in SI was above the EU-27 average in 2010 (SI: 71.7%, EU-27: 71.1%), and is projected to remain higher also in 2060 (SI: 74.7%, EU-27: 73.8%). Over the period 2010 to 2060, the participation rate of older workers (55-64) is it projected to increase by 25.3 percentage points (from 36.3% in 2010 to 61.6% in 2060) but will stay lower than in the EU-27 in 2060 (EU-27: 49.7% in 2010; 66.5% in 2060).

According to the 2012 Ageing Report, employment rate (15-64) is projected to increase from 66.4% in 2010 (EU-27: 64.1%) to 70.6% in 2050 (EU-27: 68.9%) and decrease to 70.5% in 2060 (EU-27: 69.0%). The share of older (55-64) in employment is projected to change from 10% in 2010 to 17% in 2060 (EU-27: from 13% in 2010 to 19% in 2060).

The employment rate for older workers (55 to 64 years)[228] in SI in 2010 was below the EU-27 average: 35.0% (45.5% - males, 24.5% - females) versus 46.3% at EU-27 level (54.6% - males, 38.6% - females).

The average effective exit age from the labour force in 2010 was 60.3 (61.4 – for men, 59.2 – for women) and it is below the EU-27 average (62.1 – total, 62.5 – for men, 61.7 – for women).

Expenditure

According to the 2012 Ageing Report, the gross public pension expenditure will increase from 11.2% of GDP in 2010 to 17.9% of GDP in 2050 and to 18.3% of GDP in 2060.

In 2010 the gross old-age and early pension expenditure was 7.8% of GDP, below the EU-27 average of 9.2%. The 2012 Ageing Report projects an increase to 14.7% of GDP by 2050, which is above the EU-27 projected average of 11.0% of GDP.

[226] The 2012 Ageing Report
[227] The 2012 Ageing Report
[228] EUROSTAT

Main drivers of pension expenditure

In accordance with the 2012 Ageing Report, the demographic factor has the strongest downward effect (+12.8 p.p. of GDP) on gross public pension expenditure over 2010-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and labour intensity[229]). The lowering effect of coverage ratio (-3.1 p.p.) and employment rate (-1.0 p.p.) on the public pension expenditure are more pronounced than the benefit ratio effect (-0.9 p.p.).

[229] As a result of the macroeconomic assumptions used in the projections, the labour intensity contribution has more or less no impact on the change in the pension expenditure/GDP ratio (EU-27 average: +0.1 p.p.). Only Greece, Spain, Luxembourg, Malta and Austria project an increasing effect of 0.1 p.p. of GDP. In all other Member States, the labour intensity effect is negligible.

Background Statistics

	Slovenia			EU-27		
Current adequacy (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Median relative income of people 65+ as a ratio of income of people 0-64	87	96	81	88	92	86
Aggregate replacement ratio	45	51	42	53	56	52
At-risk-of-poverty rate: 65-	11,3	11,5	11,2	16,5	16,2	16,8
65+ / 75+	20,2 / 26	9,5 / 10,7	27,1 / 34	15,9 / 18,0	12,9 / 14,4	18,1 / 20,5
Severe material deprivation: 65-	5,9	5,6	6,1	8,5	8,4	8,5
65+ / 75+	6,3 / 6,4	5,4 / 4,3	6,9 / 7,5	6,4 / 6,5	5,1 / 5,0	7,3 / 7,5
At risk of poverty or social exclusion (EU2020): 65-	17,5	17,0	18,0	24,2	23,5	25,0
65+ / 75+	22,8 / 28,2	12,5 / 12,4	29,5 / 36,4	19,8 / 22,1	16,2 / 17,7	22,6 / 25,0
Income distribution (S80/S20): 65- / 65+	3,4 / 3,6	3,4 / 3,2	3,3 / 3,6	5,2 / 4	5,2 / 4	5,2 / 3,9
Adequacy projections: SI						
Theoretical replacement rates (TRR):	**Net 2010**	**Net 2050**	**Difference**	**Gross2010**	**Gross2050**	**Difference**
40 years career: average income earner (basecase)	59,2	53,7	-5,5	40,5 (100/0/0)*	36,7 (100/0/0)*	-3,8
Low income	88,6	89,1	0,5	60,7 (100/0/0)*	61 (100/0/0)*	0,3
High income	47,7	42,1	-5,6	40,5 (100/0/0)*	36,7 (100/0/0)*	-3,8
Lower / higher future rates of return		53,7 / 53,7			36,7 / 36,7	
Lower / higher future wage growth		53,7 / 53,7			36,7 / 36,7	
38 years career: average income	58,5	48,8	-9,7	40,1	40,3	0,2
Low / high income	88,6 / 42,1	89,1 / 42	0,5 / 0	60,7 / 36,7	61 / 36,7	0,3 / 0
42 years career: average income	66,6	62,2	-4,4	45,6	42,6	-3,0
Low / high income	88,6 / 55,1	89,1 / 50,7	0,5 / -4,4	60,7 / 45,6	61 / 42,6	0,3 / -3
10 years after retirement	55,5	53,7	-1,8	38,0	36,7	-1,3
Female worker with 3 years of career break for childcare	58,5	53,7	-4,8	40	40	0,0
3 years of career break for unemployment	59,2	53,7	-5,5	40,5	36,7	-3,8
10 years out of the labour market	58,5	42,6	-15,9	40,1	40,3	0,2
	2010	**2050**	**Difference**	**EU27 2010**	**EU27 2050**	**Difference**
Benefit ratio (Public pensions)	19,2	17,3	-2,0	44,7	37,0	-7,7
Gross replacement rate at retirement (Public pensions)	:	:	:	48,0	39,1	-8,9
	Slovenia			EU-27		
Current sustainability (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Employment rates: 15-64	66,2	69,6	62,6	64,1	70,1	58,2
55-64	35	45,5	24,5	46,3	54,6	38,6
Effective labour market exit age****	60,3	61,4	59,2	62,1	62,5	61,7
Remaining life expectancy at 65	19,2	16,4	20,2	19,3°	17,2	20,7
Economic old-age dependency ratio[3]	34,3			39,8		
Pension expenditure, %GDP (ESSPROS)	10,9°			13,1°		
Budget balance	-5,8			-6,6		
Public debt	38,8			80,1		
Sustainability projections ***	Slovenia			EU-27		
Old-age dependency ratio**	**2010**	**2020**	**2030**	**2010**	**2020**	**2030**
	26	33	43	28	34	42
	2040	**2050**	**2060**	**2040**	**2050**	**2060**
	51	60	63	50	55	58
	2010	**2050**	**Difference**	**2010**	**2050**	**Difference**
Public pensions, gross (% of GDP)	11,2	17,9	6,7	11,3	12,8	1,5
Old-age and early pensions, gross (% of GDP)	7,8	14,7	6,9	9,2	11,0	1,7

*: Share of statutory DB-NDC / statutory funded / occupational and other supplementary pensions

°: 2009

¹: 2008

²: 2007

[3]: Economic old-age dependency ratio (20-64)

: Data not available

** Old-age dependency ratio = Population aged 65 and over as a percentage of the population aged 20-64.
Source: The 2012 Ageing Report

***Source: EC-EPC (AWG) 2012 projections

****Source: The 2012 Ageing Report

Spain (ES)

Country profile for the Pension Adequacy Report 2012

General description of the pension system

The Spanish public pension system is organized in two main schemes, both of them unfunded, i.e. financed on a pay-as-you-go (PAYG) basis. The most important, the contributory system is mainly a defined-benefit system, i.e. benefits are related to contributions, and it covers retirement, disability, maternity and survivors risks. In parallel to this, in 1990 a non-contributory means-tested system was introduced for those who are not eligible for the contributory system. This system covers around 5% of total pensioners, mainly women, and is financed through general public revenues.

The contributory system is mandatory for all employees and also for the self-employed. Although there are special schemes for some workers (civil servants, justice system and the army), the majority of workers are covered by the social security, who manages more than 93% of the contributory pensions and contributions. In December 2011, the number of social security pensions was 8.9 million (8.7 in 2010), being 59.7% retirement pensions, 26.2% widowhood, 10.6% permanent disability, 3.1% orphan and 0.4% other survivors. The contributors to the system were 19.8 million (almost 0.4 million people less than the previous year). Pension amounts differ with regard to the type of pension: while the average retirement pension was EUR 923.7 per month, the average orphan pension was EUR 360.9 per month. Widowhood pension, with a majority of female beneficiaries (93%) reached an average monthly benefit of EUR 588.8.

Besides the general unfunded social security system, since 2000 a so-called *Reservation Fund* accumulates part of the system surpluses. At the end of 2011, this fund amounted to 6.22% of GDP (the annual public pension expenditure is estimated to be above 10.0% of GDP in 2011, contributory social security system 9.2%).

The social security provides retirement pensions after a minimum contribution period of 15 years (2 of them during the last 15 years prior to retirement). Benefits are calculated taking into account past contributions –both the level and duration. The exact formula was changed with the different reforms implemented during last decades (the last one in 2011), as explained below.

In spite of its contributory character, the social security system also plays an important redistributive role. On the one hand the relation between contributions and benefits is not linear (except for the existence of a minimum contribution period, individuals with shorter employment histories are, in general, more favoured). On the other hand, maximum and minimum thresholds exist both for contributions and pensions. The maximum amount of a contributory pension in 2011 was EUR 34 970.74, while the minimum depends on the type of pension and the family situation (for single retirees aged 65 or more it was EUR 8419,60). Regarding contributions, the maximum was EUR 38 761.2 while the minimum depends on professional standing (going from EUR 8.978,4 for less qualified to EUR 12 542.40). In the case of non-contributory pensions, that play an important redistributive role, the annual average amount was EUR 4 624.90 for retirement and EUR 5 205.31 for disability in 2011.

Reform trends

Since the social security system was introduced in 1967 different reforms have been implemented, mainly aimed at further strengthening proportionality between contributions and pensions paid as a way to tackle the challenge of population ageing.

For retirement pensions the most important changes took place in four directions: the minimum contribution period to receive a pension, the initial benefit calculation and the age of retirement. First, the minimum contribution period has increased from 10 to 15 years in 1985, remaining unchanged from then on.

Second, the formula to calculate the initial benefit has been modified several times. In general, the initial benefit is calculated as a percentage (depending of the years of contribution) of a "base pension" (obtained as an average of past earnings). Initially, the base pension amount was calculated based on the last 2 years of contributions prior to retirement. Subsequent reforms have increased this period to 8 in 1985, 15 in 1995 and finally, to 25 in the last reform approved in 2011 (to be implemented progressively from 2013 to 2027). Regarding the percentage applied to the base pension, it has been the same since 1967 until the 2011 reform, except from a marginal adjustment because of the increase in the minimum contribution period. Initially, the first 15 years of contribution give right to 50% of the base pension; from then, each additional complete year entitled to 3% more until the year 25 and to 2% more for each additional year of employment from 26 to 35. So, the maximum benefit was achieved with a contributory period of 35 or more years. From 2027 on, the proportionality between the contributory period and benefits will increase for those with more than the minimum 15 years of contribution, measuring the intervals in months instead of in years. The maximum benefit will be reached with 37 or more years of contribution.

Third, the retirement age has been also modified. The most important reform in this sense was approved in 2011. On the one hand, a general increase of two years in the legal age has been established, from 65 to 67 – also with a progressive application from 2013 to 2027. Nevertheless, retirement at age 65 with the 100% of base pension will be possible for individuals with 38.5 or more years of contribution. On the other hand, new requirements for early and delayed retirement have been approved, in order to rise the effective retirement age. It is worth noting that the 2011 reform introduces the adjustment of the pension system by a sustainability factor. Every five years from 2027 onwards, the main parameters of the system will be revised taking into account the changes in life expectancy at age 67 along this period. Nevertheless the exact formula for that revision is not specified in the legislation. Accordingly to the EPC estimations (The 2012 Ageing Report), the 2011 reform of the contributory system will cut pension expenditure in the long-term (2010-2060) by the equivalent of 3.6 percentage points of GDP.

Besides old-age pensions, other pensions have also been reformed during last decades. In particular, in 1983 the widowhood pensions were extended to men –initially only women could receive them– and in 2007 they were also extended to the survivor of a non-married couple with 5 or more years of cohabitation. In this period there have also been increases in the benefit level. Furthermore, the eligibility requirements for orphans to receive a pension have been changed: The maximum age has been extended from 18 to 21 according to social trends.

Regarding pension indexation since 1994, government and unions agreed on a yearly revaluation according to inflation. This was maintained until 2011, when all contributory pensions (except the minimum thresholds) were frozen, due to the economic crisis. For 2012 an increase of 1% has been approved.

The coverage of occupational and other supplementary pension in Spain is quite low compared to other European countries. In 2009 Spain had accumulated 9.4% of GDP in private pension funds according to the OCDE. Private pension funds are voluntary and supported by some fiscal incentives.

Assessment of adequacy and sustainability pension indicators

Current adequacy

Comparing the current adequacy indicators in 2010 -related to poverty or income replacement- for Spain to the rest of EU, only two of them are better than the EU average: severe material deprivation and current theoretical replacement rates, though most of them have been improving considerably over the last years (especially as from 2006).

The risk of poverty or social exclusion (EU2020 indicator) rate for people 65+ is 22,6%, 2.8 percentage points (p.p.) above the European average, but with a significant dropping trend over time (it reached 32%). Similarly, the at-risk-of-poverty rate for people 65+ has gone down from 30.7% in 2006 to 21.7% in 2010, but it is still well above the EU-27 average (15.9%). For people 75+ the gap to the EU at-risk-of-poverty rate is also similar: 23.7% versus 18% in 2010. Furthermore the severe material deprivation indicator has also been considerably reduced over time, moving from 3.9% in 2006 to 2% in 2010. This is the only poverty-related indicator well below the EU average (6.4%). It should also be remarked that elderly people (65+) are less likely to be severely materially deprived than younger (65-) people (with a rate of 4.4% in 2010). Since the severe material deprivation is the only indicator measuring absolute (not relative) poverty and based on non-monetary measures, these outcomes might be due to the fact that most Spaniards own their house[230] and that the elderly in Spain rely in a bigger proportion on their property and asset income –instead of transfers– with respect to other EU countries. On top of this, the falls in general in these relative or absolute poverty indicators for the elderly over time can be attributed to the improvement of minimum old-age pensions. The risk of poverty and severe material deprivation indicator is still slightly higher for women.

The median relative income ratio for people 65+, as a ratio of income of the age group 0-64, has gone up to 83% in 2010, increasing on a constant rising trend by 9 p.p. from the lowest 2006 figure due to a higher uprating of pensions compared to wage and price inflation. It is still however lower than the EU-27 average (88.0%).

Because of the same uprating mechanisms, the aggregate replacement ratio (median individual pensions of 65-74 year olds relative to median individual earnings of 50-59 years old) has also improved over the last four years, reaching the EU-27 average of 53% in 2010 for the total population, although not for women.

It remains to be seen if the positive trend of the current adequacy indicators has been preserved during the crisis (the last available data of 2010 reflects the income situation in 2009). It can be expected that although the elderly have a higher at-risk-of-poverty index, they may have been less affected by the business cycle thanks to the continuation of the social protection system along the crisis that hit mainly the working age population.

Another indicator to measure the income replacement role of pensions is theoretical replacement rate. In Spain the net theoretical replacement rate (NRR) in 2010 was 94.5%, one

[230] When considering the ownership of a house, the risk-of-poverty or social exclusion as well as the risk-of-poverty decreases. The at-risk-of-poverty rate for people +65 when considering the ownership of a house decreases from 21.7% to 10.1%, 5.8 p.p. below the European average.

of the highest in the EU-27. The gross theoretical replacement rate (GRR) is 86.5% in 2010. Net replacement rates are always higher than gross replacement rates because pension benefits are subject to lower tax rates than wages (since the income tax system is progressive).

Future adequacy

Regarding the adequacy projections, NRR are expected to fall over the long-run. For the base case of a worker retiring at 65 after 40 years of career at the average wage, NRR would fall from 94.5% in 2010 to 86.5% in 2050, whereas GRR declines from 86.5% to 79.1% over the same period. This means drops of 8 p.p. (NRR) and 7.4 p.p. (GRR) in the next 40 years. Higher incomes will suffer larger decreases: 9.7 p.p. (NRR) and 9.9 (GRR) p.p. in 40 years.

The drops in replacement rates occur not only for the base case male worker retiring at 65 after 40 years career, but also for the "variant" cases careers.

Labour market discontinuities due to unemployment or childcare (in both cases for a maximum of three years) are rather well protected in Spain (similar replacement rates levels to the base case) and will be similarly protected in the future: they do not affect much the trends in NRR and GRR, since the reduction of both rates over the 40 year span would run by a similar measure as the base case.

The effect of the demographic challenge could be countered through postponing of the retirement decision. In the coming years workers may retire later to compensate for the cuts resulting from the adjustments of the formula to calculate pension benefits. TRR calculations reveal that while currently the bonus/malus effect of retiring 2 years later/earlier would change the NRR to 104%/87.8% of the base case NRR for the average income retiring at age 65, in the future late retirement will be relatively more rewarded (106.7% of the NRR in the case of retirement at 65), whilst in the 2 years earlier retirement case there will be a substantial aggravated loss in 2050 (74.1% of the base case NRR in 2050). This shows that Spain is relying both on promoting longer working and especially on reducing early exit paths to increase the effective retirement age and offset the long term demographic pressures.

As a result of the crisis public finances have worsened considerably in Spain. This may impact via austerity measures the adequacy of pensions. In addition spells of long term unemployment cause a lower and slower build-up of pension rights and can therefore cause an impact on the adequacy of pension entitlements.

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. Continuous monitoring of adequacy and sustainability indicators remains however key as to make sure that achieving these objectives is also guaranteed in the future.

SUSTAINABILITY

Demography

The old-age dependency ratio[231] (population aged 65 and over as a percentage of the population aged 20-64) in ES is projected to increase from 26.8% in 2010 (EU-27: 28.4%) to 62.0% in 2050 (EU-27: 55.0%) and decrease to 61.4% in 2060 (EU-27: 57.7%).

ES belongs to the group of Member States where the increase in old-age dependency ratio is projected to be above the EU-27 average. Over the period 2010 to 2060, the old-age dependency ratio is projected to increase by 34.6 percentage points (EU-27: 29.2 percentage points).

[231] The 2012 Ageing Report

The share of working-age population (15-64) (68.0% of the total population in 2010) is projected to drop by 12.2 percentage points by 2060 (to 55.9% of the total population), compared with 10.7 percentage points for the EU as a whole by 2060.

Employment

The labour market participation rate[232] (15-64) in ES was above the EU-27 average in 2010 (ES: 73.4%, EU-27: 71.1%), and is projected to remain higher also in 2060 (ES: 77.5%, EU-27: 73.8%). Over the period 2010 to 2060, the participation rate of older workers (55-64) is it projected to increase by 25.6 percentage points (from 50.8% in 2010 to 76.4% in 2060) and will be higher than in the EU-27 2060 (49.7% in 2010; 66.5% in 2060).

According to the 2012 Ageing Report, employment rate (15-64) is projected to increase from 58.6% in 2010 (EU-27: 64.1%) to 72.1% in 2050 (EU-27: 68.9%) and decrease to 71.8% in 2060 (EU-27: 69.0%). The share of older (55-64) in employment is projected to change from 12% in 2010 to 21% in 2060 (EU-27: from 13% in 2010 to 19% in 2060).

The employment rate for older workers (55 to 64 years)[233] in ES has risen from 39.2% in 2001 but in 2010 it was still below the EU-27 average: 43.6% (54.7% - males, 33.2% - females) versus 46.3% at EU-27 level (54.6% - males, 38.6% - females).

The average effective exit age from the labour force in 2010 was 62.9 (62.5 – for men, 63.7 – for women) and it is above the EU-27 average (62.1 – total, 62.5 – for men, 61.7 – for women). The average exit age from the labour market was 3.1 years lower than the statutory retirement age at 65, but above the EU average.

Expenditure

According to the 2012 Ageing Report, the gross public pension expenditure will increase from 10.1% of GDP in 2010 to 14.0% of GDP in 2050 and to 13.7% of GDP in 2060.

In 2010 the gross old-age and early pension expenditure was 6.8% of GDP, well below the EU-27 average of 9.2%. The 2012 Ageing Report projects an increase to 11.1% of GDP by 2050, which is somewhat above the EU-27 projected average of 11.0% of GDP.

Main drivers of pension expenditure

In accordance with the 2012 Ageing Report, the demographic factor has the strongest downward effect (+9.7 .p. of GDP) on gross public pension expenditure over 2010-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and labour intensity[234]). The lowering effect of employment rate (-2.2 p.p.) and benefit ratio (-2.3 p.p.) on the public pension expenditure are more pronounced than the coverage ratio effect (-0.8 p.p.).

[232] The 2012 Ageing Report

[233] EUROSTAT

[234] As a result of the macroeconomic assumptions used in the projections, the labour intensity contribution has more or less no impact on the change in the pension expenditure/GDP ratio (EU-27 average: +0.1 p.p.). Only Greece, Spain, Luxembourg, Malta and Austria project an increasing effect of 0.1 p.p. of GDP. In all other Member States, the labour intensity effect is negligible.

Background Statistics

	Spain			EU-27		
Current adequacy (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Median relative income of people 65+ as a ratio of income of people 0-64	83	84	82	88	92	86
Aggregate replacement ratio	53	61	47	53	56	52
At-risk-of-poverty rate: 65-	20,5	20,1	20,9	16,5	16,2	16,8
65+ / 75+	21,7 / 23,7	19,9 / 21	23,1 / 25,5	15,9 / 18,0	12,9 / 14,4	18,1 / 20,5
Severe material deprivation: 65-	4,4	4,2	4,5	8,5	8,4	8,5
65+ / 75+	2 / 2,1	1,5 / 1,5	2,4 / 2,4	6,4 / 6,5	5,1 / 5,0	7,3 / 7,5
At risk of poverty or social exclusion (EU2020): 65-	26,1	25,6	26,6	24,2	23,5	25,0
65+ / 75+	22,6 / 24,7	20,5 / 21,7	24,1 / 26,6	19,8 / 22,1	16,2 / 17,7	22,6 / 25,0
Income distribution (S80/S20): 65- / 65+	7,5 / 4,4	7,6 / 4,4	7,4 / 4,3	5,2 / 4	5,2 / 4	5,2 / 3,9
Adequacy projections: ES						
Theoretical replacement rates (TRR):	**Net 2010**	**Net 2050**	**Difference**	**Gross2010**	**Gross2050**	**Difference**
40 years career: average income earner (basecase)	94,5	86,5	-8,0	86,5 (100/0/0)*	79,1 (100/0/0)*	-7,4
Low income	94,6	86,5	-8,1	86,5 (100/0/0)*	79,1 (100/0/0)*	-7,4
High income	77,7	68,0	-9,7	69,2 (100/0/0)*	59,3 (100/0/0)*	-9,9
Lower / higher future rates of return		86 / 86			80,4 / 80,4	
Lower / higher future wage growth		96 / 77,5			91,2 / 71,1	
38 years career: average income	83	63,4	-19,6	74,2	55,4	-18,8
Low / high income	88,5 / 71,7	65,2 / 51,2	(-23,4/-20,4)	75,2 / 63	55,4 / 41,5	(-19,9/-21,5)
42 years career: average income	98,2	92,3	-5,9	90,9	85,4	-5,5
Low / high income	99,7 / 81,3	92,9 / 72,5	(-6,8/-8,8)	91,6 / 73,4	85,4 / 64	(-6,2/-9,4)
10 years after retirement	86	78,2	-7,8	78,6	71,5	-7,1
Female worker with 3 years of career break for childcare	94,5	86,5	-8,0	86,5	79,1	-7,4
3 years of career break for unemployment	92,3	84,7	-7,6	84,4	77,5	-6,9
10 years out of the labour market	86,1			77,8		
	2010	**2050**	**Difference**	**EU27 2010**	**EU27 2050**	**Difference**
Benefit ratio (Public pensions)	55,3	46,4	-8,8	44,7	37,0	-7,7
Gross replacement rate at retirement (Public pensions)	72,4	56,6	-15,9	48,0	39,1	-8,9
	Spain			**EU-27**		
Current sustainability (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Employment rates: 15-64	58,6	64,7	52,3	64,1	70,1	58,2
55-64	43,6	54,7	33,2	46,3	54,6	38,6
Effective labour market exit age****	62,9	62,5	63,7	62,1	62,5	61,7
Remaining life expectancy at 65	20,8	18,2	22,1	19,3°	17,2	20,7
Economic old-age dependency ratio[3]	42,1			39,8		
Pension expenditure, %GDP (ESSPROS)	10,1°			13,1°		
Budget balance	-9,3			-6,6		
Public debt	61,0			80,1		
Sustainability projections ***	**Spain**			**EU-27**		
Old-age dependency ratio**	**2010**	**2020**	**2030**	**2010**	**2020**	**2030**
	27	32	39	28	34	42
	2040	**2050**	**2060**	**2040**	**2050**	**2060**
	51	62	61	50	55	58
	2010	**2050**	**Difference**	**2010**	**2050**	**Difference**
Public pensions, gross (% of GDP)	10,1	14,0	3,8	11,3	12,8	1,5
Old-age and early pensions, gross (% of GDP)	6,8	11,1	4,3	9,2	11,0	1,7

*: Share of statutory DB-NDC / statutory funded / occupational and other supplementary pensions

°: 2009

¹: 2008

²: 2007

[3]: Economic old-age dependency ratio (20-64)

** Old-age dependency ratio = Population aged 65 and over as a percentage of the population aged 20-64. Source: The 2012 Ageing Report

***Source: EC-EPC (AWG) 2012 projections

****Source: The 2012 Ageing Report

Sweden (SE)

Country profile for the Pension Adequacy Report 2012

General description of the pension system

The Swedish public social insurance pension system was legislated in 1995 and adopted in parliament in 1998. It consists of three parts:

- Income pension, a notional defined-contribution pay-as-you-go system (NDC);
- Premium pension, a fully funded mandatory DC scheme; and
- Guarantee pension, a guaranteed minimum defined benefit pension financed from general taxes.

If the income pension is low – because of low wages or too few working years – it is supplemented by a guarantee pension. In addition there is a housing allowance for pensioners with low pensions and high housing costs. The guarantee pension is consumer price indexed. To receive a full guarantee pension, a person must have lived in Sweden or in another EU/EES country for 40 years. For those who have not lived in Sweden for 40 years there is also a means-tested benefit, maintenance support for the elderly which provides a minimum standard of living.

In the NDC and DC part of the scheme, all income earned, up to a certain ceiling, influences the pension. The contribution rate is fixed at 18.5% of the gross wage, up to the ceiling. 16 percentage points finance current pensions in payment on a pay-as-you-go basis while being registered in notional accounts as accruing entitlements to future pensions (income pension) and 2.5 percentage points can be invested in up to 5 funds (out of ca. 800 available) selected by the individual (premium pension).

The NDC part of the scheme is normally wage indexed.[235] In addition to wage from regular employment, income from self-employment and benefits in case of sickness, disability and unemployment are considered as income on which contributions for the pension system are levied. Studies (with national study assistance) and years caring for children up to four years of age are credited with pension rights.

The public pension system is complemented by sector-wide occupational pension schemes established by collective agreements which cover ca. 90% of workers. White and blue collar workers in the private and public sector are covered in separate schemes. In recent years many of the schemes have been renegotiated and have moved from DB to DC designs for new entrants. The schemes in the municipal and white collar private sector are entirely DC-plans. It is however, important to note that long transitional rules have often been negotiated for example in the white-collar worker's scheme in the public sector born before 1972 will still get part of their pension according to an earlier DB plan.

[235] Pension accounts are indexed to average real wage growth based on a three yer moving average through a so called income index. At retirement, the pension is credited with an interest rate 1.6 %, which is then deducted from the average wage growth indexation of the income pension (so called Följsamhetindex, calculated as the income index divided by 1.6).

Additionally, there are three different forms of personal pensions: traditional (life-) insurance, fund insurance and individual pension savings in a bank. Contributions up to 12,000 SEK per year are tax deductible as long as certain conditions are met.

One can begin to claim income and the premium pension from age 61 provided the accrued entitlements are larger or equal to the guarantee pension. There is no upper age limit from when a pension has to been drawn. An employee has the right to work until 67 and may work longer if the employer allows it. Guarantee pension may only be obtained from age 65 by those with a low income pension. Since the pension system works on an actuarial basis, at the time of the retirement an annuity is calculated based on cohort-specific life expectancy, and early pension take up reduces benefits, while postponing retirement beyond age 65 leads to a higher pension benefit. Furthermore those retiring before age 65 get a preliminary pension which will be recalculated with the (usually higher) life expectancy coefficients that are current when they turn 65.

In the NDC (income pension) scheme the financial sustainability of the system (balance ratio) is determined every year. Assets of the system (defined by the flow of contributions, their expected duration within the system and the financial performance of a buffer fund which accumulates any potential surplus) are compared with current liabilities (defined by the expected total pension payments accrued to existing individuals), through a so called balance ratio. As the contribution rate is fixed, if the value of the balance ratio is less than one, the indexation of pensions and earned pension entitlements are reduced proportionately in order to restore the equilibrium between assets and liabilities in the coming years. This calculation is regulated by law. The pension reform of 1995 is politically stable much due to the unique political agreement stretching over the party blocks to maintain the pension system in the long-run.

Reform trends

While the pension reform of 1995 still stands today, some smaller adjustments have been carried out. At the same time, the Government in consultation with the other parties in the pension's agreement has identified a number of areas that need to be reviewed.

The funded part of the pension system has nearly 800 funds. This has led to growth in “advisory services”, which now manage the investment of premium pension contributions on behalf of 10% of the insured population. Steps have been taken by the government to better regulate the operations of such services and to improve public information on pensions, e.g. through the establishment of *www.minpension.se*, a web based service which collects information of all individual pension entitlements and allows people to simulate their future pension levels under different retirement behaviours and investment strategies.

The adjustment mechanism was triggered for the first time in 2010 as an effect of lower values of the buffer funds caused by the financial and economic crisis. The Swedish government decided to re-evaluate the calculation for the balancing mechanism so as to smoothen out the volatility of the buffer funds by incorporating a three year moving average of their values into the calculation of the balance ratio. This will have the effect of sharing the burden of the financial downturn over more years, and annual adjustments will be less pronounced.

By triggering the balancing mechanism the crisis has also resulted in decreased pensions by 3% on average in 2010 and 4.3% in 2011. This resulted from the combined effect of the

balancing and low income growth. To counter this for pensioners 65 years or older the Government introduced an additional basic tax allowance in 2009. It has since been increased in both 2010 and 2011, which meant that few pensioners received a lower net income due to the activation of the balancing mechanism.

Furthermore, from 2012 the government strengthened the housing supplement to boost the incomes of those with the lowest incomes.

The government has also set up an investigatory commission to look at the regulations for the buffer funds and to improve prospects for returns and cost-effective administration.

In order to increase work incentives, the Government introduced an in-work tax credit to increase labour supply in 2007. The tax credit was larger for those older than 65 to encourage older workers to stay in the labour force longer. In 2008 the in-work tax credit was enhanced both for people younger and older than 65. The credit for those older than 65 has remained substantially larger. Also in 2009 both credits were enhanced and at the same time the formula for the credit for those older than 65 was simplified. In 2010 only the credit for those younger than 65 was enhanced, which meant that the difference was reduced. Still the credit for those older than 65 is substantially larger. The maximal credit for those younger than 65 was SEK 21 249 annually in 2011 (at the average municipal tax rate) while the maximal for those older than 65 is SEK 30 000 annually.

Furthermore, in 2008 and 2009 the pay-roll taxes were abolished for employees aged 65 or older. this entails that employers don't pay social security contributions for employed older than 65, except for the 10,21 % pension fee (full SSC 31,42 %) for employees born in 1938 or later. Prior to 2007, the employer instead paid an extra payroll tax at 16.16 % for those older than 65 and born 1938 or later. For those born 1937 or earlier no pension and no social security contributions are levied on work-income where earlier a pay roll tax of 24.26 % was levied. The reform aimed at increasing the demand for older workers.

The government has also commissioned an investigatory committee to look at measures to increase further the length of working life in 2011,[236] which will review the state of work, health, and retirement choices among older workers, with the aim generating recommendations for possible reforms which would allow for a longer active life. The first report is due in April 2012.

Assessment of adequacy and sustainability indicators

Current adequacy / Future adequacy

At risk of poverty or social exclusion (EU 2020) rate for the age group 65+ (15.9% in 2010) in SE was lower than the EU-27 average (19.8%), while poverty rate among those 75+ (23.7%) is above the EU-27 average (22.1%). However differences between the genders are far more pronounced in SE than in the EU-27 for both the 65+ (M: 8.2% W: 22.1% versus M: 16.2% W: 22.6%) and the 75+ (M: 11.3% W: 31.6% versus M: 17.6% W: 25.0%).

Relative poverty outcomes in Sweden are consistent with how the median income of the 65+ relative to those in the 0-64 group looks (79%), with elderly women in particular having a rather lower relative median income than other European women (73% of the 0-64 incomes versus the EU-27 average of 86%). The higher risk of poverty for elderly women today is

[236] www.pensionsalderutredning.se

primarily the result of the fact that the women already retired often have had shorter working lives and thus qualified for relatively low-income pension. They are also on average older. In the future, the problem is projected to decrease to a certain degree as women currently in active ages work and earn pension rights in parity with men. On the other hand the risk of poverty will increase in the future for both sexes as an effect of increased longevity, unless they work to higher ages before pension take up. One way to understand this is to look at how closely pensions replace and follow wages in Sweden. Indeed, public old-age pension is the main source of income for Swedish retirees. Thus, it constitutes 61% of retired men's incomes and 72% of women's.[237] At the same time, those who receive a guarantee pension (63% of retired women against only 15% of men) have had a decrease in taxation, increases in the housing supplement and price indexation.

When we look at indicators of severe material deprivation, however, we see an opposite trend, whereby this remains much lower than European levels (around 8%) and actually slightly improves with age (0,2% for the over 75 against 0,7% for the 65+); furthermore women do better than men when it comes to material deprivation. Such low levels of material deprivation might be explained by the fact that Sweden has a needs-based economic safety net for the elderly (*Äldreförsörjningsstöd*) and a special housing benefit that can be claimed on top of a pension and housing allowance, should they not be sufficient.

How pensioner incomes will evolve in the future is another key aspect when assessing the performance of a pension system. Due to increases in longevity, adequacy indicators for future Swedish retirees who will have worked 40 years at average earnings show, expectedly, a reduction in the theoretical replacement ratio (TRR) of -7.3 p.p. (net) and -9.0 p.p. (gross) between 2010 (net TRR 60.3%, gross TRR 63.4%) and 2050 (net TRR 53%, gross TRR 54.6%) given a fixed retirement age and a fixed career length. Low income earners with 40 years contributions will witness a bigger drop in both net and gross TRR compared to their current TRR (82.9% net TRR and 72.4% gross TRR in 2010), amounting to -29.7 p.p. (net TRR) and -17.8 p.p. (gross TRR) by 2050. This drop is based on the assumption that a price indexed basic protection will be sustained and therefore diminishes in real value over time. This assumption will effectively bring the TRR of low income workers to roughly the same level as average income workers, instead of being much higher as it is today. At the same time working longer (42 years) will raise the (net) TRR more by 2050 than it does today, especially for low income earners. Working less (38 years) instead shows an average reduction in net TRR from 54.7% in 2010 to 47.7% in 2050.

In the current system, there is a stronger link between pensions and contributions. Though careers breaks for childcare years are well protected and even to some extent advantaged in the system, three years of unemployment will reduce the TRR by 2 p.p. in 2050. Longer absences from the labour market e.g. 10 years will lower the TRR from 57.9% in 2010 to 41.2% in 2050 (by 16.7 p.p.).

The role of second pillar pensions will also play a fundamental role in how long people will work in the future. Currently they are the most significant driver behind early retirement due to collective fees increasing with age and wage. Another important effort in this direction will be to try and reduce the time spent in higher education so that young people start earning pension rights earlier. The age of entry into working life has been increasing in Sweden

[237] Efter 65 – inte bara pension, page 32, Ministry of Health and Social Affairs.

(average entry age is now 22, but it is not until 27 that 75% of that age groups is fully employed)[238], and higher for women than for men.

To ensure pension adequacy it is therefore important that people understand the implications of circumstances and their choices, e.g. years of parental leave or study. The information challenge is being taken seriously by the government who is already actively working on making different prognosis and simulation tools available to the population at large.

The current policy approach is inclined towards the creation of incentives which will influence people's behaviour in the direction of longer working lives, so as to ensure sufficient financing for such mortality improvements, as well as towards an informational campaign which will inform people to the economic implications of their financial and life choices.

In terms of *making people work longer*, this will require a coordinated effort in both labour market, fiscal and social insurance policies, so as to avoid conflicting messages (for instance to reduce the risk that more people exit through sick leave instead). Despite a sizeable increase in the average retirement age over the past decade (ca. 63.3 in 2010), by age 65, ca. 75% of people are out of the labour market and claiming a full pension. Still the share of men 66-67 and still have not claimed any pension has also been slightly increasing.[239]

SUSTAINABILITY

Demography

The old-age dependency ratio[240] (population aged 65 and over as a percentage of the population aged 20-64) in SE is projected to increase from 31.3% in 2010 (EU-27: 28.4%) to 46.1% in 2050 (EU-27: 55.0%) and 51.3% in 2060 (EU-27: 57.7%).

SE belongs to the group of Member States where the increase in old-age dependency ratio is projected to be below the EU-27 average. Over the period 2010 to 2060, the old-age dependency ratio is projected to increase by 20.1 percentage points (EU-27: 29.2 percentage points).

The share of working-age population (15-64) (65.1% of the total population in 2010) is projected to drop by 8.2 percentage points by 2060 (to 56.9% of the total population), compared with 10.7 percentage points for the EU as a whole by 2060.

Employment

The labour market participation rate[241] (15-64) in SE was above the EU-27 average in 2010 (SE: 79.1%, EU-27: 71.1%), and is projected to remain higher also in 2060 (SE: 81.9%, EU-27: 73.8%). Over the period 2010 to 2060, the participation rate of older workers (55-64) is it projected to increase by 3.9 percentage points (from 73.9% in 2010 to 77.9% in 2060) and will stay higher than in the EU-27 (EU-27: 49.7% in 2010; 66.5% in 2060).

According to the 2012 Ageing Report, employment rate (15-64) is projected to increase from 72.4% in 2010 (EU-27: 64.1%) to 76.5% in 2050 (EU-27: 68.9%) and is projected to remain in that position also in 2060 (EU-27: 69.0%). The share of older (55-64) in employment is projected to change from 19% in 2010 to 18% in 2060 (EU-27: from 13% in 2010 to 19% in 2060).

[238] Pensionsmyndigheten (2011a).
[239] After 65 Not just Pension (2011), Ministry of Health and Social Affairs
[240] The 2012 Ageing Report
[241] The 2012 Ageing Report

The employment rate for older workers (55 to 64 years)[242] in SE in 2010 was above the EU-27 average: 70.5% (74.2% - males, 66.7% - females) versus 46.3% at EU-27 level (54.6% - males, 38.6% - females).

The average effective exit age from the labour force in 2010 was 64.2 (64.6 – for men, 63.8 – for women) and it is above the EU-27 average (62.1 – total, 62.5 – for men, 61.7 – for women).

Expenditure

According to the 2012 Ageing Report, the gross public pension expenditure will remain almost stable in the coming decades and will increase from 9.6% of GDP in 2010 to 9.9% of GDP in 2050 and to 10.2% of GDP in 2060.

In 2010 the gross old-age and early pension expenditure was 7.5% of GDP, below the EU-27 average of 9.2%. The 2012 Ageing Report projects an increase to 8.6% of GDP by 2050, which remains below the EU-27 projected average of 11.0% of GDP.

Main drivers of pension expenditure

In accordance with the 2012 Ageing Report, the demographic factor has the strongest downward effect (+5.0 p.p. of GDP) on gross public pension expenditure over 2010-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and labour intensity[243]). The lowering effect of coverage ratio (-0.8 p.p.) and benefit ratio (-2.7 p.p.) on the public pension expenditure are more pronounced than the employment rate effect (-0.5 p.p.).

[242] EUROSTAT

[243] As a result of the macroeconomic assumptions used in the projections, the labour intensity contribution has more or less no impact on the change in the pension expenditure/GDP ratio (EU-27 average: +0.1 p.p.). Only Greece, Spain, Luxembourg, Malta and Austria project an increasing effect of 0.1 p.p. of GDP. In all other Member States, the labour intensity effect is negligible.

Background Statistics

	Sweden			EU-27		
Current adequacy (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Median relative income of people 65+ as a ratio of income of people 0-64	79	87	73	88	92	86
Aggregate replacement ratio	60	65	56	53	56	52
At-risk-of-poverty rate: 65-	12,3	12,1	12,5	16,5	16,2	16,8
65+ / 75+	15,5 / 23,5	7,8 / 11	21,6 / 31,5	15,9 / 18,0	12,9 / 14,4	18,1 / 20,5
Severe material deprivation: 65-	1,5	1,3	1,6	8,5	8,4	8,5
65+ / 75+	0,7 / 0,2	0,8 / 0,4	0,6 / 0,1	6,4 / 6,5	5,1 / 5,0	7,3 / 7,5
At risk of poverty or social exclusion (EU2020): 65-	14,8	14,4	15,3	24,2	23,5	25,0
65+ / 75+	15,9 / 23,7	8,2 / 11,3	22,1 / 31,6	19,8 / 22,1	16,2 / 17,7	22,6 / 25,0
Income distribution (S80/S20): 65- / 65+	3,6 / 3,1	3,6 / 3,2	3,6 / 3	5,2 / 4	5,2 / 4	5,2 / 3,9
Adequacy projections: SE						
Theoretical replacement rates (TRR):	**Net 2010**	**Net 2050**	**Difference**	**Gross2010**	**Gross2050**	**Difference**
40 years career: average income earner (basecase)	60,3	53,0	-7,3	63,6 (76/2/22)*	54,6 (62/13/24)*	-9
Low income	82,9	53,2	-29,7	72,4 (79/2/19)*	54,6 (62/13/24)*	-17,8
High income	57,5	47,9	-9,6	53,7 (62/2/36)*	45,7 (52/11/38)*	-8,0
Lower / higher future rates of return		51,3 / 55			52,6 / 57	
Lower / higher future wage growth		64,6 / 45,1			67,2 / 45,9	
38 years career: average income	54,7	47,7	-7,0	56,9	48,4	-8,5
Low / high income	57,9 / 53,5	47,3 / 42,8	(-10,6/-10,7)	59,9 / 49,5	48,4 / 40,6	(-11,5/-8,9)
42 years career: average income	66,4	63	-3,4	72,5	61,6	-10,9
Low / high income	86,7 / 65,4	62,6 / 55,8	(-24,1/-9,6)	86,3 / 61,9	61,6 / 51,3	(-24,7/-10,6)
10 years after retirement	58,6	46,3	-12,3	51,7	52,5	0,8
Female worker with 3 years of career break for childcare	60,1	52,3	-7,8	63,3	53,8	-9,5
3 years of career break for unemployment	59,7	50,8	-8,9	62,6	52	-10,6
10 years out of the labour market	57,9	41,2	-16,7	53,2	40,9	-12,3
	2010	**2050**	**Difference**	**EU27 2010**	**EU27 2050**	**Difference**
Benefit ratio (Public pensions)	35,3	26,4	-8,9	44,7	37,0	-7,7
Gross replacement rate at retirement (Public pensions)	35,4	22,7	-12,7	48,0	39,1	-8,9
	Sweden			**EU-27**		
Current sustainability (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Employment rates: 15-64	72,7	75,1	70,3	64,1	70,1	58,2
55-64	70,5	74,2	66,7	46,3	54,6	38,6
Effective labour market exit age****	64,2	64,6	63,8	62,1	62,5	61,7
Remaining life expectancy at 65	19,8	18,2	21,1	19,3°	17,2	20,7
Economic old-age dependency ratio[3]	37,2			39,8		
Pension expenditure, %GDP (ESSPROS)	12,9°			13,1°		
Budget balance	0,2			-6,6		
Public debt	39,7			80,1		
Sustainability projections * **	**Sweden**			**EU-27**		
Old-age dependency ratio**	**2010**	**2020**	**2030**	**2010**	**2020**	**2030**
	31	37	42	28	34	42
	2040	**2050**	**2060**	**2040**	**2050**	**2060**
	45	46	51	50	55	58
	2010	**2050**	**Difference**	**2010**	**2050**	**Difference**
Public pensions, gross (% of GDP)	9,6	9,9	0,3	11,3	12,8	1,5
Old-age and early pensions, gross (% of GDP)	7,5	8,6	1,2	9,2	11,0	1,7

*: Share of statutory DB-NDC / statutory funded / occupational and other supplementary pensions

°: 2009

¹: 2008

²: 2007

[3]: Economic old-age dependency ratio (20-64)

: Data not available

** Old-age dependency ratio = Population aged 65 and over as a percentage of the population aged 20-64. Source: The 2012 Ageing Report

***Source: EC-EPC (AWG) 2012 projections

****Source: The 2012 Ageing Report

United Kingdom (UK)

Country profile for the Pension Adequacy Report 2012

General description of the pension system

The UK has a very distinctive pension mix, combining three 'pillars': an unfunded Basic State Pension, an additional State Pension and voluntary funded occupational and personal pension schemes, together with significant unfunded public service pension schemes. Pensioners with 30 qualifying years, accrued for working or credited for activities like caring for a family, are entitled to a flat Basic State Pension of £102.15 per week (all benefit rates are 2011/12 unless stated otherwise); those with less than 30 years receive a pro-rata proportion based on the number of qualifying years they have. An additional State Pension is provided by the government for pensioners who have built up entitlements through employment (minimum annual earnings of £5,305) or qualifying periods of care (SERPS and the State Second Pension). In order to mitigate poverty in old age various means-tested programmes are in place. The Basic State Pension for pensioners on low income can be topped up through the receipt of the guarantee credit to a weekly income of £137.35 for a single pensioner and £209.70 for a pensioner couple household. Nevertheless, a core element for an adequate income, sufficient to maintain the living standard after retirement, is the receipt of an occupational or personal pension. While in the past the majority of these pension schemes have been defined-benefit schemes, there has been a clear trend towards defined-contribution systems in the private sector.

Over the last decade, the UK state pension system has made significant progress towards addressing adequacy and improving equity. The median income of pensioners has improved significantly relative to that of working-age individuals. Much of this improvement has been due to state pension measures, principally the introduction of Pension Credit.

The introduction of Pension Credit in 2003 and its uprating policy over the years has meant more generous means tested help has been available. But this has also meant an increasing percentage of pensioners are dependent on means-tested pension supplements giving rise to concerns about incentives to save, though UK Government analysis suggests over 95% of savers can expect to get back at least as much as they contributed, even after taking inflation into account.[244]. Meanwhile the percentage of the workforce in the private sector covered by an occupational pension is declining. Hence, the UK for the last couple of years has been undergoing a process of reforming the state and occupational pension systems, with the aim of increasing adequacy as well as sustainability: a) access to the Basic State Pension has been improved and further reform seems to be likely to be enacted over the next couple of years; b) the state pension age will be increased and the default retirement age has been abolished, which should lead to a later average age of exit from the labour market; c) starting in 2012, every worker will be automatically enrolled in an occupational or personal pension, with the option to opt out.

[244] Saving for retirement: Implications of pensions reforms on financial incentives to save for retirement, DWP Research Report 558, 2009

Reform trends

The current Government is committed to continue largely upon the trajectory laid down by the previous government in its major pension reforms of 2007 and 2008, which themselves were based on the Recommendations of the Turner Commission which had sought cross party consensus on its proposals. Although the Government has changed the indexation mechanisms for all other benefits, leading, on average, to lower inflation adjustments (switching from using the Retail Prices Index (RPI) to the Consumer Price Index (CPI)) it has increased the Basic State Pension in April 2011 by the RPI. The additional State Pension (SERPS/S2P) as well as public service pensions were increased in line with the CPI, which has contributed to lower increases in pension benefits. For the future it has decided to uprate the Basic State Pension by a triple guarantee of earnings, prices (using the CPI) or 2.5%, whichever is highest.

To offset some of the costs associated with recent pension reforms and to cope with demographic change, the government has brought forward the phased increase in the state pension age from 65 to 66 to be fully implemented by 2020. Proposals for accelerating timings of the subsequent increase from age 66 to age 67 have been announced (but not yet legislated) and future changes are under discussion. The default retirement age was abolished in October 2011. These measures should contribute to an increase of the average age of exit from the labour market in the medium term.

Significant changes were made to the tax relief system for personal and occupational pensions. Effective in April 2011 the annual allowance for tax-privileged pension saving was reduced from £255,000 to £50,000, and the lifetime allowance was reduced from £1.8 million to £1.5 million. This measure will raise £4 billion per annum. It will be targeted at those who make the most significant pension savings. According to the government, an annual allowance of £50,000 will affect 100,000 pension savers – 80% of those will have incomes over £100,000. However, it has to be highlighted that the annual allowance is still approximately twice the level of average income and thus continues to primarily benefit higher income groups.

According to figures from the Department of Work and Pensions (DWP), about 45% of pensioners are eligible for Pension Credit to top up their state pension. The percentage is projected to fall to around a third by 2050, as more pensioners qualify for a full state pension in their own right and benefit from a more generous uprating of the Basic State Pension. However concerns remain that it does not fall fast or far enough and that continued relatively high levels of means testing can deter people from saving. Furthermore, Pension Credit is not claimed by around a third of pensioners who are entitled to it, a proportion which has proved fairly resilient despite efforts by successive governments to encourage pensioners to take up their entitlement. Hence the Government has announced that a White Paper with proposals to further reform the state pension system will be published in the Spring of 2012. A key proposition intended to increase pension savings as well as improve the adequacy of the public pension system is to combine the Basic State Pension and State Second Pension to create a single-tier state pension for future generations of pensioners set at a level above the Pension Credit standard minimum guarantee. According to the government's assessment a weekly state pension benefit of around £140 would be cost neutral. This would be achieved through the abolition of the Savings Credit, closure of the State Second Pension for future accruals and the introduction of a seven year minimum qualifying rule for future.

Important cutbacks in the realm of pensions will most likely affect public sector workers, who are currently covered by various occupational pension schemes based on the principle of defined benefits relating to their final salary. The government commissioned Hutton Report

was published in mid-March 2011 and the main proposals included in the report were: a) a switch from final salary to career-average pensions; b) an increase in the normal pension age from 60 to state pension age for many staff and c) increased employee contributions. The Government has based its reform proposals mainly on the proposals made by the commission.

Overall, private pension saving has been declining in the UK for years and participation in occupational pensions varies hugely by sector and earnings level. The following table provides a brief overview of the differences between the private and public sector occupational pension coverage for the year 2011:

	All	Male	Female
Public Sector	83	85	82
Private Sector	33	37	27

Source: Annual Survey of Hours and Earnings 2011, Office for National Statistics.

To counter the trend of declining coverage, employers will have to automatically-enrol all workers as part of the 2008 pension reform starting in 2012, to be fully implemented by 2018. Alongside automatic-enrolment, the Government has introduced a low cost, defined contribution pension scheme that employers can enrol their employees into (or individuals can opt-in to) called NEST (National Employment Savings Trust).

Within the private sector many final-salary schemes have closed for new employees, and some even for current workers and the public service scheme, whilst retaining its DB nature, is also moving away from a salary basis to a career average basis; the majority of those private sector employees with workplace pension coverage rely on schemes based on the principle of defined contributions. According to latest estimates eight out of 10 private sector defined benefit schemes are now closed to new entrants and three out of 10 prevent existing staff from accruing further benefit entitlements[245]. Employer contribution levels to DC schemes, like coverage, have significant differences according to the sector. For example, the median employer contribution in the public admin industrial sector is between 12% and 15%, whilst in the retail industrial sector, it is between 4% and 8%.

Assessment of adequacy and sustainability indicators

Current adequacy / Future adequacy

Comparing the current adequacy indicators in for the UK to the rest of EU, we see a mixed picture. The latest EU Survey of Income and Living Conditions (EU SILC) statistics show that pensioners in the United Kingdom have a relatively higher risk of poverty at 21 % in 2010 when compared to other EU-27 countries, although it has been a continuous downward trend in recent years. However it must be borne in mind that whilst poverty rates in the UK tend to be higher than in other EU states, this is in part due to the median income in the UK being higher than in other EU states.

The UK is well below the EU average regarding the severe material deprivation indicator, reflecting good performance in this respect for the UK The relative median income ratio of older people (65+) has also significantly improved, jumping from 0.74 in 2008 to 0.81 in

[245] Occupational Pension Schemes Survey 2010, Table 2.6.

2010. The aggregate replacement ratio (excluding other social benefits) was 0.48 in 2010, an improvement compared to previous years.

According to the projections the theoretical replacement rate for low income workers will improve in future years, whereas the replacement rate for high-income earners will decline. The simulations also indicate that the incomes for employees with career breaks due to childcare are likely to improve. The income from occupational and other supplementary pensions is projected to increase for average and high earners. More than 40% of pension income will come from occupational and other supplementary pensions for both the average and high income earner. However, much will depend on the success of NEST and automatic enrolment in improving coverage of occupational pensions.

In contrast to the mixed picture on adequacy indicators, the UK performs better than the EU average on all the current (2010) sustainability indicators with the exception of the budget balance. In particular the high employment rates both in general and especially for the 55-64 age group (57.1% compared to the EU average of 46.3%) and the relatively high effective labour market exit age (63 compared to the 61.4 EU average) provide a good base for affordable pension provision. Policy actions to increase pension ages more quickly than previously planned and the abolition, last year, of mandatory retirement ages, should continue to support later effective retirement ages.

With the last decade of reforms the UK has put itself on track towards achieving a better balance between adequacy and sustainability concerns in its pension system. The coverage and adequacy of public provision is set for significant improvements that are likely to bolster poverty protections by substantially enhancing access and entitlement accruals for women and people on low earnings and incomplete careers. However despite slightly above average growth in long-term expenditure UK state pensions should still result in one of the lowest statutory replacement rates in the EU-27. The overall adequacy of UK provision will therefore continue to depend crucially on having strong and resilient private retirement income provision.

The combined impact of the financial and the economic crisis caused a serious deterioration of public finances. Budgetary consolidation is therefore essential in order to reduce public debt and to secure the base for financing future increases in public pension expenditure. The challenge UK faces with regard to ensuring the long-term sustainability of the public Finances on the back of its ageing population was assessed to be at 'high' risk by the Commission/Council. The projected increase in age related expenditure over the long-term at 2.7% of GDP is somewhat higher than the EU average, though starting from and ending at a relatively low level. While the benefit ratio of public pensions should remain significantly below the EU average, it is projected to remain broadly constant, as against the declines forecast across the EU-27.

For the base case of a worker retiring at 65 after 40 years of career at the average wage, net TRR would fall from 77.2% in 2010 to 75.1% in 2050 (by -2.1 p.p.) and gross TRR decreases from 64.6% to 62.6% over the same period (by -2.0 p.p.). The drop in net TRR (-3.7 p.p.) will be visible for high-wage earners.

Though employment rates for older workers and the average exit age are above the EU average, to ensure adequacy and sustainability, strong efforts need to be maintained to increase participation rates further and to extend working lives. The recently legislated speeding up of the equalisation of men's and women's pension ages and the increase in pension age from 65 to 66 should make a positive contribution together with the abolition of mandatory retirement ages. But pensionable ages in occupational schemes would also need to

be raised, to help maintain an appropriate balance between working years and years spent in retirement.

Resolving the conundrum of how to use means testing to target benefits on the poorest and most vulnerable pensioners while minimising the extent to which people of working age are discouraged from saving by the prospect of losing means tested benefits in retirement is a difficult but important challenge which the UK should continue to try to address. This challenge is likely to become more significant as the opportunity of participating in a workplace pension scheme is extended to all employees. Assuring adequacy in overall pension provision will rest crucially on the success of efforts to significantly increase the coverage rate of work place pensions. Since higher participation in occupational and private pensions will have a significant impact on benefits only after years of savings, low replacement rates for big groups of workers will persist for some time. Moreover, with the decline in occupational pension coverage over the last decade, the UK might witness cohort effects as the proportion of people retiring with high amounts of occupational pensions decline over time.

SUSTAINABILITY

Demography

The old-age dependency ratio[246] (population aged 65 and over as a percentage of the population aged 20-64) in the UK is projected to increase from 27.7% in 2010 (EU-27: 28.4%) to 43.7% in 2050 (EU-27: 55.0%) and 46.7% in 2060 (EU-27: 57.7%).

The UK belongs to the group of Member States where the increase in old-age dependency ratio is projected to be below the EU-27 average. Over the period 2010 to 2060, the old-age dependency ratio is projected to increase by 19.0 percentage points (EU-27: 29.2 percentage points).

The share of working-age population (15-64) (66.0% of the total population in 2010) is projected to drop by 7.7 percentage points by 2060 (to 58.3% of the total population), compared with 10.7 percentage points for the EU as a whole by 2060.

Employment

The labour market participation rate[247] (15-64) in the UK was above the EU-27 average in 2010 (UK: 75.4%, EU-27: 71.1%), and is projected to remain higher also in 2060 (UK: 76.7%, EU-27: 73.8%). Over the period 2010 to 2060, the participation rate of older workers (55-64) is it projected to increase by 10.2 percentage points (from 59.9% in 2010 to 70.1% in 2060) and will stay higher than in the EU-27 (EU-27: 49.7% in 2010; 66.5% in 2060).

According to the 2012 Ageing Report, employment rate (15-64) is projected to increase from 69.4% in 2010 (EU-27: 64.1%) to 72.3% in 2050 (EU-27: 68.9%) and to 72.4% in 2060 (EU-27: 69.0%). The share of older (55-64) in employment is projected to change from 15% in 2010 to 17% in 2060 (EU-27: from 13% in 2010 to 19% in 2060).

The employment rate for older workers (55 to 64 years)[248] in the UK in 2010 was above the EU-27 average: 57.1% (65.0% - males, 49.5% - females) versus 46.3% at EU-27 level (54.6% - males, 38.6% - females).

[246] The 2012 Ageing Report

[247] The 2012 Ageing Report

[248] EUROSTAT

The average effective exit age from the labour force in 2010 was 63.5 (64.2 – for men, 62.9 – for women) and it is above the EU-27 average (62.1 – total, 62.5 – for men, 61.7 – for women).

Expenditure

According to the 2012 Ageing Report, the gross public pension expenditure will increase from 7.7% of GDP in 2010 to 8.2% of GDP in 2050 and to 9.2% of GDP in 2060.

In 2010 the gross old-age and early pension expenditure was 7.7% of GDP, below the EU-27 average of 9.2%. The 2012 Ageing Report projects an increase to 8.2% of GDP by 2050, which remains below the EU-27 projected average of 11.0% of GDP.

Main drivers of pension expenditure

In accordance with the 2012 Ageing Report, the demographic factor has the strongest downward effect (+3.1 p.p. of GDP) on gross public pension expenditure over 2010-2060. The negative budgetary effects are partially offset by other main influencing factors (coverage ratio, employment rate, benefit ratio and labour intensity[249]). The United Kingdom is one of the two countries (together with Ireland) that project upward pressure on expenditure due to an increasing benefit ratio effect (+0.8p.p.). The coverage ratio (-1.4p.p.) and the employment rate effect (-0.2p.p.) have lowering effect on public pension expenditure.

[249] As a result of the macroeconomic assumptions used in the projections, the labour intensity contribution has more or less no impact on the change in the pension expenditure/GDP ratio (EU-27 average: +0.1 p.p.). Only Greece, Spain, Luxembourg, Malta and Austria project an increasing effect of 0.1 p.p. of GDP. In all other Member States, the labour intensity effect is negligible.

Background Statistics

	UK			EU-27		
Current adequacy (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Median relative income of people 65+ as a ratio of income of people 0-64	81	85	79	88	92	86
Aggregate replacement ratio	48	47	47	53	56	52
At-risk-of-poverty rate: 65-	16,3	16,2	16,4	16,5	16,2	16,8
65+ / 75+	21,4 / 25,5	17,6 / 20,6	24,5 / 29,1	15,9 / 18,0	12,9 / 14,4	18,1 / 20,5
Severe material deprivation: 65-	5,5	5,4	5,7	8,5	8,4	8,5
65+ / 75+	1,3 / 1	1,2 / 0,9	1,4 / 1,2	6,4 / 6,5	5,1 / 5,0	7,3 / 7,5
At risk of poverty or social exclusion (EU2020): 65-	23,3	22,8	23,9	24,2	23,5	25,0
65+ / 75+	22,3 / 26,3	18,5 / 21,2	25,5 / 29,9	19,8 / 22,1	16,2 / 17,7	22,6 / 25,0
Income distribution (S80/S20): 65- / 65+	5,5 / 4,3	5,7 / 4,4	5,3 / 4,2	5,2 / 4	5,2 / 4	5,2 / 3,9
Adequacy projections: UK						
Theoretical replacement rates (TRR):	**Net 2010**	**Net 2050**	**Difference**	**Gross2010**	**Gross2050**	**Difference**
40 years career: average income earner (basecase)	77,2	75,1	-2,1	64,6 (62/0/38)*	62,6 (59/0/41)*	-2,0
Low income	87,1	89,9	2,8	73,9 (66/0/34)*	76,3 (66/0/34)*	2,4
High income	54,1	50,4	-3,7	43,4 (57/0/43)*	40,4 (52/0/48)*	-3,0
Lower / higher future rates of return		71,2 / 79,9			58,8 / 67,1	
Lower / higher future wage growth		81,9 / 70			69,1 / 57,7	
38 years career: average income	70,9	72,7	1,8	58,8	60,3	1,5
Low / high income	78 / 51	87,3 / 48,7	9,3 / -2,3	65,9 / 40,7	73,7 / 38,8	7,8 / -1,9
42 years career: average income	80,3	77,6	-2,7	67,1	64,9	-2,2
Low / high income	90,5 / 56,1	92,6 / 52,2	2,1 / -3,9	77,2 / 45,1	79 / 42	1,8 / -3,1
10 years after retirement	72,1	68,8	-3,3	58,2	55,5	-2,7
Female worker with 3 years of career break for childcare	71,5	76,2	4,7	59,7	63,6	3,9
3 years of career break for unemployment	76,6	76,8	0,2	64,0	64,2	0,2
10 years out of the labour market	63,4	63,6	0,2	51,5	51,6	0,1
	2010	**2050**	**Difference**	**EU27 2010**	**EU27 2050**	**Difference**
Benefit ratio (Public pensions)	:	:	:	44,7	37,0	-7,7
Gross replacement rate at retirement (Public pensions)	5,1	5,3	0,2	48,0	39,1	-8,9
	UK			EU-27		
Current sustainability (2010)	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Employment rates: 15-64	69,5	74,5	64,6	64,1	70,1	58,2
55-64	57,1	65,0	49,5	46,3	54,6	38,6
Effective labour market exit age****	63,5	64,2	62,9	62,1	62,5	61,7
Remaining life expectancy at 65	19,7	18,0	20,7	19,3°	17,2	20,7
Economic old-age dependency ratio[3]	34,8			39,8		
Pension expenditure, %GDP (ESSPROS)	12,5°			13,1°		
Budget balance	-10,3			-6,6		
Public debt	79,9			80,1		
Sustainability projections* **	UK			EU-27		
Old-age dependency ratio**	**2010**	**2020**	**2030**	**2010**	**2020**	**2030**
	28	33	39	28	34	42
	2040	**2050**	**2060**	**2040**	**2050**	**2060**
	43	44	47	50	55	58
	2010	**2050**	**Difference**	**2010**	**2050**	**Difference**
Public pensions, gross (% of GDP)	7,7	8,2	0,5	11,3	12,8	1,5
Old-age and early pensions, gross (% of GDP)	7,7	8,2	0,5	9,2	11,0	1,7

*: Share of statutory DB-NDC / statutory funded / occupational and other supplementary pensions

°: 2009

¹: 2008

²: 2007

[3]: Economic old-age dependency ratio (20-64)

: Data not available

** Old-age dependency ratio = Population aged 65 and over as a percentage of the population aged 20-64.
Source: The 2012 Ageing Report

***Source: EC-EPC (AWG) 2012 projections

****Source: The 2012 Ageing Report