Brussels, 14 March 2017

Strengthening pension sustainability in the euro area:
a benchmarking exercise

(Note for the attention of the Eurogroup)

1. Introduction

The Eurogroup discussed sustainability challenges related to pension systems at their December 2015 meeting. It recalled that ensuring fiscal sustainability was a key objective in the euro area. In this context, putting pension systems on a sustainable path was identified as a policy priority in view of *inter alia* population ageing in the coming decades.

In times of high public debt levels, pension sustainability for the euro area from a financial, economic and social point of view renders developments in this field a matter of common concern for euro area members. In the context of interlinkages in the monetary union, adverse cross-border spill-overs may arise from unsustainable national pension systems.

At their June 2016 meeting and drawing on their discussion in December, the Eurogroup adopted a set of common principles for strengthening pension sustainability[1]. In this connection, they invited the Commission to explore the development of appropriate benchmarks, based on the common principles.

The current note illustrates how a benchmarking exercise with the main policy goal of strengthening pension sustainability while safeguarding the adequacy of old-age incomes may support the common principles and strengthen the structural reform agenda.

2. Pension sustainability in the euro area: achievements and challenges

Public pension expenditure is significant in the euro area, amounting to 12 ½% of GDP in 2015, or 25% of total government expenditure.[2] However, it differs greatly among euro area countries, as do the prospects according to the latest long-term projections.[3] For most countries that spent more than on average in the euro area on pensions in 2015, a decrease is projected (notably EL, IT and FR), but for some (SI, BE, AT) spending is set to increase further. Overall, the largest increases are projected for LU, SI and MT (see Graph 1).

Significant progress has been achieved in improving pension sustainability in the euro area. However, there are often long phasing-in periods of the pension reforms, which raises questions about the intergenerational fairness of the reforms and poses some doubt on the time-consistency of their full implementation. Long phasing-in periods are also leading to a continued increase in pension expenditure over the next two decades in the euro area.

Moreover, should underlying developments be less favourable than expected, for instance higher longevity increases or weaker labour productivity growth, the spending increases would be even higher.[4] In addition, pension expenditure may crowd out other social protection expenditure in particular for earlier ages, and the size of pension expenditure and

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[1] Eurogroup statement No. 346/16, 16/06/2016, see the Box in the Annex for the common principles.

[2] 12 ½% of GDP is the weighted EA average. The simple average is 10.8%. A simple average is better suited for comparing performance across euro area members, and is therefore shown in Graph 1. Please note that the latest legislated reforms in Greece in 2015 and 2016 are not included in the figures reported in this note, which draws mostly on the 2015 Ageing Report.

[3] See Economic Policy Committee (AWG) - European Commission (DG ECFIN) (2015), "The 2015 Ageing Report: Economic and budgetary projections for the 28 EU Member States (2013-2060)", European Economy No 3/2015.

[4] See Graph A.1 in the note for the Eurogroup 'Pension sustainability in the euro area – fiscal risks associated to demographic and macroeconomic uncertainties and policy options – Issues note', Ares(2016)2896019 - 22/06/2016.

composition of social protection expenditure need to be given consideration. More broadly, the relative importance of public expenditure on pensions needs to be carefully considered against other government expenditure, including growth-promoting items such as investment in physical or human capital. Against this background, further policy action is needed to strengthen the resilience of public pension systems to adverse demographic and macroeconomic developments and to guard against the risk of reform reversal, as well as reinvigorating the structural reform agenda to strengthen growth and employment.

Graph 1: Pension expenditure, % of GDP (2015) and pp. change (2015-60)
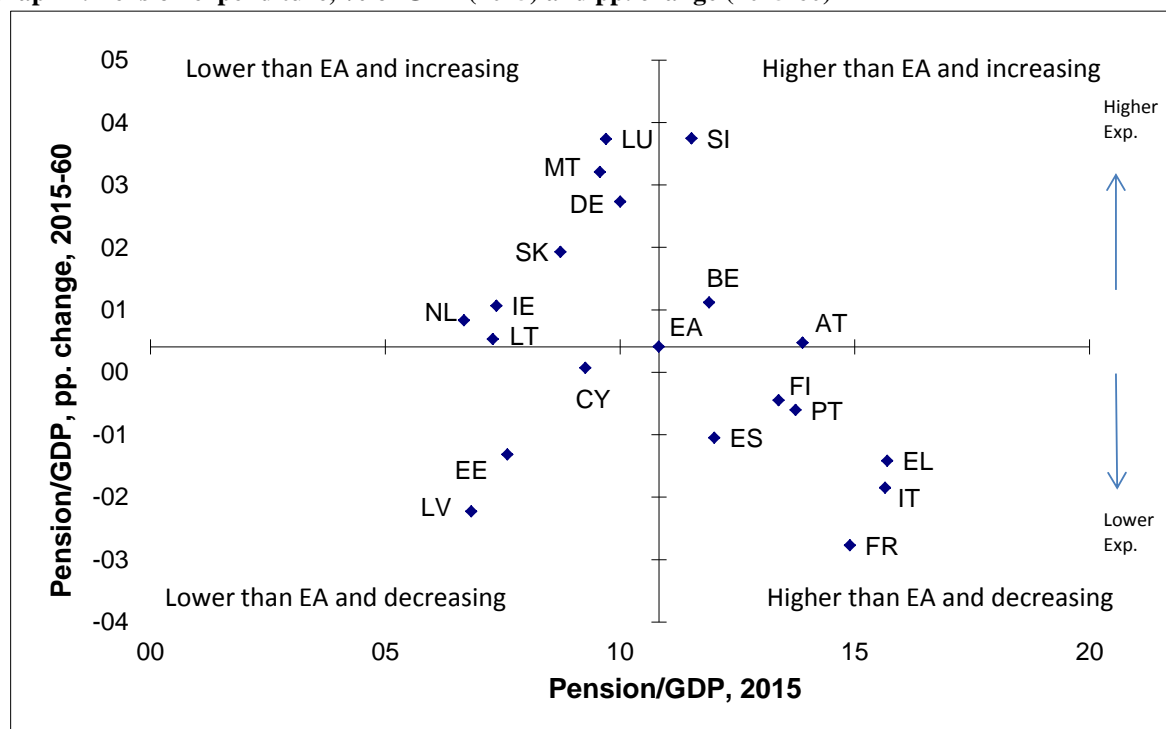
Notes: The impact of the November 2015 pension reform in Finland is not included in this note. It is expected to reduce pension expenditure. EA average is unweighted.
Source: Commission services, 2015 Ageing Report.

3. Benchmarking pension systems

A taxonomy for how the benchmarking exercise is done, with a particular focus on the first two 'common principles' ('Safeguard against demographic and macroeconomic risks' and 'Flanking policies'), adopted by the Eurogroup (see Box in the Annex) is provided in Table 1.

The set of indicators provided below in view of responding to the common principles uses both performance indicators (higher order and lower order) and policy indicators. In addition to the main indicators (both performance and policy indicators), a set of additional indicators are provided in the Annex (in brackets in Table 1), so as to provide further granularity to the analysis. Most of the proposed indicators are updated every three years (when preparing the joint EC-EPC Ageing Reports), while some others are updated on an annual basis.[5]

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[5] For the 2015 Ageing Report, the base year was 2013.

Table 1: Taxonomy of benchmarking pension sustainability

Policy Area	Type of indicators		
	Higher order performance indicators	Lower order performance indicators	Policy Indicator
PENSION SYSTEMS	Medium-term fiscal sustainability risks - S1 indicator and DSA _role of_ projected pension spending Long-term sustainability risk - S2 indicator	Benefit ratio, relative poverty risk, (replacement rates), (coverage ratio) Average effective exit from the labour market by gender, (participation rates by gender), (average retirement age)	Valorisation and indexation rules, pensionable earnings reference period, (penalties and bonuses for early and late retirement by gender) Standard retirement ages by gender; Automatic adjustment mechanisms, (early retirement ages by gender), (duration of retirement by gender),

Source: Commission services.

3.1. Benchmarking pension systems: performance indicators

In broad terms, public pension expenditure is determined by the number of recipients and the size of the pension benefit they receive. A too high number of recipients or too high pension benefits may give rise to sustainability challenges. To monitor and benchmarking pension system perform against each other along the main policy goal of strengthening pension sustainability while safeguarding the adequacy of old-age incomes, the performance indicators proposed are:

- Fiscal sustainability indicators, and the contribution from pension expenditure
- The pension benefit ratio
- Relative risk of poverty
- The effective retirement age by gender

3.1.1. Fiscal sustainability

A successful pension system needs to be sustainable and provide adequate pensions. Sustainability of pension systems may be assessed as whether on current policies it would pose serious risks to sustainability.[6] For the purposes of establishing whether a large adjustment, relative to current policies, is required to ensure fiscal sustainability, the horizontal assessment framework developed by the Commission services (DG ECFIN) is used[7]. It looks at risks to fiscal sustainability over the medium and long run, based on comprehensive fiscal sustainability analysis and sustainability indicators. In operational terms, this can be articulated in two steps:

- identifying the extent to which there is an important fiscal sustainability challenge (as defined in the Fiscal Sustainability Report 2015);

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[6] For details about the sustainability analysis and risk classification, see European Commission (2016), 'Fiscal Sustainability Report 2015', European Economy, Institutional papers, No 18. For the latest update, see European Commission (2017), 'Debt Sustainability Monitor 2016', European Economy, Institutional papers, No 47.

[7] The horizontal assessment framework has been discussed by the EPC on annual basis in the context of the European Semester and is described in Carone, G., Eckefeldt, P., Schwierz, C., Giamboni, L., Aarnout, M. (2014), "Identifying fiscal sustainability challenges in the areas of pension, health care and long-term care policies", European Economy, Occasional Papers No. 201.

- verify to what extent the pension expenditure contributes to it.

Thus, the higher order performance indicators for the benchmarking of pension systems sets as reference/convergence value a combination of "low fiscal sustainability risk" and low contribution of pension spending to the fiscal risk. Countries with medium/high fiscal risk and relatively high contribution of pension spending to this risk needs to reform their pension systems.

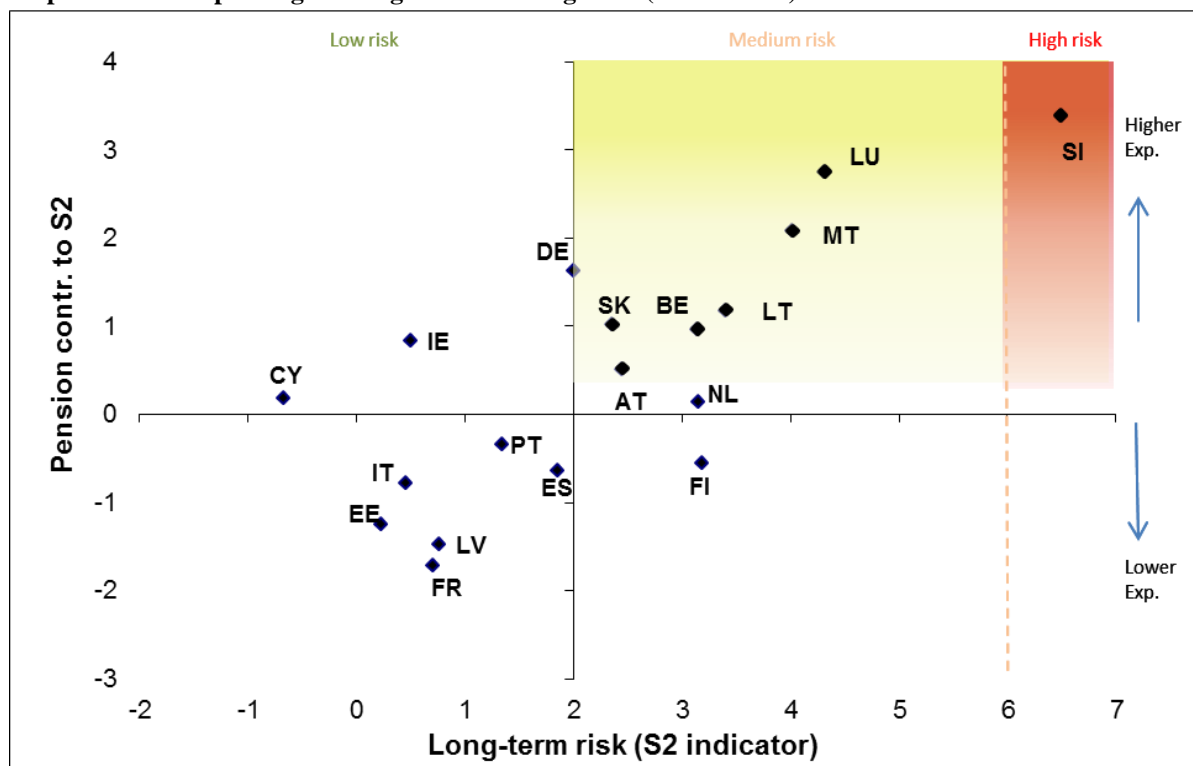**Graph 2: Pension spending challenges over the medium-term (S1 indicator)**
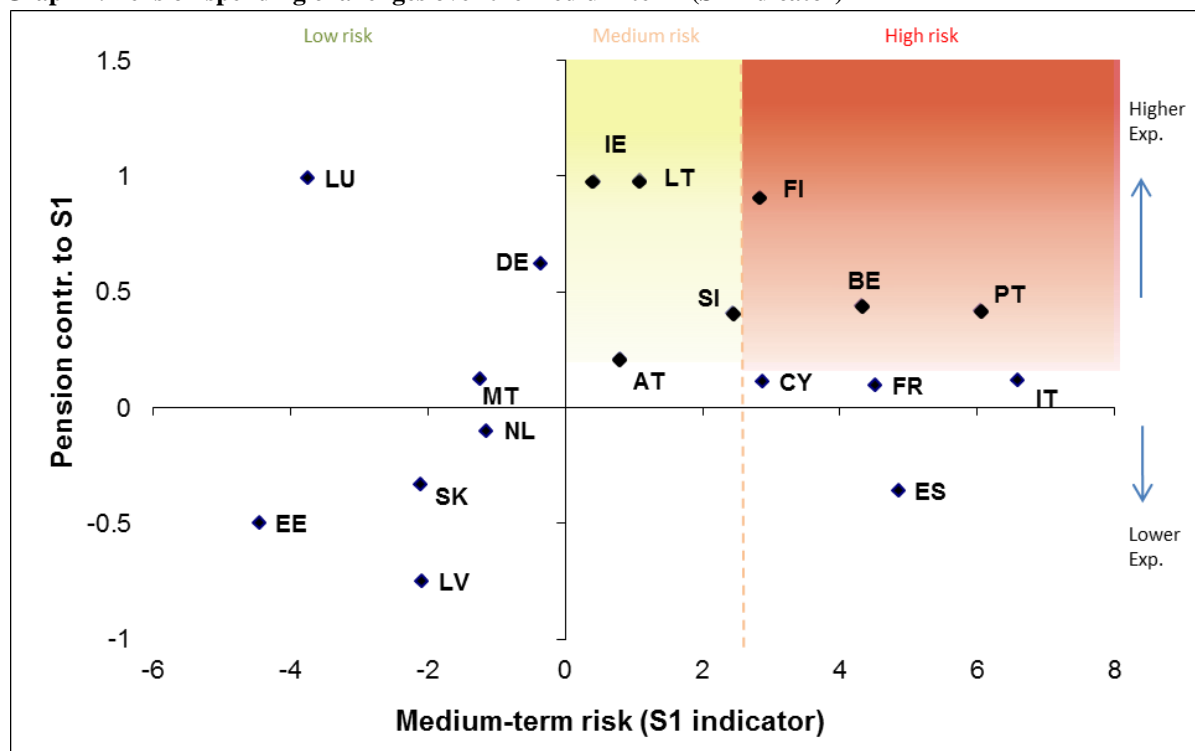
Source: Commission services, 2015 Ageing Report, 2016 Debt Sustainability Monitor. EA average is unweighted

Graphs 2 and 3 show the fiscal sustainability risks over the medium- and long-term, and the extent to which pension expenditure is contributing to these risks. Pension spending increases should contribute to medium or high sustainability challenges in most euro area countries: over the medium-term: BE, IE, LT, LU, AT, PT, SI, FI (Graph 2) and the long-term: BE, LT, LU, MT, AT, SI, SK (Graph 3)[8]

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[8] In Graphs 2 and 3, the highlighted area indicates countries at either medium (yellow) or high (red) sustainability risks (horizontal axis) and to which extent the projected increase in pension expenditure (vertical axis) contributes to it. The impact of the November 2015 pension reform in Finland, expected to lead to a lower increase in projected expenditure, is not included in this note. Slovenia is assessed to be at *high* risk in the medium-term on account of the DSA (see references in footnote 5 for details on sustainability risk classification).

Graph 3: Pension spending challenges over the long-term (S2 indicator)

Source: Commission services, 2015 Ageing Report, 2016 Debt Sustainability Monitor. EA average is unweighted

3.1.2. The pension benefit ratio

As regards the relative size of the pension benefit, one broad indicator is the pension benefit ratio.[9] It measures the average pension in relation to the average wage. A high value suggests a relatively generous system, while a low value indicates the opposite. The benefit ratio uses as benchmarking level the EA average, though policies aimed at converging to this level should take duly into account the impact on the fiscal sustainability of the system. For example, increasing the retirement age makes it possible to achieve an increase in the benefit ratio, as people working longer accrue more pension rights, while preserving the sustainability of the system.

The highest benefit ratio 2013 was observed in EL, CY, NL, PT, ES and by 2060 they are still projected to be among the highest in NL, EL, together with LU, IT, MT while CY and PT should have by then become relatively lower (though remaining above the EA average). The lowest benefit ratio was noted in LV, IE, EE, SI, LT in 2013 and by 2060 LV, EE, IE, SI remain among the lowest together with SK, while LT have increased (still below the EA average). The largest decreases (of close to 20%) are projected in CY, ES, PT.

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[9] Another potential indicator is the theoretical replacement rate (TRR), measuring the first pension in relation to the last wage (see Graph A.5 in the Annex). The two indicators are not directly comparable. The (net) TRRs are calculated under an assumed standard career (contributory period), while the (gross) benefit ratio (BR) is calculated based on the projected ('actual') career, hence reflecting current policy settings and main underlying assumptions. Also, TRRs only measure the first pension in relation to the last wage for a hypothetical worker, while the BRs contain both all pensions (new and old) in relation to economy –wide average wage. Both indicators broadly rank countries similarly, but there are exceptions as a result of the different definitions.

Graph 5: Pension benefit ratio

Average pension over average wage	Average pension over average wage
2013	**2060**
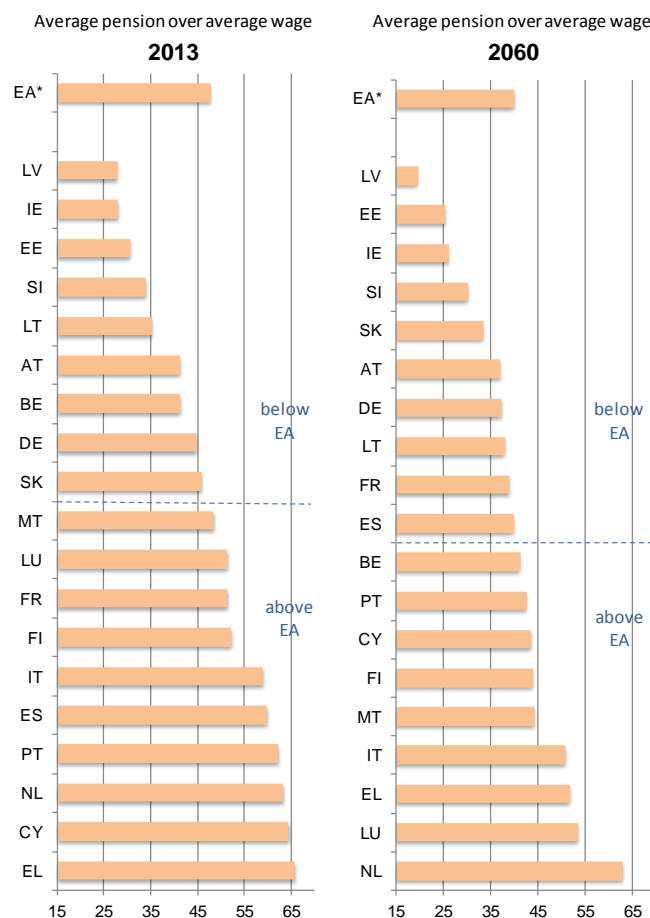
Note: EA average is unweighted.

For EE, LV, LT, NL and PT private pensions reported in the 2015 Ageing Report are included. In NL, the occupational private pillar contributed with 27.3 pps in 2013 and with 28.6pps in 2060, in EE, LV and LT, the private pillars are projected to contribute by 5-6pps by 2060 and it PT by less than 1 pp.

Source: Commission services, 2015 Ageing Report.

3.1.3. Relative risk of poverty

An indicator of the possible pension adequacy challenges to avoid poverty could be developed using the At risk of Poverty or social Exclusion (AROPE) indicators. Graph 6 shows the extent to which older people are more (or less) likely to be at risk of poverty than the working-age population. 10 Overall, poverty risks for older people have receded significantly over the last decade in the EA.[11] In 2015, poverty risks are lower for older people than for people of working age in almost all countries. However, relative high poverty risks for older people were observed in EE, LV, LT, MT and SI. This indicator however needs to be interpreted with care and qualified, as a relative low poverty risk for older may also be due to an underdeveloped system of social safety net that concentrates resources on older people.[12]

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[10] A value above 1 indicates higher poverty risks for older people, and vice versa.

[11] See Graph A.7 in the Annex for development by age group in the EA.

[12] In addition, when interpreting the benefit ratio (section 3.1.2) it is important to take account of the size and structure of other social welfare systems in countries.

Graph 6: At Risk of Poverty: Relative old-age poverty risk (age group 65+ in relation to 18-64)

Relative old-age poverty risk
People aged 65+ in relation to people aged 18-64

Legend: 2005 | 2015 | EA average - 2015
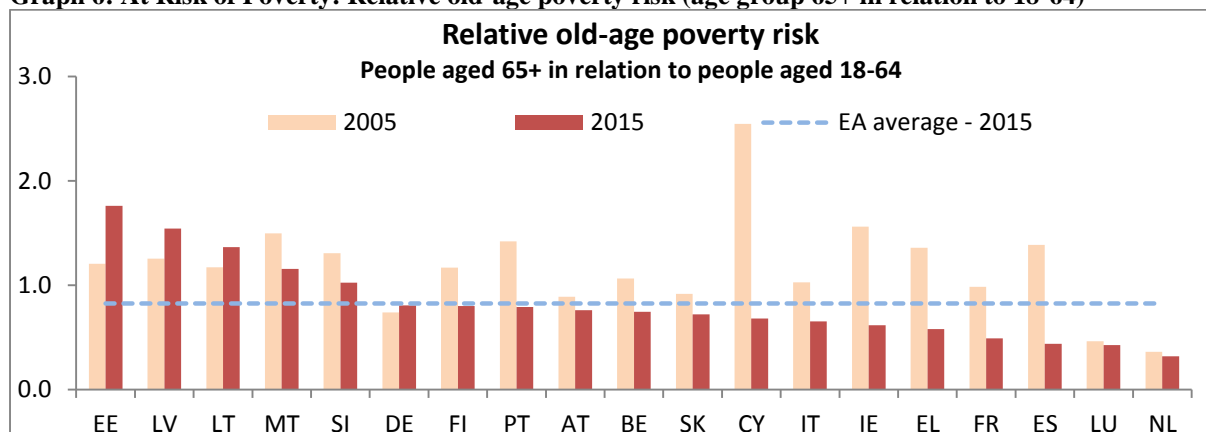
Note: EA average is unweighted.
Source: Commission services, Eurostat (EU-SILC).

3.1.4. The effective retirement age

The effective exit age from the labour market[13] is heavily influenced by pension policies and may be used as an indicator for the effective retirement age[14] (see Graph 4). However, it is not only the retirement age that determines when people choose to leave the labour market.[15]

Currently, the lowest average exit age from the labour market for men, according to the ECFIN-EPC(AWG) projections in the 2015 Ageing Report, is in LU (60.2), FR (60.8), SK (61.6), BE (61.9) and MT (62). In 2060, LU (60.2), FR (63.1), MT (64) are still projected to be among the lowest, while BE (64.3) and in particular SK (66.2) will have advanced, thanks to implemented pension reforms. For women, the lowest exit rates were in SK (59.7), SI (60), LU (60.9), FR (60.9) and AT, MT (both 61). By 2060, LU (60.9), FR (63.1), MT (62.6) and SI (63.6) are projected to remain among the lowest, joined by AT (63.2). In terms of changes, the largest increases are projected in IT, SK, ES, EL, CY for males and in SK, IT, CY, SI, EL for females.

A prerequisite for achieving higher effective exit rates from the labour market is a high labour force attachment. Higher participation rates enable longer contributory periods. In a number of member States youth unemployment has been extraordinarily high and in spite of relatively late exits from the labour market, work careers are at risk of being relatively short. Countries with low participation rates, especially among older workers and/or women, have scope for strengthening economic growth as well as pension adequacy and sustainability by mobilising this potential (see Graphs A.2 and A.3 in the Annex). This can help offset the impact of reduced pension benefits for standard careers and thus maintain the pension system effectiveness at combating poverty in old ages. This is why the effective retirement age is an

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[13] The average age at which people leave the labour force in the age group 51-74.

[14] An indication of the effective retirement age, for selected countries, is provided for by the average age at which people draw a first pension according to administrative data, see Graph A.1 in the Annex.

[15] In many cases, it is possible to retire early subject to country-specific conditions. It needs to be born in mind that the indicator is based on labour force survey data and therefore may not match exactly with the age at which a pension is first awarded, though there is overall a close correspondence in terms of ranking (see Graph A.1 in the Annex for effective retirement ages based on administrative data on pension take-up). Moreover, labour market exit decisions may be influenced by other factors, including relative generosity of public and private pensions, bonuses and penalties, labour market conditions. Furthermore, the number of persons receiving a pension in relation to the number of persons aged 65 and over indicates the pension coverage. A decrease is projected in all countries, reflecting a tightening of eligibility for a pension (see Graph A.4 in the Annex).

important benchmarking indicator for the performance of pension systems, against the EA average.

Graph 4: Effective exit age from the labour market, males and females

Note: The effective exit age from the labour market is based on the reference age group 51-74. EA average is unweighted. The latest legislated reforms in Greece, including the impact of law 4336/2015 on early retirement pathways, are not included.
Source: Commission services, 2015 Ageing Report.

3.2. Benchmarking pension systems: policy indicators

Having identified sustainability challenges in the area of public pensions and performance indicators, it is necessary to evaluate policy options so as to find how policies can be adjusted, taking due account of the country-specific situation. The policy lever to be 'pulled' clearly depends upon the challenge a pension system faces. Specifically: i) the age at which people are eligible for a public pension; and, ii) the parameters that determine the pension benefit, may be used to illustrate how different countries compare with each other. The policy indicators used are:

- The standard retirement age by gender
- Automatic adjustment mechanisms
- Key parameters determining the pension: indexation, valorisation and pensionable earnings reference

3.2.1. The standard retirement age

The standard retirement age[16] is the strongest policy lever to affect the retirement age in a country, and thus have a strong impact on pension expenditure.[17] In 2013, the most common

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[16] The standard retirement age is in most cases the statutory retirement age, and in some cases the earliest age at which people are eligible for a pension (see Table A.1 in the Annex and Table II.1.4 in the 2015 Ageing Report for details).

standard retirement age was 65 years for men and common also for women. There are however cross country differences, with SK, MT, LV, LT, EE being below 65 for both men and women, and additionally AT, IT and SI below 65 for women (see Graph 7). By 2060, the differences will be higher, as a result of forward looking pension reforms in several countries (see 2015 Ageing Report). All euro area members are set to have a retirement age of at least 65 for men and women, rising for a few (EL, NL and IT) above 70 years due to automatic mechanisms linking the retirement age to life expectancy. The largest increases are expected in NL, SK, EL, CY, PT for males and in SK, IT, NL, AT, EL for females.

Graph 7: Standard retirement age, males and females

Note: EA average is unweighted.
Source: Commission services, 2015 Ageing Report.

3.2.2. Automatic adjustment mechanisms

A possibility to strengthen pension sustainability while safeguarding adequacy and at the same time cope with risks related to demographic change is to introduce an automatic adjustment mechanism, for instance linked to the retirement age, to the pension benefit or to the pension system balance.[18] An increasing number of countries have introduced such mechanisms in recent years.[19] Currently, 12 of the 19 euro area member have such mechanisms in place, and 7 of them have a link that links the retirement age to life expectancy (see Table 2).

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[17] It is also relevant to assess which early retirement possibilities exist in Member States (Table A.1 in the Annex for early retirement ages). In addition, life expectancy at the statutory retirement age indicates how long time people on average can expect to spend in retirement, see Graph A.6 in the Annex.

[18] Additional granularity can be introduced by looking at additional parameters of pension systems, such as improving incentives to work longer through the use of bonuses and penalties for working longer, see Table A.2 in the Annex.

[19] For timing of the reforms, see Table A.3 in the Commission's 'Issues note' to the EG, referred to in footnote 4.

Table 2: Automatic adjustment mechanisms in pension systems

Retirement age link to life expectancy	• Italy, Finland, Portugal, Greece, Netherlands, Cyprus, Slovakia
Pension benefit link to life expectancy	• Italy, Latvia, France, Finland, Portugal, Spain
Automatic balancing mechanism	• Germany, Spain
No automatic mechanism	• Belgium, Estonia, Ireland, Lithuania, Luxembourg, Malta, Austria, Slovenia

Source: Commission services, 2015 Ageing Report.

3.2.3. Key parameters determining the calculation of a pension: indexation, valorisation and pensionable earnings reference

Aside of adjusting the retirement age, the key factors determining the pension benefit are: i) the valorisation regime; ii) the indexation regime; and, iii) the pensionable earnings reference period.[20]

Table 3: Indexation and valorisation parameters defining public pension benefits (old-age pensions)

		General indexation variable(s)		
		Prices	Mixed or no fixed rule	Wages
General valorisation variable(s)	Prices	BE, FR	MT, PT	
	Mixed or no fixed rule		IE, EL, HR, LT*, PL, RO, FI	DK, NL
	Wages	ES, IT, HU, AT	BG, CZ, EE, CY, LV, LU, SI, SK	DE, SE, UK

Note: * LT: yearly discretionary decisions. IT: general valorisation variable is GDP.
Source: Commission services, 2015 Ageing Report.

For both valorisation and indexation of pensions, relying relatively more on wages lead to higher pensions and thus to higher expenditure, and vice versa for relying relatively more on prices as indexing variable.[21] There has been a general trend towards indexation and valorisation on prices since the early 2000s.[22] Currently, only two countries index pensions in

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[20] 'Indexation' refers to the adjustment over time of pensions in payment. 'Valorisation' refers to the adjustment over time of the value of pension contributions paid (in NDC systems) or the points accumulated or pensionable earnings of past years (in DC or point systems). Additional granularity can be introduced by looking at additional parameters of pension systems, such as accrual rates, see Table II.1.28 in the 2015 Ageing Report.

[21] Beyond the overall indexation and valorisation rules, institutional design of pension systems is important. In particular, the smoothing of indexation over the cycle allows to better smooth pension increases over time (and avoids strong indexation in bad economic times) and smoothing valorisation rules allows to better mutualise economic fluctuations across generations.

[22] For an overview of reforms of pension systems over the last 20 years, see G. Carone, P. Eckefeldt, L. Giamboni, V. Laine, S. Pamies (2016), 'Pension reforms since the early 2000s: achievements and challenges ahead', European Economy, Discussion paper No 42.

payment on wages (NL, DE), while either price indexation (BE, FR, ES, IT, AT) or a mix between the two is more common. As for valorisation, the majority of countries rely on wage valorisation, but in a few (BE, FR, MT, PT) it is indexed on prices or a mixed indexation (see Table 3).

For countries with relatively short pensionable earnings reference period (in particular AT, but also ES, FR, LT, MT, SI), extending it would in general lead to reduced pension expenditure, and it would in addition strengthen the link between contribution to and benefits received from the pension systems and thereby supporting the fairness and intergenerational equity of the system (see Table 4).

Table 4: Pensionable earnings reference periods defining public pension benefits (old-age pensions)

Pensionable earnings reference		
Full career	< Full career	Other
BE, DE, EE, EL, IT, CY, LV, LU, PT, SK, FI	Up to 25 years: ES, FR, LT, MT, SI	IE, NL
	>25 years: AT	

Note: Public pensions are flat rate in IE and NL. PT: pensionable earnings reference is full career up to a limit of the best 40 years as of 2002. Before 2002 is a mix between 10 best years out of last 15 years before 2002 and remain career.
*Source:* Commission services, 2015 Ageing Report.

Issues for discussion

i. To what extent can the proposed benchmarking exercise contribute to the identification of the main challenges in the implementation of the EA common principles in the area of pension policy?

ii. What follow-up would you envisage for the proposed benchmarking, in terms of (further) information to be incorporated and frequency of the exercise? Should this exercise be carried out in parallel to the ongoing updating of the economic and budgetary projections for the 2018 Ageing Report?

iii. Which policy outcomes do you envisage for the benchmarking exercise, alongside its feeding the preparation of the country-specific recommendations in the context of the European Semester?

ANNEX

Graph A.1: Effective retirement age (old-age pension), 2015, based on administrative data, selected countries
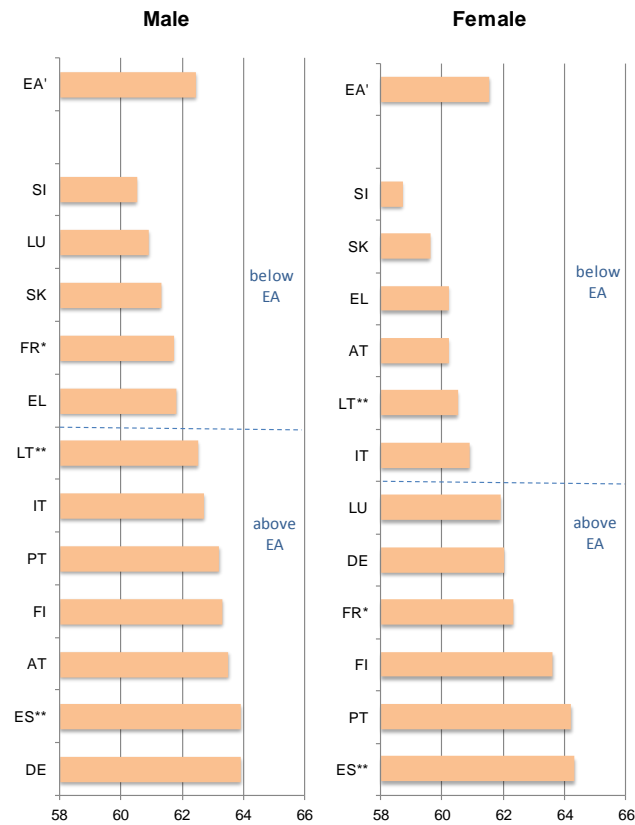

Note: Information provided by Members of the Ageing Working Group, Commission services.
FR: Main scheme CNAV, AT: Civil servants not included, PT: data for pensions,* Data for 2014, ** Data for 2013,
EA' is the simple average of the countries reported.
Source: Commission services, Ageing Working Group.

Graph A.2: Participation rates, males and females, aged 15-64

Males, 15-64

Females, 15-64
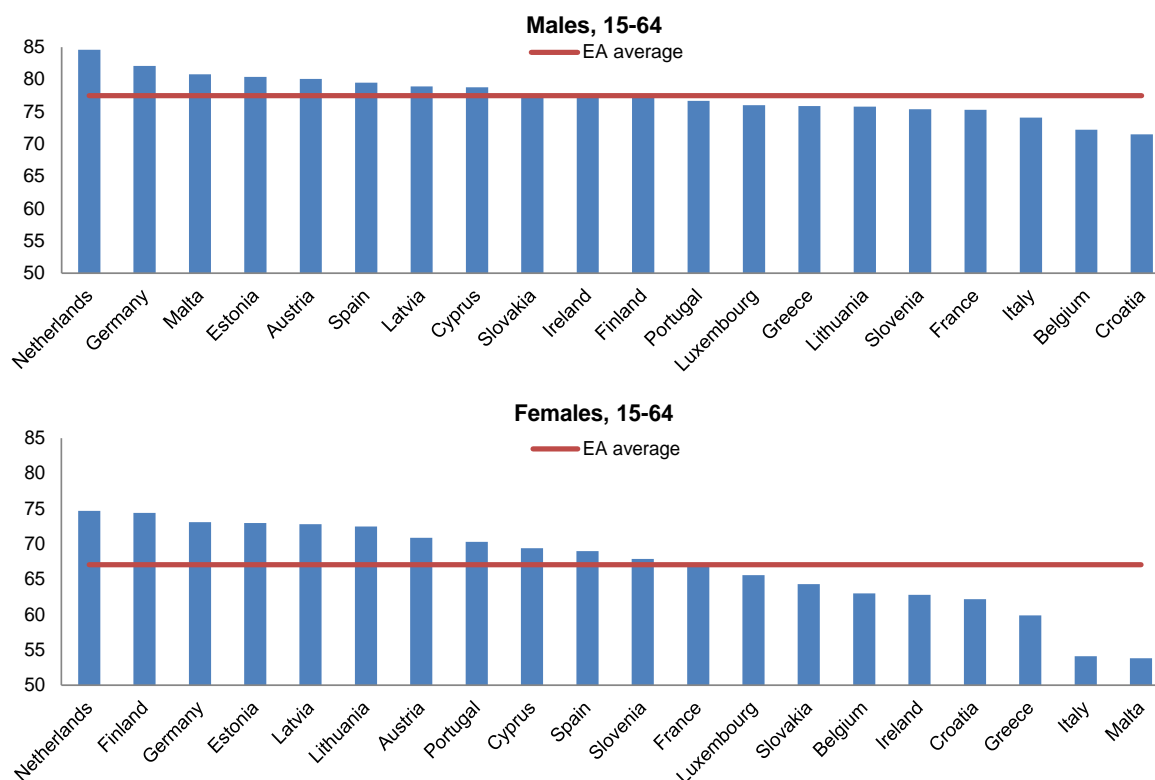
Source: Eurostat, Labour force Survey.

Note: EA average is unweighted.

Graph A.3: Participation rates of older workers, males and females, aged 55-64

Males, 55-64

Females, 55-64
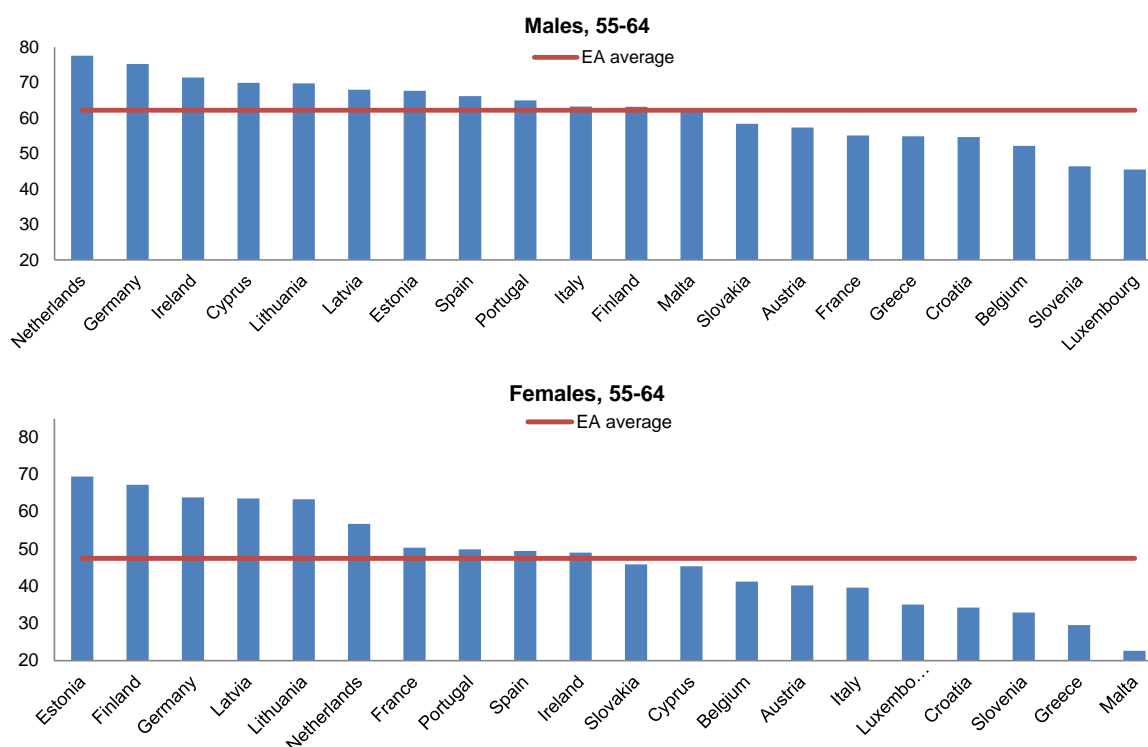
Note: EA average is unweighted.
Source: Eurostat, Labour force Survey

Graph A.4: Coverage ratio (No. of pensioners in relation to persons aged 65+)

Coverage ratio (No. of pensioners/persons aged 65+)

Legend: ■ 2013   ■ 2013-60   ✕ 2060
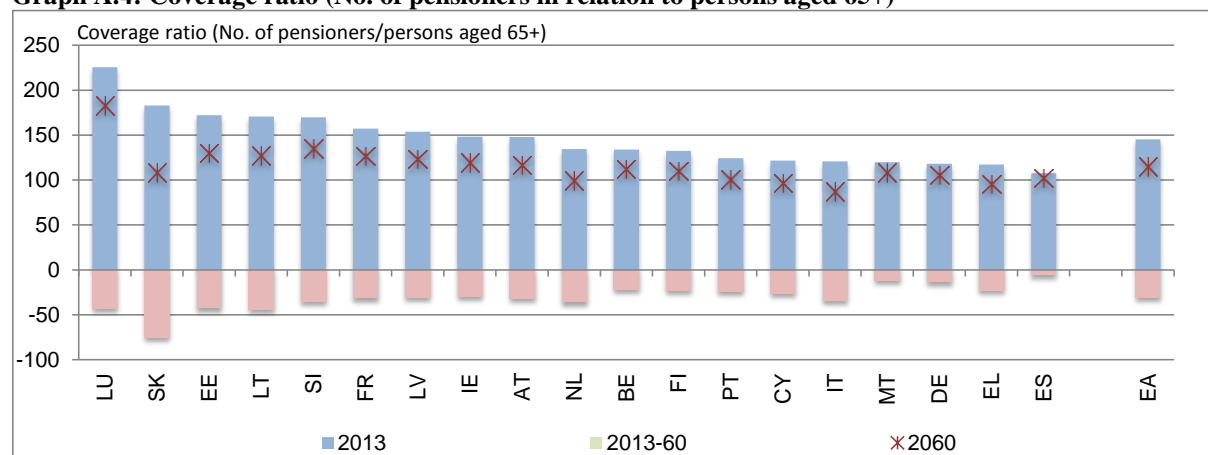
Notes: A large number of foreign pensions lead to the high number for LU. EA average is unweighted.
Source: Commission services, 2015 Ageing Report.

Graph A.5: Net theoretical replacement rate, Base Case II (40 years to SPA)

Notes: Data for EL not available. EA* is the simple average of available countries. EA average is unweighted.
Source: Commission services, Pension Adequacy Report 2015.

Table A.1. Statutory and early retirement ages (in bracket)

|	MEN				WOMEN			
	2013	**2020**	**2040**	**2060**	**2013**	**2020**	**2040**	**2060**
BE	65 (60.5)	65 (63)	67 (63)	67 (63)	65 (60.5)	65 (63)	67 (63)	67 (63)
DE	65.3 (63)	65.8 (63)	67 (63)	67 (63)	65.3 (63)	65.8 (63)	67 (63)	67 (63)
EE	63 (60)	63.8 (60.8)	65 (62)	65 (62)	62 (59)	63.8 (60.8)	65 (62)	65 (62)
IE	65 (65)	66 (66)	68 (68)	68 (68)	65 (65)	66 (66)	68 (68)	68 (68)
EL*	67 (62)	67 (62)	69.9 (64.9)	71.9 (66.9)	67 (62)	67 (62)	69.9 (64.9)	71.9 (66.9)
ES	65 (63)	65.8 (63)	67 (63)	67 (63)	65 (63)	65.8 (63)	67 (63)	67 (63)
FR	65.8 (60.8)	67 (62)	67 (62)	67 (62)	65.8 (60.8)	67 (62)	67 (62)	67 (62)
IT*	66.3	66.8	68.4 (65.4)	70 (67)	62.3	66.8	68.4 (65.4)	70 (67)
CY*	65 (63)	65 (63)	67 (65)	69 (67)	65 (63)	65 (63)	67 (65)	69 (67)
LV	62 (60)	63.8 (61.8)	65 (63)	65 (63)	62 (60)	63.8 (61.8)	65 (63)	65 (63)
LT	62.8 (57.8)	64 (59)	65 (60)	65 (60)	60.7 (55.7)	63 (58)	65 (60)	65 (60)
LU	65 (57)	65 (57)	65 (57)	65 (57)	65 (57)	65 (57)	65 (57)	65 (57)
MT	62 (61)	63 (61)	65 (61)	65 (61)	62 (61)	63 (61)	65 (61)	65 (61)
NL*	65.1 (65.1)	66.3 (66.3)	69.3 (69.3)	71.5 (71.5)	65.1 (65.1)	66.3 (66.3)	69.3 (69.3)	71.5 (71.5)
AT	65 (62)	65 (62)	65 (62)	65 (62)	60 (58.8)	60 (60)	65 (62)	65 (62)
PT*	65 (55)	66.4 (55)	67.7 (55)	68.8 (55)	65 (55)	66.4 (55)	67.7 (55)	68.8 (55)
SI	65 (58.3)	65 (60)	65 (60)	65 (60)	63.5 (58)	65 (60)	65 (60)	65 (60)
SK*	62 (60)	62.8 (60.8)	65.4 (63.4)	67.8 (65.8)	58.3 (56.3)	62.8 (60.8)	65.4 (63.4)	67.8 (65.8)
FI	66 (62)	66 (63)	66 (63)	66 (63)	66 (63)	66 (63)	66 (63)	66 (63)

Notes: See the 2015 Ageing Report for additional information on these figures. Countries with a * have introduced an automatic link between the retirement age and life expectancy. FI: November 2015 reform not included.
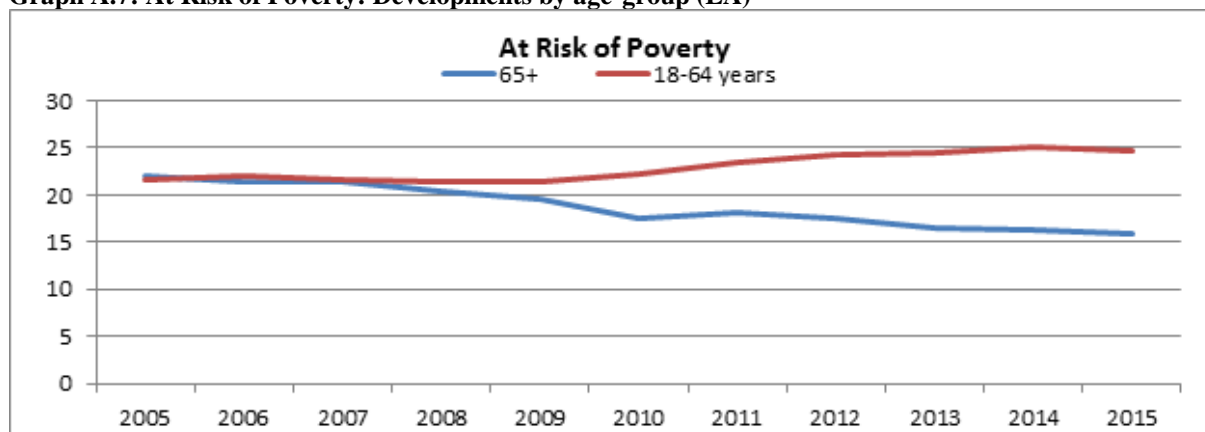*Source:* 2015 Ageing Report.

Graph A.6: Life expectancy at standard retirement age
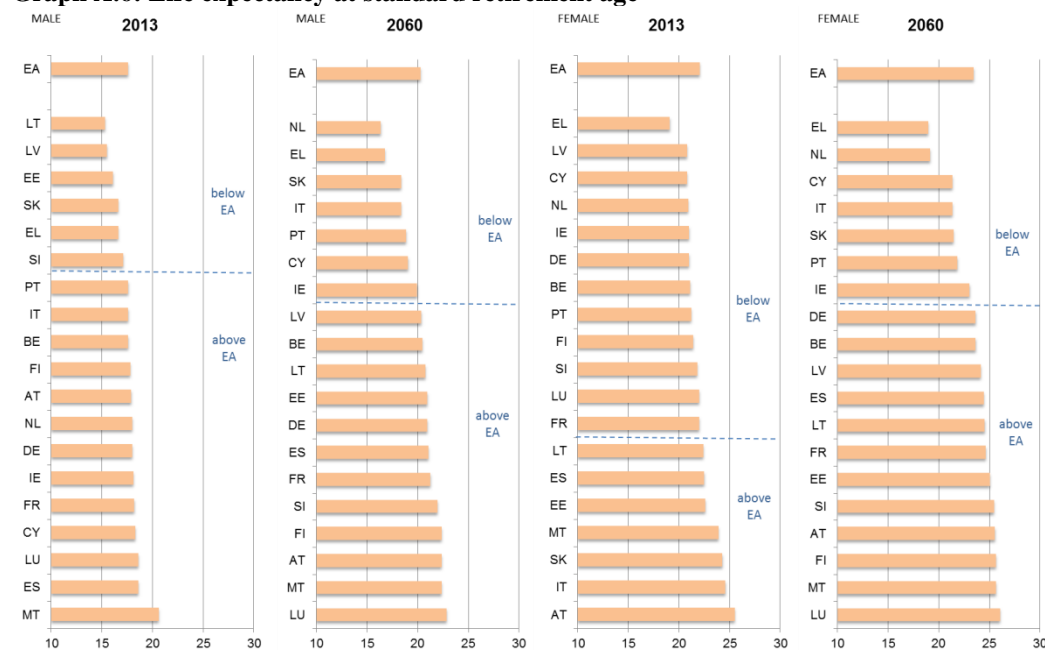
Notes: EA average is unweighted.
Source: Commission services, 2015 Ageing Report.

Graph A.7: At Risk of Poverty: Developments by age-group (EA)

.

Source: Commission services, Eurostat (EU-SILC).

Table A.2. Penalties and bonuses for early/late retirement

	Penalties for early retirement (fiche)	Bonuses for late retirement (fiche)		Penalties for early retirement (fiche)	Bonuses for late retirement (fiche)
BE		Civil servants: 0.125% of the annual pension rate for each worked month between the age of 60 and 62 year (1.5% yearly), and to 0.167% from the age of 62 (2% yearly)	LV	The amount of early retirement pension is 50% of pension amount. The full pension is restored after reaching normal retirement age.	Absent
DE	0.3 % per month of early retirement (3.6% yearly)	Higher accrual of 0.5 % for each month worked after the statutory retirement age. (6% yearly)	LT	by 0.4% per month of early retirement (4.8% yearly)	0.67 % per month of late retirement (8% yearly)
EE	0.4% per month of early retirement (4.8% on annual base)	0.9% higher pension benefit for each month of postponement (10.8% yearly)	LU	Absent	Absent
IE	Absent	Absent	MT	Absent	Absent
EL	0.5% per month of early retirement	Absent	NL	Absent	Absent
ES	From 6% to 8% a year depending on the contributory period	2%, 2¾%, and 4% for an extra year, respectively, for careers below 25 years, between 25 and 37, and over 37	AT	4.2% per year till a max of 15%	4.2% per year till a max of 12.6%
FR	5% for each year of early retirement	5% per year of late retirement	PT	0.5% per month of early retirement (6% yearly)	Monthly rates of 0.33%, 0.5%, 0.65% and 1% for contributory careers of 15 to 24, 25 to 34, 35 to 39 and more than 40 years. (4%, 6%, 7.8% and 12% on annual base for the mentioned contributory periods)
IT	Absent	Absent	SI	0.3 % per month of early retirement (3.6% yearly)	4% per year for prolonging working career after having met minimum retirement conditions for early and old-age pension
CY	0.5% per month of early retirement (6% yearly)		SK	0.5% per month of early retirement (6% yearly)	0.5% per month of late retirement (6% yearly)
			FI	0.6% per month of early retirement (7.2% yearly)	0.6% per month of late retirement, reduced to 0.4% after age 68 (7.2% and 4.8% respectively yearly)

Notes: Bonus for late retirement in Belgium is only granted until reaching the statutory retirement age. Hence, it is not a "late" retirement bonus as such. LV: early retirement possible 2 years before the normal retirement age, if person's insurance record is 30 years or more.
Source: 2015 Ageing Report, pension country fiches.

Table A.3. Structure of pension systems

Country	Type of scheme	Public pensions					Private pension scheme		
		Minimum Pension	Old-age pensions	Early retirement pensions	Disability pensions	Survivors' pensions	Occupational pension scheme	Mandatory private individual	Voluntary private individual
BE	DB	MT - SA	ER	ER	ER priv FR self-emp	ER	M* priv V* self-emp	X	Yes*
DE	PS	MT - SA	ER	ER	ER	ER	V*	X	Yes*
EE	DB	MT - SA	ER	ER	ER	ER	M*	Yes	Yes*
IE	Flat rate + DB	MT - FR & SA	FR	FR - MT	FR - MT	FR - MT	M pub V* priv	X	Yes*
EL[(1)]	Flat rate + DB + NDC	MT - FR	ER	ER	ER	ER	X	X	Yes*
ES	DB	MT	ER	ER	ER	ER	V	X	Yes
FR[(2)]	DB + PS	MT - SA	ER	ER	ER	ER	V*	X	Yes*
IT	NDC	MT - SA	ER	ER	ER	ER	V*	X	Yes*
CY	PS	MT & ER	ER	ER	ER	ER	M* - pub V* - priv	X	X
LV	NDC	FR - SA	ER	ER	ER	ER	X	Yes	Yes*
LT	DB	SA	ER	ER	ER	ER	X	X	Yes*
LU	DB	MT - SA	ER	ER	ER	ER	V*	X	Yes*
MT	Flat rate + DB	MT - SA	FR & ER	X	FR & ER	FR & ER	M*	X	Yes*
NL	DB	SA	FR	X	ER	FR	M	X	Yes*
AT	DB	MT - SA	ER	ER	ER	ER	M*	X	Yes*
PT	DB	MT - SA	ER	ER	ER	ER	M	X	Yes*
SI	DB	MT - SA	ER	ER	ER	ER	V*	X	Yes*
SK	PS	MT - SA	ER	ER	ER	ER	X	Yes*	Yes*
FI	DB	MT	ER	ER	ER	ER	V*	X	Yes*

Notes: (1) The public supplementary pension funds are NDC since 2015. (2) Point system refers to the ARRCO and AGIRC pension schemes. Public pension expenditure include all public expenditure on pension and equivalent cash benefits granted for a long period. Minimum pension corresponds to Minimum pension and other social allowances for older people not included elsewhere.

Key:

DB: Defined benefit system, NDC: Notional defined contribution, PS: Point system, MT: Means tested, FR: Flat rate, ER: Earnings related, SA: Social allowance/assistance, X: Does not exist, V: Voluntary participation in the scheme, M: Mandatory participation in the scheme, *: Is not covered by the projection.

Source: Commission services, 2015 Ageing Report.

BOX: Common principles for strengthening pension sustainability

At their June 2016 meeting, the Eurogroup confirmed that the sustainability of pension systems, while safeguarding the adequacy of old-age incomes, is a clear policy priority for euro area Member States. In view of making headway towards achieving this objective, a set of common principles was adopted.

Common principles

#1 Safeguard against demographic and macroeconomic risks
Reforms should focus on systematically increasing the resilience of public pension systems against risks from demographic change or macroeconomic shocks. In particular, the introduction of automatic mechanisms appropriately designed at Member State level has been shown to be an effective tool for dealing with the effects of demographic change, specifically the slow-moving but significant increases in life expectancy.

#2 Flanking policies
Pension reform should be complemented by flanking policies so as to improve the sustainability of the pension system, while ensuring the adequacy of pensions. These policies should seek to extend working lives and thereby boost retirement incomes, through measures to increase older people's employability as well as restricting early pathways out of the labour force. The provision of complementary means of savings for retirement should also be explored.

#3 Broader reforms to strengthen growth and employment
Longer working lives should be accommodated without higher expenditure on non-pension benefits. Effective policies need to be enacted to ensure that the entire work force is put to the fullest possible use. Workplaces should adapt to maximise the productivity of a heterogeneous workforce, while policies to boost productivity and potential growth should support the impact of pension reforms on sustainability more broadly.

#4 Anchoring political and societal support
The implementation of pension reforms has far-reaching consequences for individuals as well as the macro-economy and has implications for intergenerational equity. Societal and political support is essential for the lasting success of reforms. In this context, it is particularly important to establish a common understanding of the challenges pension systems face, as well as a constructive dialogue and involvement of the relevant stakeholders, and an appropriate phasing in of the reforms.