Federal Planning Bureau

Economic analyses and forecasts

Economic Policy Committee's Ageing Working Group

Belgium: Country Fiche 2015

Updated version including the Belgian 2015 pension reform
(peer review of 4 November 2015)

November 2015

Federal Planning Bureau

The Federal Planning Bureau (FPB) is a public agency.

The FPB performs research on economic, social-economic and environmental policy issues. For that purpose, the FPB gathers and analyses data, examines plausible future scenarios, identifies alternatives, assesses the impact of policy measures and formulates proposals.

The government, the parliament, the social partners and national and international institutions appeal to the FPB's scientific expertise. The FPB provides a large diffusion of its activities. The community is informed on the results of its research activities, which contributes to the democratic debate.

The Federal Planning Bureau is EMAS-certified and was awarded the Ecodynamic Enterprise label (three stars) for its environmental policy

url: http://www.plan.be
e-mail: contact@plan.be

Table of contents

List of tables

S

Foreword

The 2015 Ageing Report includes pension projections made in autumn 2014. For Belgium these did not take into account the new pension reform announced in the Government Agreement of October 2014. By the end of July 2015, all the different components of the reform had been legislated. This Belgian updated projection of November 2015 takes into account this pension reform.

In comparison with the 2015 Ageing Report projection, the revision of the pension cost of ageing is mainly due to the pension reform. Other new measures are also included, mainly the present indexation freeze (implying a 2% decrease of pensions in real terms) and a reduction of public employment (implying some redistribution of future pensioners across the different pension schemes). These updated projections are based on an updated database (more recent version of national accounts data in ESA 2010). In addition, some refinements of the pension models were required in order to simulate the pension reform.

1. Overview of the Belgian pension system

1.1. Description of the Belgian pension system

1.1.1. Three pillars

The Belgian pension system can be divided into three pillars:

– The first pillar has the greatest importance (12.2% of GDP in 2013). It is a statutory public pension scheme with defined benefits (DB) for 99% of the expenses (only the assistance scheme is means-tested) and based on the pay-as-you-go financing (PAYG) principle. Since 1/1/1995, the financing of all social expenses for the general scheme for wage earners and self-employed is carried out through the so-called "global management" system (contributions and some tax revenues), which implies that there is only a global contribution rate for all social security schemes and no longer a contribution rate by scheme. Most social benefits for civil servants, among others pensions, are financed through the general budget of the federal government. The first pillar includes three main pension schemes: the scheme for wage earners (47% of total pension expenditure in 2013 – AWG definition), the scheme for the self-employed (7% of the total) and the scheme for civil servants (32% of the total). Besides these three schemes, the pension expenditure covered in the AWG results also comprises the assistance scheme named guaranteed income for the elderly (1% of the total pension expense), the unemployment with company allowance non-job seeker under the wage earners' scheme (4% of the total) and the disability benefits under the wage earners' and self-employed schemes (9% of the total). It is worth noting that in the previous projection, all unemployed with company allowance were counted among the pensioners. This is not the case anymore because of the reform in this scheme (see 1.1.3). In the updated projection, only the unemployed with company allowance non-job seekers are counted as pensioners. The difference is negligible in the short term but important into the future.

– Private occupational pension schemes (second pillar) are of minor importance: pension spending only amounts to 1.2% of GDP in 2012 for retired wage earners dependent on collective contracts entered into with insurance companies or institutions for occupational retirement provision (no data available for total spending). Concerning those pensions, an act was passed in 2003, i.e. the Act on supplementary pensions of 28 April 2003, centred on sectoral pension schemes and aimed at stepping up the development of these pensions by improving their access and by giving more guarantees to workers. For the time being, there are not enough data available to model the second pillar and to make relevant pension expenditure projections.

– The private voluntary individual pension schemes constitute the third pillar, but no estimate for pension expenditure is available at this stage.

Table 1 illustrates the relative weight of the various pension schemes both in terms of spending and in terms of number of pensioners.

Table 1   Weight of the various pension schemes in 2013 (unless otherwise stated) according to the AWG breakdown in ESA 2010[a] – Updated version of November 2015

	Pension spending (in % of GDP)	Number of pensioners (in thousands)
Public pension schemes (first pillar)	**11.8**	
of which earnings-related	**11.6**	
- wage earners' scheme	7.0	
old-age, early and survivor pensions	5.6	1543.7
% of beneficiaries entitled to the guaranteed minimum pension		14%
unemployment with company allowance non-job seeker	0.4	106.9
% of beneficiaries reaching the ceiling		95%
disability	1.0	291.5
% of beneficiaries entitled to the minimum allowance		64%
- self-employed scheme (old-age, early and survivor pensions)	0.8	283.9
% of beneficiaries entitled to the guaranteed minimum pension		50%
- civil servants' scheme (old-age, early, disability and survivor pensions)	3.8	372.6
of which non-earnings-related	**0.2**	
- assistance scheme (guaranteed income for elderly persons)	0.1	19.0
- disability (self-employed scheme)[1]	0.1	21.2
Occupational scheme (second pillar) – only wage earners	**1.2 (2012)**	na
Non-mandatory private scheme (third pillar)	**na**	na

a. The Belgian Country Fiche of November 2014 was expressed in ESA 1995 terms.

1.1.2.   Some parameters of the public pension scheme

The following table summarizes information on the retirement age in the public pension scheme, taking into account the pension reform of 2015[2]. A detailed description of this pension reform is presented in section 1.2.1.

Until 2012, early retirement was allowed as from the age of 60 with 35 career years in the wage earners' and self-employed schemes (60 in the civil servants' scheme with a minimum of 5 years of service). As from 2013, a first parametric pension reform raised the minimum early retirement age and the minimum number of career years required for eligibility, respectively to 62 in 2016 and to 40 years in 2015[3].

---

[1]   The disability pensions in the self-employed scheme are lump-sum amounts so that they comply with the AWG definition of the non-earnings-related pensions ("all pension expenditures for which entitlements are not dependent on personal earnings, e.g. flat-rate or means-tested minimum pensions."). The distinction between earnings-related and non-earnings-related pensions for disability was not present in the 2012 questionnaire.

[2]   Act aimed at raising the legal retirement age, conditions to early retirement pension and the minimum age for survivor's pension (Act of 10 Augustus 2015, published in the Belgian Official Journal of 21 Augustus 2015).

[3]   Exceptions were made for long careers: at cruising speed (as from 2016), people with a 42-year career will still be eligible for early retirement at 60 (and at 61 with a 41-year career). For special schemes with preferential 'tantiemes' (career fraction) in the civil servants' scheme (teachers, magistrates, university professors …), accrual rates were reduced and career requirements for early retirement were increased.

Table 2   Public pension scheme: statutory retirement age, earliest retirement age, penalty for early retirement and bonus for late retirement - on November 2015

		2014	2020	2030	2040	2050	2060
Wage earners	Statutory retirement age	65	65	67	67	67	67
	Earliest retirement age / career years	61/39	63/42	63/42	63/42	63/42	63/42
	Penalty for early retirement	-			-		
	Bonus in case of late retirement	Pension bonus			-		
Self-employed	Statutory retirement age	65	65	67	67	67	67
	Earliest retirement age / career years	61/39	63/42	63/42	63/42	63/42	63/42
	Penalty for early retirement	-			-		
	Bonus in case of late retirement	Pension bonus			-		
Civil servants	Statutory retirement age	65	65	67	67	67	67
	Earliest retirement age / career years	61/39	63/42	63/42	63/42	63/42	63/42
	Penalty for early retirement	-			-		
	Bonus in case of late retirement	Pension bonus			-		
Unemployment with company allowance (only for wage earners)	Statutory retirement age with	60	62	62	62	62	62
	- career years: men	35	40	40	40	40	40
	- career years: women	28	36	40	40	40	40
	Companies undergoing restructuring	55	60	60	60	60	60
Disability (wage earners and self-employed)	No statutory age (between 18 and 64)	-	-	-	-	-	-
Guaranteed income for elderly persons	Statutory retirement age	65	65	67	67	67	67
	Earliest retirement age	-	-	-	-	-	-

The 2015 pension reform raises the minimum early retirement age and the minimum number of career years required for eligibility respectively to 63 years in 2018 and 42 years of career in 2019, after a short transition period. Nevertheless, exceptions are still possible: as from 2019, for people aged 61 with a 43-year career at 61, and aged 60 with a 44 year career. This reform also raises the statutory retirement age in the three main public old-age pension schemes (wage earners, self-employed and civil servants), from 65 for both men and women to 66 in 2025 and to 67 in 2030. Forty-five career years are still required for a full pension.

In addition, this reform also introduces modifications in the unemployment with company allowance under the wage earners' scheme: the minimum age is raised from 60 to 62 in 2015 (from 55 in 2015 to 60 in 2020 for companies undergoing restructuring). Moreover some of the beneficiaries will be qualified as "job seekers" and subject to control procedures. These are no longer counted among pensioners.

The pension bonus that benefits to people working after the age of 60 (while complying with the requirement for early retirement) has been abolished since 1/1/2015.

Box 1   Major characteristics of the three main public pension schemes (old-age earnings-related) – November 2015

Wage earners' scheme: a low replacement rate

– A full career is 45 years.

– Normal accrual rate: 1.33% (60%/45) applied to the wages over the career and only adjusted to current prices (CPI); 1.67% (75%/45) for the head of household with a dependent spouse.

– Increased accrual rate for low wages: minimum pension for a full career or at least 2/3 of a full career in the wage earners' scheme (1145.80 EUR per month in September 2015 for a full career; 1431.80 EUR per month for the head of household with a dependent spouse); minimum claim per working year (guaranteed minimum wage of 1909 EUR per month in September 2015).

– Decreased accrual rate for high wages: maximum pension for a full career due to wage ceiling (wage ceiling of 52972.54 EUR for the year 2014).

– Pension automatically adjusted to price index and partially adjusted to living standards.

Self-employed scheme

– Very similar to the wage earners' scheme.

– However, the reference income takes into account the much lower contribution rate. As a result, 60% of the beneficiaries are entitled to the minimum pension (1092.36 EUR per month in 2015 for a full career; 1431.80 EUR per month for the head of a household with a dependent spouse).

– Pension automatically adjusted to price index and partially adjusted to living standards.

Civil servants' scheme: a high replacement rate

– A full career is 45 years.

– Normal "nominal" accrual rate of 1.67% (1/60) applied to the average wage of the last 10 (5 years for people born before 1962) years of work (the "effective" accrual rate is much higher if expressed in terms of the average wage of the whole career).

– Pension automatically adjusted to the nominal wage increases of the working civil servants.

More information on pension calculation is available in annex 6.1.

1.1.3. Rules for indexation and living standards adjustment

a. Legislation

All pensions are automatically adjusted to the price index. But the Act of 23 April 2015 on the employment promotion, published in the Belgian Official Journal of 27 April, provides for an index jump.

Besides the indexation to prices, pensions are also adjusted to living standards in real terms, to some extent on the basis of a complex mechanism. As far as civil servants are concerned, pensions are automatically adjusted to the real wage increase of the working civil servant, although this adjustment does not reflect a hundred percent of average wage growth. For the other pension schemes, the "Generation Pact" of December 2005 establishes the principle of an adjustment of the replacement benefits (not only pensions) to living standards in the wage earners', the self-employed and the assistance schemes (see also section 4.3.4). Firstly, the government must provide for a budget covering an annual growth of 1.25% for the wage ceilings and the minimum claim per working year, an adjustment to living standards of 0.5% for the non-lump-sum allowances and a real growth of 1% for the lump-sum allowances. Once this budget is calculated, concrete measures for the adjustment to living standards are proposed by the social partners. These measures have to respect, in each scheme (wage earners', self-employed, social assistance), the abovementioned global financial constraint. However, in each scheme, they can be aimed at specific sectors, categories of beneficiaries or types of allowances. Finally, the government decides on the final measures.

b. Projection

The table below presents the rules for indexation and living standards adjustment in the projection. All allowances are indexed to prices (CPI) unless otherwise decided. The Act of 23 April 2015 on the employment promotion provides for an "index jump". It means that the 2015 adjustment of pension benefits (and of other social allowances and wages[4]) to price evolution has been skipped. Given the 2% stepwise indexation mechanism, this corresponds to a reduction by 2% in the pension benefits in real terms over the whole projection period (the past wages as well as the future wages are devaluated by 2% in real terms). This index jump was first foreseen in 2016 as taken into account in the updated projection. Finally the index jump has happened in the second half of 2015.

---

[4] The adjustment of wages to price evolution has also been skipped. Moreover, a period of wage moderation is planned for the years 2015-2016.

Table 3   Indexation and living standards adjustment of pensions by scheme in the projection

	Living standards adjustment (1)		Indexation to prices (whole projection period)
	Till 2016	From 2017	
Wage earners (including unemployment with company allowance and disability)	All the measures decided by the government	Partially adjusted to living standards following the "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	Automatically adjusted to price index (CPI), except in 2016
Self-employed (including disability)			
Guaranteed income for elderly persons			
Civil servants		Adjusted to the real wage increases of the working civil servants diminished by 0.4%	

(1)   in addition to price indexation

Regarding adjustment to living standards, in the updated peer review of November 2015, for the years 2015 and 2016, the projection takes into account all the measures already decided by the government until September 2015.

From 2017 onwards, in the wage earners', the self-employed and the assistance schemes, social allowances are adjusted according to the parameters used for computing the budget devoted to the adjustment to living standards as stated in the Generation Pact (annual growth of 1.25% for the wage ceilings and the minimum claim, 1% for lump-sum benefits, 0.5% for non-lump-sum benefits). The civil servants' pensions are adjusted to real wage increase of the working civil servants diminished by 0.4% which corresponds to a historical trend of the difference between real wage increases and effective welfare adjustment of civil servants' pensions.

1.2. Recent reforms

1.2.1. The 2015 pension reform

This reform is included in the updated pension projection of November 2015.

a. Parametric reforms

The Act of 10 Augustus 2015 "aimed at raising the legal retirement age, conditions to early retirement pension and the minimum age for survivor's pension" was published in the Belgian Official Journal of 21 Augustus 2015.

It raises further the minimum age and number of career years required for qualifying for early retirement (see Table 4). Starting from 62 years and 40 years respectively in 2016, it goes to 62.5 and 41 years in 2017, then to 63 and 41 years in 2018 and finally to 63 and 42 years in 2019 (exceptions for long career will be raised from 42 to 44 years at 60 and from 41 to 43 years at 61 in 2019).

Table 4   Minimum age and number of career years required for qualifying for early retirement

	2012	2013	2014	2015	2016	2017	2018	2019
Before new reform								
minimum age/career requirement	60/35	60.5/38	61/39	61.5/40	62/40	62/40	62/40	62/40
	(5 for the	60/40	60/40	60/41	61/41	61/41	61/41	61/41
	civil				60/42	60/42	60/42	60/42
	servants)							
After new reform								
minimum age/career requirement		Idem before new reform				62.5/41	63/41	63/42
						61/42	61/42	61/43
						60/43	60/43	60/44

The statutory retirement age will be raised from 65 to 66 years in 2025 and to 67 years in 2030 (Table 5). In parallel, access to the disability or unemployment schemes is also raised to these ages.

Table 5   Statutory age of retirement

	Before 1 January 2025	Between 1 January 2025 and 31 December 2029	Since 1 January 2030
Statutory age of retirment	65	66	67

The minimum age to be granted a survivor's pension will be gradually raised to 55 in 2030 (starting from 50 in 2025).

The service credit allocated to civil servants for their degrees will be phased out as from 2015 for the career condition for early retirement.

The reform also raises the minimum entry age in the unemployment with company allowance scheme from 60 to 62 years in 2015 for the new entries in this scheme. For companies in difficulty or undergoing restructuring, the minimum age is raised to 60 years as from 2020 (instead of 55). Until December 2014, 96% of the beneficiaries were considered as non-job seekers. Since the 1/1/2015, the new beneficiaries of this scheme must be available on the labour market and are subject to control procedures. However, exemptions are possible according to the career length. In the updated projection, only the unemployed with company allowance non-job seekers are included in the number of pensioners.

b. Other reforms

The minimum pension and the guaranteed income for the elderly will be raised. The amount of the minimum pension for single persons in the self-employed scheme will be raised to be equal to the level set in the wage earners' scheme at 1/8/2016.

The pension bonus, which benefitted to people working after the age of 60 while complying with the requirement for early retirement, is abolished as of 1/1/2015. It was a lump-sum amount for each additional effectively worked day as from the second year, increasing with the number of additional working days (from 1.5 EUR by day during the first 12 months up to 2.5 EUR by day after 60 months; these amounts were indexed to prices).

A National Pension Committee has been set up to advise the government on the implementation of these pension reforms. This Committee will also investigate how the pension system can be reformed to be more in line with modern society (for instance, reform of non-contributory pension entitlements…). Simultaneously, an Academic Council and a Centre of Expertise have also been created. The Academic Council has the responsibility to provide scientific advice on all pension reform proposals. The Centre of Expertise brings together all the pension knowledge available from administrations and public services institutions. This Centre provides technical assistance to the National Pension Committee, the Academic Council and the Pension Minister(s). The secretariat of the Support Committee of the Centre of Expertise is provided by the Federal Planning Bureau.

Box 2   The shift in the distribution of pensioners by scheme

Besides the pension reform as such, another new measure with an impact on the future development of public pension expenditure is taken into account in the updated pension projection: the reduction of public employment decided in the framework of the budgetary consolidation measures taken by the new central and state governments for the next five years.

As far as the FPB includes all policy measures in its yearly medium-term projection exercise, the impact of these new budgetary consolidation measures on public employment can be assessed by comparing public employment prospects in the 2014 and 2015 vintages of the FPB medium-term outlook[1].

In the 2015 outlook, public employment is projected to be 1.9% lower than in the 2014 outlook for 2020, which corresponds to a reduction of 0.4 p.p. of the share of public employment in total employment, projected for the same year.

Since the breakdown of employment between different schemes in the long-term budgetary model replicates these developments until 2020 but does not influence the growth rates of public employment for the period 2021-2060, this measure implies a downward revision of public employment in 2060 of the same order of magnitude (between the AR 2015 pension projection and the updated pension projection). This downward revision is of course compensated by an upward revision of employment in the market sectors, assuming the structural unemployment rate remains unchanged.

As a result, the share of civil servants' pensioners in the total number of pensioners is also reduced in the long run in the updated version of the pension projection in comparison with the AR 2015 pension projection. The pension reform tends to accentuate this decrease due to the stronger impact of the reform on the exit age from public employment than on the exit age from employment in the market sectors.

Share of civil servants' pensioners in total number of pensioners
(Difference between the updated and the AR 2015 pension projection – p.p.)

2015	2020	2040	2060
-0.1	-0.3	-0.6	-0.9

The sources of information used for updating the projection of public employment in the FPB medium-term outlook are listed in section 6.3.

---

1. BUREAU FEDERAL DU PLAN, Perspectives économiques 2014-2019, juin 2014 – FEDERAAL PLANBUREAU, Economische vooruitzichten 2014-2019, juni 2014.

    BUREAU FEDERAL DU PLAN, *Perspectives économiques 2015-2020*, mai 2015 – FEDERAAL PLANBUREAU, *Economische vooruitzichten 2015-2020*, mei 2015.

1.2.2. The previous reforms

a. The pension reform of December 2011

This reform was presented in the updated pension review of July 2012 and included in the 2012 Fiscal Sustainability Report[5].

The December 2011 pension reform raised the minimum early retirement age and the minimum number of career years required for eligibility, respectively from 60 to 62 and from 35 (5 years for the civil servants) to 40 years, with a transition period between 2013 and 2016. Exceptions were made for long careers: at cruising speed (as from 2016), people with a 42-year career will still be eligible for early retirement at 60 (and at 61 with a 41-year career).

Due to the reform, some special schemes in the private sector or professions with a specific status (miners and civil aviation flying personnel) which generally have a statutory retirement age under 65 and/or a full career of less than 45 years will be aligned with the general wage earners' scheme after a transition period. Similarly, for special schemes with higher accrual rates in the civil servants' scheme (teachers, magistrates, university professors …), accrual rates will be reduced and career requirements for early retirement will be increased. In the unemployment with company allowance scheme, the minimum career length requirement will be gradually increased to 40 years and the minimum age will be raised to 55 for companies in difficulty or undergoing restructuring.

In addition, reforms were also introduced in the pension calculation. In the wage earners' scheme, the equivalent periods (periods of unemployment, work incapacity, maternity leave, career breaks, professional sickness, work injury…) were valued at a notional wage. Henceforth, some periods (third period of unemployment, some periods of unemployment with company allowance before the age of 60, some periods of career break or time credit) will be valued according to the minimum right per career year as from 1 January 2012. The periods of career break taken into account for pension entitlements will also be limited.

At the same time, in the civil servants' scheme, some periods of career break and of absence after 31 December 2011 will be taken into account for pension rights and calculation for 12 months maximum in the entire career (and no longer 5 years as before). Moreover, the reference wage taken into account for the pension calculation will correspond to the average wage over the last 10 career years and no longer the last 5 years[6]. However, this does not apply to people who reached the age of 50 on 1 January 2012 (born before 1962).

The abovementioned reform of early retirement made a reform of the bonus system unavoidable, by targeting it to people working longer while complying with the requirements for early retirements. The July 2012 vintage of Belgian pension projections partially anticipated this reform in the schemes in which such a reform was not contradictory with the "constant legislation" assumption, namely in the

---

[5] European Commission (2012), Fiscal Sustainability Report, European Economy n° 8

[6] The impact of the civil servants' pension calculation based on the last 10 career years is weak, given that the wages of a large number of civil servants do not grow anymore at the end of their careers. Although civil servants benefit from a salary scale increase when being promoted, each scale consists of merely 27 grades. In other words, after 27 career years, the salary remains at the same level for the rest of the career (provided no promotion to a higher salary scale is obtained).

wage earners' and self-employed pension schemes. Eventually, the reform of the pension bonus put in place included also the so-called "age supplement" in the civil servants' scheme and was made more strongly dependent on the number of additional working years (see next section about reforms between January 2012 and May 2014).

The initial budget in the wage earners' and self-employed schemes allocated to living standards adjustment was reduced to 60% for the years 2013 and 2014.

b. Reforms between January 2012 and May 2014

These reforms are included in the 2015 Ageing Report pension projection.

– After a relaxation of the penalty in the self-employed scheme in 2013, the penalty is completely abolished as from 1/1/2014.

– As from 2014, the new pension bonus replaces the old pension bonus in the wage earners' and self-employed schemes and the age supplement in the civil servants' scheme.

– Spring 2014: reform of the survivor pension. The minimum age to be granted a survivor pension will be 45 as from 2015 and will be gradually raised to 50 in 2025.

– Spring 2014: as from 2015, the last months worked before retiring will be taken into account for the calculation of the pension in the wage earners' and self-employed schemes.

1.2.3. The announced pension reforms (not included in this projection)

The Government Agreement of October 2014 also announced the introduction of a points-based system as from 2030 for the pension calculation and an automatic adaptation of the career conditions for early and old-age retirement in line with life expectancy. In the civil servants' scheme, the preferential so-called 'tantiemes' (career fraction) should be abolished. For the pension calculation, the service credit could be conditioned by individual social security contributions.

Other measures are part of the Agreement like specific measures for heavy work, the harmonisation of the civil servants' scheme with the wage earners' scheme, more access to the minimum pension, possibility of partial retirement, democratization of the second pillar…

As from 2017, the concrete measures for adjusting the pension schemes (wage earners, self-employed and social assistance) to living standards, which have to respect the financial constraint of the budget by scheme as foreseen by the "Generation Pact", should be translated into fiscal measures. In 2018, 78 million of the welfare budget would not be spent. The practical implementation of these measures and how it will influence pension benefits is not yet decided.

1.3. Description of the "constant policy" assumptions used in the projection

The long-term modelling of the social expenses has been carried out according to the constant policy principle, mainly similar to the constant legislation principle (see section1.1.3). All the measures and

reforms already decided by the government until September 2015 are taken into account in the projection (see below).

2. Demographic and labour force projections

2.1. Demographic development

The next table presents the evolution of the main demographic variables for Belgium coming from Eurostat's population projection EUROPOP2013, released in March 2014. This projection remains unchanged in comparison with the 2015 Ageing Report. Population is expected to rise from 11.2 million people in 2013 to more than 15.4 million in 2060, i.e. a growth rate of nearly 38% or an annual growth rate of 0.7%. All age groups are contributing to this increase but not to the same extent: the 0-14 group rises by 38% between 2013 and 2060, the working-age population (15-64) by 26% and the group aged 65 and over by 85%. Consequently, the share of the young people remains fairly stable during the projection period while the proportion of persons aged 15-64 and of persons aged 65 and over respectively decreases and increases. This explains the 47% rise of the old-age dependency ratio from 27% in 2013 to almost 40% in 2060. This means that, whilst we had almost 4 working-age people for one person aged 65 and over in 2013, this proportion becomes 2.5 in 2060. The increased ageing of elderly people (80+ compared to 65+) is also important, moving from 30% in 2013 to 37.5% in 2060.

Table 6   Main demographic variables evolution

	2013	2020	2030	2040	2050	2060	Peak year
Population (in thousands)	11203	11876	12939	13966	14792	15431	2060
Population growth rate (in %)	0.7	0.9	0.8	0.7	0.5	0.4	2022
Old-age dependency ratio (65+/15-64)	27.1	29.7	34.7	37.2	37.9	39.9	2060
Ageing of the elderly (80+/65+)	30.0	28.8	28.5	33.5	38.0	37.5	2052
Men - Life expectancy at birth	77.8	78.9	80.5	82.0	83.3	84.6	2060
Men - Life expectancy at 65	17.6	18.4	19.4	20.4	21.3	22.2	2059
Women - Life expectancy at birth	82.9	84.0	85.3	86.6	87.8	88.9	2060
Women - Life expectancy at 65	21.1	21.8	22.8	23.8	24.7	25.6	2060
Men - Survivor rate at 65+	84.7	86.4	88.4	90.1	91.6	92.8	2060
Men - Survivor rate at 80+	54.6	58.5	63.6	68.3	72.4	76.1	2060
Women - Survivor rate at 65+	91.1	92.1	93.3	94.3	95.1	95.8	2060
Women - Survivor rate at 80+	71.7	74.6	78.2	81.4	84.1	86.5	2060
Net migration (in thousands)	61.2	80.2	80.9	69.8	46.8	42.1	2026
Net migration over population change	0.8	0.8	0.8	0.7	0.7	0.7	2014

Source: European Commission services based on Eurostat EUROPOP2013 data

The gain in life expectancy at birth is 6.8 years for men and 6 years for women between 2013 and 2060, reducing the gap between men and women from 5.1 years in 2013 up to 4.3 years in 2060. Life expectancy at 65 increases by around 4.5 years for both men and women between 2013 and 2060, keeping the gap unchanged between men and women during the projection period. The survivor rates or the proportions of people who will survive the next year increase during the projection period due to gains in life expectancy.

The projected net migration flow increases to reach 80 000 people in the 2030s then declines to 42 000 people in 2060, still a significant flow. The large increase of the total population is mainly due to this net

migration flow, amounting to between 70 and 80% (see the ratio of net migration to the variation of the total population).

The next graph shows the proportions of age groups as shares of the total population or the age pyramid by gender for 2013 and 2060. It should be noted that it does not really look like a pyramid in 2013 and it has more the form of a tube in 2060.

Graph 1   Age pyramid comparison: 2013 vs 2060
In % of total population

Source: European Commission services based on Eurostat EUROPOP2013 data
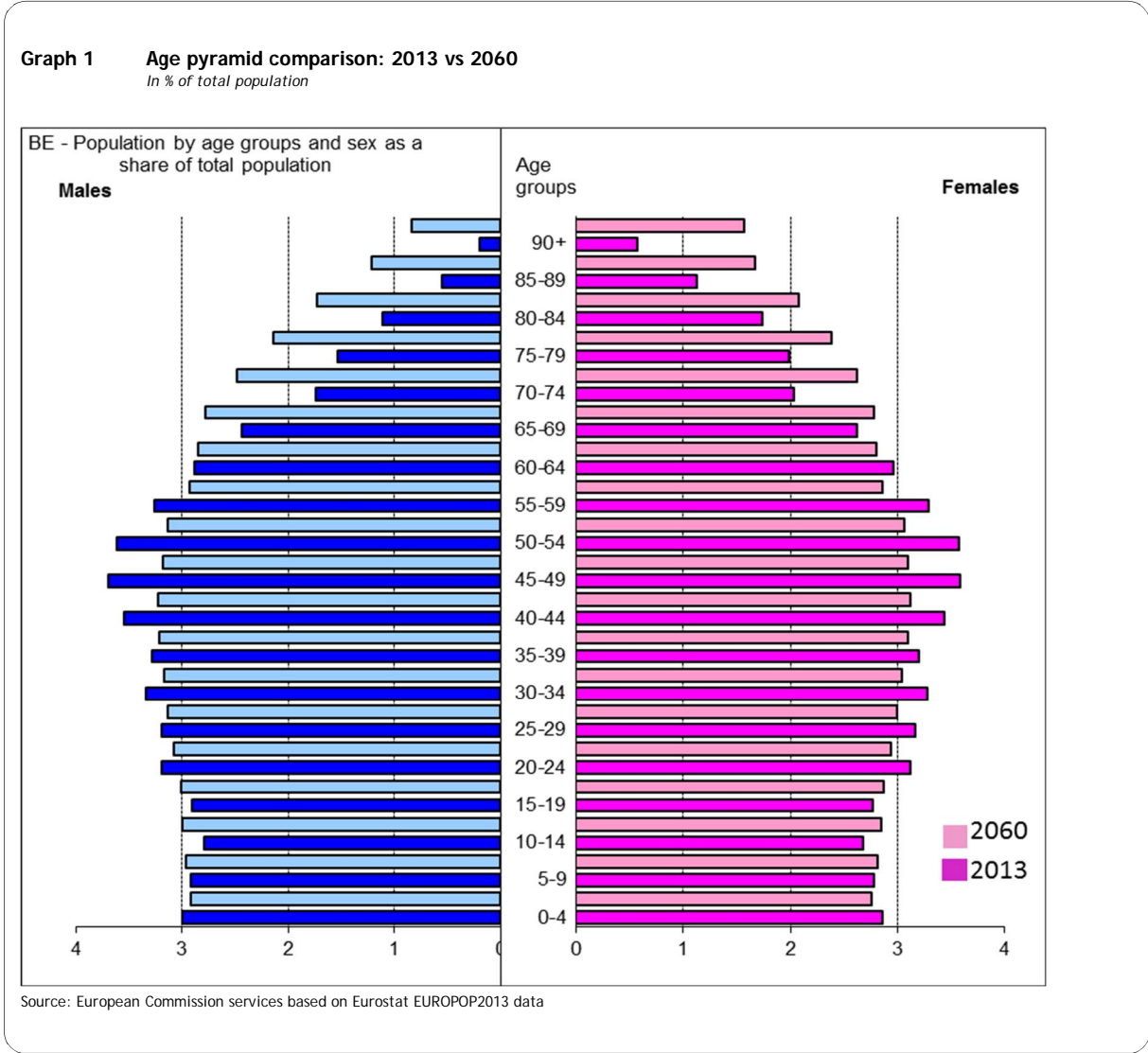
This graph shows that the age structure of the Belgian population is due to largely change. Up to the age of 19 years, the proportions do not really change between 2013 and 2060, for both men and women. From the age of 20 up to 59, the proportions of these age groups decrease between 2013 and 2060. Consequently, the shares of the 60+ sharply increase during the projection period.

Box 3   EUROPOP2013 and EUROPOP2010 compared: the projected total population for Belgium revised upwards.

The projected total population for Belgium in 2060 is much higher in the 2014 vintage of the EUROSTAT projections than in the 2011 vintage (15.4 million in EUROPOP2013 vs. 13.5 million in EUROPOP2010). The difference (+2.0 million) is partially attributable to a higher population figure at the starting year (2013) in the new projection than the projected population figure in EUROPOP2010 for the same year (11.162 million vs. 11.005 million), but mostly to a much stronger increase during the projection period (+4.2 million instead of + 2.4. million for the period 2013-2060). The latter is explained by much higher net migration flows in the new projection than in the previous one. The dynamics of migration in the medium term is inflated in the new EUROSTAT approach that consists in taking recent trends into account: the projected net migration climbs to + 82 000 in 2025 (0.66% of total population) while it was projected at + 44 000 in 2025 (0.37% of the total population) in EUROPOP2010.

Note that EUROPOP2013 takes into account the EUROSTAT recommended definition of population ("usual resident population") which includes a group of residents who were not included in EUROPOP2010, namely the asylum-seekers registered in the so-called "waiting register". This change in definition explains, among others, the higher level of the total population in 2013 for EUROPOP2013 compared to EUROPOP2010, while the net migration in the base year (2010 in EUROPOP2010 and 2013 in EUROPOP2013) is practically identical in both exercises (around 61 000).

It is worth noting that the difference between EUROSTAT and national projections is much larger with EUROPOP 2013 than with EUROPOP 2010. Two factors explain this difference:

1. The official national definition of the population of the Kingdom of Belgium (Act of 24 May 1994, article 4) does not allow to take the "waiting register" into account and it is not excluded, although impossible to establish, that emigration could be underreported in the "waiting register", and therefore underestimated to some extent in EUROPOP2013.

2. In addition, the dynamics of net migration in the medium term notably takes into account recent restrictive policy measures aimed at containing immigration flows.

2.2. Labour force

Following the baseline assumptions of the European Commission for Belgium updated with the 2015 pension reform, using the cohort simulation model (CSM), the total participation rate (20-64) is expected to increase from 73.3% in 2013 to 78.3% in 2060, i.e. +5 percentage points of which 2.3 percentage points result from the reform. As without the reform, the participation rate of the 25-54 remains almost unchanged in the projection while that of the young people (20-24) slightly increases by 1.5 percentage point. In the updated projection, the participation rate of the age group 55-64 substantially rises by 23.2 percentage points between 2013 and 2060 of which 11.2 percentage points come from the 2015 pension reform. Therefore, the employment rate of the age group 55-64 also largely increases. The participation rate of the age group 65-74 is also boosted with an increase by 8 percentage points between 2013 and 2060 (of which 6.3 percentage points result from the reform). The median age of the labour force increases by one year during the projection period.

Table 7   Participation rate, employment rate and share of workers for the age groups 55-64 and 65-74 – Updated projection of November 2015

	2013	2020	2030	2040	2050	2060	Peak year
Labour force participation rate 55-64	44.0	58.0	66.8	68.1	67.3	67.2	2038
Employment rate 55-64	41.6	55.2	63.8	65.1	64.3	64.2	2038
Share of workers aged 55-64 on the total labour force	94.6	95.1	95.6	95.6	95.6	95.6	2041
Labour force participation rate 65-74	3.5	3.8	9.6	11.2	11.6	11.5	2047
Employment rate 65-74	3.4	3.7	9.4	11.0	11.4	11.2	2047
Share of workers aged 65-74 on the total labour force	98.7	98.3	98.0	98.1	98.0	98.1	2013
Median age of the labour force	40.0	40.0	41.0	41.0	41.0	41.0	2023

Source: European Commission services (November 2015)

The next two tables present the evolution of the working career duration and of the life spent at retirement for both men and women. The average contributory period comes from the results of the pension questionnaire that each country has to provide. All other indicators are calculated by the Commission: average effective entry age to labour market (exit age from the labour market), duration of retirement as the difference between the life expectancy at average effective exit age and the average effective exit age itself, percentage of adult life spent at retirement as the ratio between the duration of retirement and the life expectancy minus 18 years, early/late exit in the specific year as the ratio of those who retired and are aged less than the statutory retirement age (67 in Belgium from 2030) to those who retired and are aged more than the statutory retirement age.

It must be noted that the average contributory period (Belgian pension questionnaire) and the average effective working career (Commission CSM) are not comparable, neither in level nor in evolution. In the calculation of pension expenditure, the average contributory period represents in year t the past career of new pensioners in year t. That explains the lower level of contributory period for women than for men at the starting year.

Table 8   Labour market entry age, exit age and expected duration of life spent at retirement - Men

	2013	2020	2030	2040	2050	2060	Peak year
Average effective entry age (CSM) (I)	23.4	22.9	22.9	22.9	22.9	22.9	2013
Average effective exit age (CSM) (II)	62.0	63.4	64.3	64.3	64.3	64.3	2031
Average effective working career (CSM) (II) – (I)	38.6	40.5	41.4	41.4	41.4	41.4	2031
Contributory period	40.1	39.9	35.9	41.3	41.3	41.2	2043
Contributory period/Average working career	103.8	98.5	86.7	99.7	99.7	99.5	2013
Duration of retirement	19.9	19.9	20.2	21.2	22.2	23.1	2060
Duration of retirement/average working career (CSM)	51.5	49.1	48.8	51.2	53.6	55.8	2060
Percentage of adult life spent at retirement	31.1	30.5	30.4	31.4	32.4	33.3	2060
Early/late exit	1.1	1.2	1.6	1.3	0.8	1.5	2028

Source: European Commission services (November 2015)

The average effective working career calculated by the CSM reflects the difference between the average effective entry age in year t in the labour market and the average effective exit age in year t from the labour market. It does not reflect the past career of the new pensioners useful to calculate pension expenditure. For instance, a woman who retires in 2013 at the age of 62.9 (average exit age CSM in 2013) did not necessarily started her career at 24.2 (average entry age CSM in 2013) and she has most probably not worked during 38.7 years (average working career CSM in 2013), considering the past evolution of the female participation rate. It must be noted that the evolution of the average effective exit age could result from composition effect.

Table 9   Labour market entry age, exit age and expected duration of life spent at retirement - Women

	2013	2020	2030	2040	2050	2060	Peak year
Average effective entry age (CSM) (I)	24.2	24.1	24.1	24.1	24.1	24.1	2013
Average effective exit age (CSM) (II)	62.9	63.6	64.3	64.3	64.3	64.3	2030
Average effective working career (CSM) (II) – (I)	38.7	39.5	40.3	40.3	40.3	40.3	2030
Contributory period	35.0	36.9	34.8	40.1	40.1	40.0	2035
Contributory period/Average working career	90.5	93.3	86.4	99.5	99.5	99.3	2035
Duration of retirement	22.8	22.6	23.7	24.6	25.6	26.5	2060
Duration of retirement/average working career	58.9	57.2	58.8	61.1	63.5	65.8	2060
Percentage of adult life spent at retirement	33.7	33.1	33.8	34.7	35.6	36.4	2060
Early/late exit	1.5	1.5	1.6	1.4	0.8	1.2	2013

Source: European Commission services (November 2015)

Without reform, the contributory period depends on the participation profile of the generation, based on historical data regarding participation rates by 5-year age group, i.e. a decreasing contributory period for men due to an extension of education years and an increasing contributory period for women due to a decline of career breaks. In the updated projection, the contributory period increases for men and women, respectively by 1.1 year and 5 years between 2013 and 2060.

The number of years spent in retirement by men is expected to rise from 20 years in 2013 to 23 years in 2060 due to gains in life expectancy. Consequently, the share of adult life spent at retirement increases from 31% in 2013 to 33% in 2060 for men. The duration of retirement for women increases by 3.7 years between 2013 and 2060 because of the rise in life expectancy. The female share of adult life spent at retirement would increase from 34% in 2013 to 36% in 2060.

Box 4   Assumptions on structural unemployment, labour productivity and potential GDP

To complete the scenarios elaborated by the European Commission, assumptions about the structural unemployment rate, the labour productivity growth and consequently the potential GDP growth should be mentioned.

Concerning the unemployment rate, the actual unemployment rate is assumed to converge to NAWRU rate by 2018 corresponding to the closure of the output gap. Afterwards, the NAWRU rate is assumed to gradually converge to an Anchor which is a country-specific value for the NAWRU, calculated assuming that non-structural variables are set at their average value and that structural variables remain unchanged at their last observed value. Given these assumptions, the unemployment rate for Belgium decreases from 8.5% in 2013 (Eurostat definition) to 7.4% around 2030 and then remains stable.

To project potential GDP over the long term, a production function is used. GDP growth results from the evolution of the employment and the labour productivity. In the long term, the growth of labour force leads the growth of employment. The evolution of the labour productivity results from the total factor productivity and the capital stock per worker. With respect to total factor productivity, the baseline scenario presents a convergence to a TFP growth rate of 1% by 2036 for Belgium. With regard to capital deepening, the capital to labour ratio is assumed constant in the long run (from 2031 onwards), which leads to a capital deepening contribution round 0.5%, and a total labour productivity of 1.5% per year in the long term. As a result, the potential GDP growth rate for Belgium is 1.9% per year between 2013 and 2060, with a 1.2% growth of labour productivity and a 0.6% growth of employment.

Average annual growth rate in %	2013-2030	2030-2060	2013-2060
Labour productivity	0.7	1.5	1.2
Employment	0.9	0.5	0.6
GDP	1.7	2.0	1.9

Source: European Commission, AWG baseline assumptions for Belgium, Updated version of November 2015

3. Pension projection results

3.1. Extent of the coverage of the pension schemes in the projections

The Belgian pension projection covers the statutory public pension scheme (first pillar) which comprises the three main pension schemes: the unemployment with company allowance scheme, the assistance scheme (guaranteed income for elderly persons) and the disability benefits, according to the AWG definition of pension expenditure. The second and the third pillars have not yet been introduced into the model, given, on the one hand, a lack of reliable and detailed data, and, on the other, the relatively marginal importance of those schemes (see Table 1).

The table below shows the pension expenditure in % of GDP between 2006 and 2013, according to Eurostat's ESSPROS database and data provided by Belgium to the Ageing Working Group.

Table 10   Eurostat (ESSPROS) vs Ageing Working Group definition of pension expenditure
% of GDP

	2005	2006	2007	2008	2009	2010	2011
1. Eurostat total pension expenditure	11.2	11.1	10.7	11.4	12.2	12.1	12.4
2. Eurostat public pension expenditure	10.8	10.7	10.4	11.0	11.8	11.8	12.0
3. Public pension expenditure AWG	10.1	10.0	10.0	10.4	11.1	11.1	11.3
4. Difference (2-3)	0.7	0.7	0.4	0.6	0.7	0.6	0.7
= benefits for handicapped persons and for occupational diseases	0.7	0.7	0.4	0.6	0.7	0.6	0.7

Source: European Commission services and Belgian pension questionnaire

The difference between the Eurostat's ESSPROS database and data provided by Belgium to the Ageing Working Group lies in the disability function. Eurostat's ESSPROS public expenditure for disability registers the expenses for occupational diseases and all expenses related to handicapped persons while that is not the case in the database used for AWG (according to the AWG definition of disability pensions).

3.2. Overview of projection results

The main results of the first pillar's pension expenditure projection are listed in the box below.

Box 5   Main results of the Belgian public pension projection

- Increase of 1.3% of GDP between 2013 and 2060 (3.3% in the 2015 Ageing Report).
- Due to the old-age pensions of the wage earners' scheme and the civil servants' scheme.
- Main driving forces: the pension expenditure rise results from the population ageing (increase of the dependency ratio: contribution of 5% of GDP), while the coverage ratio, the inverse employment rate and the benefit ratio contribute negatively to this rise. In fact, the negative contribution of the coverage ratio is only due to the early retirement coverage ratio for people under the age of 65 and to the cohort effect of the same age group, as far as the contribution of the old-age coverage ratio is very slightly positive (the impact of an increasing female participation rate and the impact of the pension reform neutralize each other). Three factors explain the decrease in the benefit ratio The partial adjustment (to real wage growth) of the wage ceiling and minimum benefits as well as the partial adjustment of non-lump sum social benefits in a context of ageing are a first explanatory factor. A reduction of the share of civil servants pensioners (due to the pension reform and restrictive measures in public employment) also contributes to the reduction of the benefit ratio. The index jump constitutes the third explanatory factor.

Gross public pension expenditure increases by 1.3% of GDP between 2013 and 2060 (see Table 11). This increase occurs between 2013 and 2040 (+1.3% of GDP). The peak year is 2041. The net public pension expenditure (excluding contributions and taxes paid by the pensioners) represents around 87% of the gross public pension expenditure.

Table 11   Projected gross and net pension spending and contributions
% of GDP

	2013	2020	2030	2040	2050	2060	Peak year
Expenditure							
Gross public pension expenditure	11.8	11.8	12.3	13.0	12.9	13.0	2041
Private occupational pensions	:	:	:	:	:	:	:
Private individual pensions	:	:	:	:	:	:	:
Mandatory private	0	0	0	0	0	0	0
Non-mandatory private	:	:	:	:	:	:	:
Gross total pension expenditure	11.8	11.8	12.3	13.0	12.9	13.0	2041
Net public pension expenditure	10.3	10.3	10.8	11.4	11.2	11.3	2039
Net total pension expenditure	10.3	10.3	10.8	11.4	11.2	11.3	2039
Contributions							
Public pensions contributions	:	:	:	:	:	:	:
Total pension contributions	:	:	:	:	:	:	:

Source: European Commission services based on Belgian pension questionnaire (November 2015)

As mentioned in point 1.1 and point 5.5. in the Methodological annex, the pension contributions are not available. The contributions in their entirety were gathered in the Global management and redistributed among the different pension categories based on their needs.

The following table offers a more comprehensive view on public pension spending by scheme and according to the distinction old-age – disability – survivor.

Table 12   Projected gross public pension spending by scheme
% of GDP

	2013	2020	2030	2040	2050	2060	Peak year
Total public pensions	11.8	11.8	12.3	13.0	12.9	13.0	**2041**
of which earnings-related:	11.6	11.6	12.1	12.8	12.7	12.9	2059
Old-age and early pensions[a]	9.4	9.5	10.1	11.0	11.2	11.6	2060
Disability pensions	1.0	1.2	1.3	1.4	1.1	1.0	2032
Survivor pensions	1.1	0.9	0.7	0.5	0.3	0.2	2013
Other pensions	0	0	0	0	0	0	
of which non-earnings-related:							
Minimum pensions and minimum income guarantees	0.2	0.2	0.2	0.2	0.2	0.2	2027
Earnings-related							
-wage earners' scheme	7.0	7.3	7.8	8.3	8.1	8.0	2040
old-age and early pensions[a]	5.4	5.6	6.2	6.8	6.8	6.9	2060
disability	1.0	1.2	1.3	1.4	1.1	1.0	2032
survivor	0.6	0.4	0.3	0.1	0.1	0.1	2013
-self-employed scheme	0.8	0.8	0.8	0.9	0.9	1.0	2060
old-age and early pensions	0.7	0.7	0.8	0.9	0.9	0.9	2060
survivor	0.1	0.1	0.1	0.1	0.1	0.0	2013
-civil servants' scheme	3.8	3.5	3.5	3.6	3.7	3.9	2059
old-age and early pensions	3.3	3.1	3.2	3.3	3.5	3.8	2059
survivor	0.5	0.4	0.3	0.3	0.2	0.1	2013
Non-earnings-related	0.2	0.2	0.2	0.2	0.2	0.2	2027
assistance scheme	0.1	0.1	0.1	0.1	0.1	0.1	2024
disability (self-employed)	0.1	0.1	0.1	0.1	0.1	0.1	2032

a)   Including unemployment with company allowance scheme non-job seeker.
Source: European Commission services based on Belgian pension questionnaire (November 2015)

The global increase in pension expenditure of 1.3% of GDP between 2013 and 2060 comes entirely from the earnings-related pensions and more specifically from the old-age and early pensions (+2.2% of GDP).

Survivors' expenditure decreases by 0.9% of GDP between 2013 and 2060. Survivors' expenditure concerns "pure" survivor pensions for the wage earners' and the self-employed schemes: people who cumulate an old-age pension and a survivor pension are included in the category "old-age pension". Three reasons explain the evolution of the survivors' pension expenses. Firstly, the increasing participation rates of women imply that a growing number of women receive an old-age pension. Secondly, it is

necessary to have been married in order to receive a survivor pension and the number of married pensioners decreases in the projection. Finally, the survivor pension reform also reduces this expenditure, but to a minor extent.

Over the whole period, disability expenditure remains stable in % of GDP but presents different evolutions by sub-periods: firstly an increase till the beginning of the 2030s, then a stabilization till around the end of the 2030s, followed by a decrease until the end of the projection period. This evolution is due to the assumptions regarding the entry probabilities in this scheme. Indeed, the last observed data show increasing disability rates (probably due to the crisis, to new diseases…). In accordance with the National Institute for Health and Disability Insurance, the entry probabilities still increase till almost 2020, which results in increasing number of beneficiaries (till the end of the 2030s because of the cohort modelling). These probabilities then progressively decrease until the mid-2030s to their average pre-crisis level and then remain constant. The decrease in this expenditure expressed in % of GDP is also due to the partial living standards adjustment of these allowances[7] and to an increasing employment rate.

The global increase in public pension expenditure is mainly due to the wage earners' scheme (+1.0% of GDP) and to a lesser extent to the civil servants' scheme (+0.2% of GDP) and the self-employed scheme (+0.2% of GDP).

The breakdown of old-age pensioners by scheme is driven by the evolution of employment by scheme (see section 4 on model description). The medium-term evolution of public sector employment reflects some restrictive measures taken by the government (see Box 2). In the long run, the evolution of public sector employment is the result of two developments: the development of the labour force as far as it comes to the public administration and the evolution of the school population in the education sector. The growth of self-employment is also driven by the labour force. Over the whole projection period, employment growth is almost the same in the three schemes (0.7% annual average growth rate in the wage earners' scheme and self-employed scheme; 0.6% in the civil servants' scheme).

3.3. Comparison with the projection of the 2015 Ageing report

Compared to the projections published in the Ageing Report 2015 (see Table 13), the global increase in pension expenditure between 2013 and 2060 is more than halved in the updated projection: from 3.3% of GDP to 1.3% of GDP (-2.1% of GDP).

---

[7]　Decrease of the benefit ratio in the disability scheme (constant legislation assumption, see section 1.1.3): these allowances are largely lump-sums and therefore adjusted by 1% per year in real terms.

Table 13   Difference between the 2015 Ageing Report and the updated projection (both in ESA 2010), 2013-2060
% of GDP

	Updated projection	2015 Ageing Report	Difference
Total public pensions	**1.3**	**3.3**	**-2.1**
of which earnings-related:	1.3	3.4	-2.0
Old-age and early pensions[a]	2.2	4.4	-2.1
Disability pensions	0.0	-0.2	0.1
Survivor pensions	-0.9	-0.8	0.0
Other pensions			
of which non-earnings-related:	0.0	0.0	0.0
Minimum pensions and minimum income guarantees	0.0	0.0	0.0
Earnings-related			
-wage earners' scheme	1.0	2.1	-1.1
old-age and early pensions[a]	1.5	2.7	-1.2
disability	0.0	-0.2	0.1
survivor	-0.5	-0.5	0.0
-self-employed scheme	0.2	0.3	-0.1
old-age and early pensions	0.2	0.3	-0.1
survivor	-0.1	-0.1	0.0
-civil servants' scheme	0.2	1.0	-0.8
old-age and early pensions	0.5	1.3	-0.8
survivor	-0.3	-0.3	0.0
Non-earnings-related	0.0	0.0	0.0
assistance scheme	0.0	0.0	0.0
disability (self-employed)	0.0	0.0	0.0

Source: European Commission services based on Belgian pension questionnaire (November 2015)

The difference is mostly due to the 2015 pension reform (-1.6% of GDP), since the impact of other measures, namely the index jump (-0.3% of GDP) and the shift of the employment by scheme (-0.1% of GDP, see Box 2), is smaller (see Table 33). It should also be noted that disability expenditure expressed in percentage of GDP is higher (+0.1% of GDP) in the updated projection than in the 2015 Ageing Report projection because of the 2015 pension reform.

The rise in the minimum early retirement age, in the minimum number of career years required for eligibility and in the statutory retirement age of the 2015 pension reform leads to an increase in the effective retirement age and to a decrease in the number of pension beneficiaries (see Table 14). However, the number of disabled people increases. In the age group 60-64, some of the people who postpone their retirement enter into the disability scheme. In the age group 65-69, the maximum age for benefiting from disability allowances is increased in line with the increase in the statutory retirements.

Table 14   **Impact of the 2015 reform on the number of pensioners by scheme (in % of the population aged 55-59)**
Differences with a scenario without reform

	2024	2027	2032	2060
Wage earners	-1.2	-6.1	-11.4	-14.1
Self-employed	-0.2	-1.0	-1.8	-1.9
Civil servants	-0.7	-1.4	-1.9	-2.2
Unemployment with company allowance non-job seeker	-2.6	-2.0	-1.7	-2.1
Disability	+0.8	+2.3	+4.1	+3.5
TOTAL	**-4.0**	**-8.2**	**-12.6**	**-14.1**

Source: Belgian updated pension projection (November 2015)

The impact of the pension reform is more pronounced in the civil servants' scheme (see Table 15). On the one hand, this can be explained by the fact that civil servants used to retire at an early age and on the other hand by the abolition of the service credit allocated to civil servants for their degrees.

Table 15   **Impact of the pension reform on the share of early retired pensioners by scheme in 2060**
% of the new pensioners

	Shares in 2060	Difference with a scenario without reform
Wage earners' scheme	32.3	-3.0
Self-employed scheme	20.0	-5.8
Civil servants' scheme	34.5	-28.2

Source: Belgian updated pension projection (November 2015)

The decrease in the number of pensioners goes hand in hand with an increase of the labour supply which leads to higher employment and GDP (see Table 16).

Table 16   **Macroeconomic implications of the 2015 reform**

	2024	2027	2032	2060
Level of employment	+2.4%	+3.4%	+4.4%	+4.6%
Labour productivity	0.0%	-0.2%	-0.3%	-0.3%
Level of GDP	**+2.4%**	**+3.2%**	**+4.1%**	**+4.3%**

Source: Belgian updated pension projection (November 2015)

The increase in GDP should reduce the cost of pension by 0.7 % of GDP in 2060 (see Table 17). The decrease in the number of pensioners contributes to a 1.3% reduction of GDP. This last reduction is only partially compensated by an increase in the average pension benefit. This is a partial compensation, since the pension system is not actuarially neutral (an increase of one year in pension rights corresponds more or less to a 2.5% increase of the pension benefit) and since the pension bonus has been abolished.

Table 17   **Impact of the 2015 pension reform**
% of GDP

	2024	2027	2032	2060
- Change in the number of pensioners	-0.5	-0.9	-1.3	-1.3
- Change in GDP	-0.3	-0.5	-0.7	-0.7
- Change in the average pension benefit	0.0	-0.1	0.0	0.4
Total impact of the 2015 pension reform	**-0.8**	**-1.4**	**-1.9**	**-1.6**

Source: Belgian updated pension projection (November 2015)

3.4. Description of the main driving forces behind the projection results

3.4.1. Factors behind the change in public pension expenditure

The table below shows the breakdown of the increase in public pension expenditure according to 5 explanatory factors: the dependency ratio, the coverage ratio, the benefit ratio, the labour intensity effect and a residual. Results are broken down using both data on pensions (Table 18) and pensioners (Table 19).

Table 18 **Factors behind the change in public pension expenditure between 2013 and 2060 - pensions**
In percentage points of GDP

	2013-2020	2020-2030	2030-2040	2040-2050	2050-2060	2013-2060	Average annual change
Public pensions to GDP	0.1	0.5	0.7	-0.1	0.1	**1.3**	0.034
Dependency ratio effect (pop. 65+/pop. 20-64)	1.1	2.1	0.9	0.2	0.7	**5.0**	0.107
Coverage ratio effect (pensions/pop. 65+)	-0.5	-1.2	0.0	-0.2	-0.2	**-2.0**	-0.044
Coverage ratio old-age (pensions 65+/pop. 65+)*	*0.1*	*-0.6*	*0.4*	*0.1*	*0.0*	*0.1*	*0.002*
Coverage ratio early-age (pensions <=65/pop. 50-64)*	*-1.5*	*-1.0*	*-0.5*	*-2.1*	*-1.3*	*-6.5*	*-0.142*
Cohort effect (pop. 50-64/pop. 65+)*	*-0.7*	*-2.6*	*-1.1*	*0.1*	*-0.6*	*-4.9*	*-0.109*
Benefit ratio effect (average pension/(GDP/hours worked 20-74))	0.0	0.2	-0.1	-0.2	-0.3	**-0.4**	-0.004
Labour market/Labour intensity effect	-0.6	-0.5	-0.1	0.0	0.0	**-1.1**	-0.025
Employment ratio effect (pop.20-64/employment 20-64)	*-0.6*	*-0.3*	*0.0*	*0.0*	*0.0*	*-0.9*	*-0.019*
Labour intensity effect (employment 20-64/hours worked 20-64)	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*-0.001*
Career shift effect (hours worked 20-64/hours worked 20-74)	*0.0*	*-0.2*	*0.0*	*0.0*	*0.0*	*-0.3*	*-0.005*
Residual	0.0	-0.1	0.0	0.0	0.0	**-0.2**	-0.001

* Sub components of the coverage ratio effect do not add up necessarily.

Source: European Commission services based on Belgian pension questionnaire (November 2015)

Over the whole projection period, the rise in public pension expenditure (+1.3% of GDP) results from the dependency ratio (+5.0%), while all other ratios contribute negatively to the overall result (-2.0% for the coverage ratio, -1.1% for the labour intensity effect and -0.4% for the benefit ratio).

The pension expenditure increase occurs between 2013 and 2040 because of the strong increase in the dependency ratio (+4.1%). The decreasing coverage ratio (-1.7%) and employment ratio (-1.2%, i.e. an increase of the employment rate) between 2013 and 2040 partially compensate this rise of the dependency ratio. The benefit ratio first contributes positively to pension expenses between 2013 and 2030 and then contributes negatively from 2030 till the end of the projection period.

The decreasing coverage ratio deserves further explanation as far as it is subdivided between the old-age coverage ratio (number of pensions 65+ / population 65+), the early age coverage ratio (number of pensions <=65 / population 50-64) and a cohort effect (population 50-64 / population 65+). The old-age coverage ratio remains stable between 2013 and 2060 at 113%. The early age coverage ratio decreases

from 36% in 2013 to 21% in 2060 because of the pension reform and the cohort effect decreases from 111% in 2013 to 73% in 2060.

Different factors explain the negative contribution of the benefit ratio to the cost of pension. The partial adjustment (to real wage growth) of the wage ceiling and minimum benefits as well as the partial adjustment of non-lump sum social benefits in a context of ageing are a first explanatory factor. A reduction of the share of civil servants pensioners (due to the pension reform and restrictive measures in public employment) also contributes to the reduction of the benefit ratio. The index jump constitutes the third explanatory factor.

The next table shows the same breakdown of the pension expenditure increase but using the number of pensioners instead of the number of pensions. The results of that analysis are totally similar.

Table 19   Factors behind the change in public pension expenditure between 2013 and 2060 - pensioners
In percentage points of GDP

	2013-2020	2020-2030	2030-2040	2040-2050	2050-2060	2013-2060	Average annual change
Public pensions to GDP	0.1	0.5	0.7	-0.1	0.1	**1.3**	0.034
Dependency ratio effect (pop. 65+/pop. 20-64)	1.1	2.1	0.9	0.2	0.7	**5.0**	10.707
Coverage ratio effect (pensions/pop. 65+)	-0.5	-1.1	0.0	-0.2	-0.3	**-2.1**	-0.046
*Coverage ratio old-age (pensions 65+/pop. 65+)**	*0.2*	*-0.5*	*0.4*	*0.1*	*0.0*	*0.2*	*0.005*
*Coverage ratio early-age (pensions <=65/pop. 50-64)**	*-1.5*	*-0.8*	*-0.5*	*-2.1*	*-1.4*	*-6.3*	*-0.137*
*Cohort effect (pop. 50-64/pop. 65+)**	*-0.7*	*-2.6*	*-1.1*	*0.1*	*-0.6*	*-4.9*	*-0.109*
Benefit ratio effect (average pension/(GDP/hours worked 20-74))	0.1	0.2	-0.1	-0.2	-0.3	**-0.3**	-0.001
Labour market/Labour intensity effect	-0.6	-0.5	-0.1	0.0	0.0	**-1.1**	-0.025
Employment ratio effect (pop.20-64/employment 20-64)	*-0.6*	*-0.3*	*0.0*	*0.0*	*0.0*	*-0.9*	*-0.019*
Labour intensity effect (employment 20-64/hours worked 20-64)	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*-0.001*
Career shift effect (hours worked 20-64/hours worked 20-74)	*0.0*	*-0.2*	*0.0*	*0.0*	*0.0*	*-0.3*	*-0.005*
Residual	0.0	-0.1	0.0	0.0	0.0	**-0.2**	-10.601

* Sub components of the coverage ratio effect do not add up necessarily.
Source: European Commission services based on Belgian pension questionnaire (November 2015)

3.4.2.   Replacement rate at retirement and benefit ratio

Table 20 illustrates, on one hand, the replacement rate at retirement (the first pension related to the last wage) and, on the other hand, the benefit ratio or the average pension benefit divided by the economy-wide average wage. Both the replacement rate and the benefit ratio are presented by pension scheme. The replacement rate at retirement is only provided for the old-age earnings-related pensions[8] while the benefit ratio is presented for the total pension benefits (including the disability allowances, the survivor pensions and the non-earnings-related benefits) and the old-age earnings-related.

---

[8]   In comparison with the replacement rate concerning old-age earnings-related pensions, the total replacement rate would include the disability pensions of the wage earners' scheme and the survivor pensions. The average wage at retirement (end of the career) used to calculate the replacement rate is not relevant for these two kinds of benefits. Indeed the disability pensions of the wage earners' scheme exist between 18 and 64 (the benefit of a 35 year disabled is not calculated on the basis of the wage at retirement). The same applies to the survivor pensions: the survivor pension of a new 80 year widow is not calculated on the basis of the wage at retirement.

The average wage at retirement is provided by the pension model (see point 5.1 of the methodological annex). An economy-wide average wage is provided by the Commission services in the pension projection questionnaire. However, corresponding figures by scheme are not available. Therefore, for the sake of consistency between the benefit ratios by scheme and the total benefit ratio, the average wages (total and by scheme) from the Belgian National Accounts were used in the observed data since their evolution in the long term runs parallel to the evolution of the labour productivity in projection. The medium-term period is marked by wage moderation and an index jump. Let us note that the replacement rate and the benefit ratio as defined in the following table are therefore not influenced by the index jump.

It might seem surprising that the level of the benefit ratio is higher than the level of the replacement rate at retirement. This is due to a large difference between the average wage at retirement (seniority wage scale) and the economy-wide average wage, while the average pension of the new pensioners is not that much higher than the average pension of all pensioners. It should be noted that the years 2030 (and 2025) are not representative since, for convenience, the impact of the rise (by one year in 2025 and in 2030) in the statutory retirement age is performed each time on a single year (without having an impact on the long-term budgetary cost of pensions).

Table 20   **Replacement rate at retirement (RR), benefit ratio (BR) and coverage by pension scheme**
In %

	2013	2020	2030	2040	2050	2060
Public scheme (RR)	:	):	:	:	:	:
Coverage	77.2	76.9	78.3	80.9	84.3	86.8
of which old-age earnings-related (RR)	38.5	38.8	42.2	39.8	38.9	37.4
wage earners' scheme	32.7	34.0	39.0	33.9	32.6	31.4
self-employed scheme	28.6	31.4	38.0	33.8	31.8	29.8
civil servants' scheme	63.7	63.1	43.8	71.2	70.8	69.5
Public scheme (BR)	41.2	42.4	43.3	42.8	42.0	41.1
Coverage	100.0	100.0	100.0	100.0	100.0	100.0
of which old-age earnings-related (BR)	43.8	45.1	45.9	45.2	44.1	42.9
wage earners' scheme	35.7	37.5	38.6	37.5	35.8	34.1
self-employed scheme	31.4	34.4	36.5	38.3	37.3	35.4
civil servants' scheme	78.0	77.9	77.5	80.8	83.9	85.6
Private occupational scheme (RR)	:	:	:	:	:	:
Private occupational scheme (BR)	:	:	:	:	:	:
Coverage	:	:	:	:	:	:
Private individual scheme (RR)	:	:	:	:	:	:
Private individual scheme (BR)	:	:	:	:	:	:
Coverage	:	:	:	:	:	:
RR: old-age earnings-related	38.5	38.8	42.2	39.8	38.9	37.4
BR: total pension public scheme	41.2	42.4	43.3	42.8	42.0	41.1

Source: European Commission services based on Belgian pension questionnaire (November 2015)

The evolution of the replacement rate at retirement mainly reflects the evolution of the replacement rate in the main pension scheme, i.e. the wage earners' scheme, namely an increase till 2030, followed by a decrease until the end of the projection. This development is similar in the self-employed scheme. Four factors explain the evolution in the wage earners' scheme: the increasing average career length notably

due to the pension reform, the wage evolution (in the past and in projection), the living standards adjustment of the minima and ceilings, and a decreasing proportion of pensioners with dependent spouse benefiting from a higher pension (see Box 1). Since the early 2000s, the macroeconomic wage growth is relatively low. This poor wage dynamics is expected to persist in the coming years. This weak wage growth tends to raise the replacement rate at retirement, as the reference wage of new generations of pensioners - which corresponds to the wages earned during their whole career - grows faster than the last wage. Conversely, in the longer term, when wages will grow faster again (converging to their long-term growth rate of 1.5%), this period of low wage growth will have a downward effect on the replacement rate at retirement. Over the whole projection period, ceilings and minima are adjusted to living standards at a constant rate of respectively 1.25% and 1% per year (see section 1.1.3). In a context of low wage growth, such adjustments to living standards will tend to raise the replacement rate at retirement. A reverse trend is observed when wages grow stronger. Finally, given the growing participation of women in the labour market and the decreasing number of married persons, the share of new male pensioners receiving a household pension with dependent spouse (rate of 75%) considerably shrinks during the projection period. This reduction of the proportion of beneficiaries of this preferential rate results in a decreasing replacement rate at retirement.

The evolution of the benefit ratio follows more or less the evolution of the replacement rate at retirement, but is also influenced by the policy regarding the adjustment of social benefits to living standards. The introduction of a systematic partial adjustment to living standards since 2008 (0.5% per year for the non-lump-sum allowances - see section 1.1.3) has a positive impact on the benefit ratio as long as the system does not reach maturity (around the mid-2020s). This maturation takes place in a context of low wage growth. The subsequent wage growth recovery will tend to reduce the benefit ratio given the fixed adjustment of 0.5% per year for non-lump-sum social benefits. The 1% adjustment of the lump-sum allowances tends to reduce the benefit ratio in a context of a superior wage growth.

3.4.3. System dependency ratio and old-age dependency ratio

Table 21 shows some indicators that shed some light on the dependency of the public pension system (system dependency ratio or SDR) through the ratio between the number of pensioners and the number of employees and on the efficiency of the system by comparing this system dependency ratio with the demographic old-age dependency ratio (ODR = 65+ over the 15-64).

Table 21   System dependency ratio and old-age dependency ratio

	2013	2020	2030	2040	2050	2060
Number of pensioners (I)	2652.6	2883.0	3215.4	3656.9	3856.5	4100.5
Employment (II)	4555.9	4958.0	5396.2	5761.9	6057.3	6245.1
Pension system dependency ratio (SDR) (I)/(II)	58.2	58.1	59.6	63.5	63.7	65.7
Number of people aged 65+ (III)	1979.8	2241.7	2755.7	3138.1	3368.8	3658.9
Working age population 15-64 (IV)	7316.0	7555.8	7937.2	8432.3	8877.4	9164.9
Old-age dependency ratio (ODR) (III)/(IV)	27.1	29.7	34.7	37.2	37.9	39.9
System efficiency (SDR/ODR)	2.2	2.0	1.7	1.7	1.7	1.6

Source: European Commission services based on Belgian pension questionnaire (November 2015)

Despite the slowing impact of the pension reform, the number of pensioners is growing fast between 2013 and 2040 (average annual growth rate of 1.2%). This growth is slower between 2040 and 2060 (average annual growth rate of 0.6%), but anyway faster than the employment which grows respectively by 0.8% and 0.4% a year during the periods 2013-2040 and 2040-2060. This leads to an increasing pension system dependency ratio from 58% in 2013 to almost 66% in 2060 (+8 percentage points). As concerns the old-age dependency ratio, it increases from 27% in 2013 to almost 40% in 2060 (see section 2.1), which represents +13 percentage points. This means that the system efficiency, i.e. the ratio between the SDR and the ODR, decreases by 0.6 percentage points during the projection period.

3.4.4. Number of pensioners in proportion to the (inactive) population

The next two tables respectively present the ratio of the number of pensioners to the inactive population for female pensioners (Table 24) and for pensioners in general (Table 22). The inactive population is defined as the difference between the total population and the labour force as defined in the "Labour Force Survey". The coverage of the retired population corresponds with the AWG definition (old-age, early, disability and survivor pensioners).

Both the level (mainly at the beginning and at the end of the projection period) and the developments in the pensioners to inactive population ratio in age groups 55-59 and 60-64 (see Table 22 and Table 24) – as well, to some extent, in the pensioners to population ratio in the same age group (see Table 25 and Table 26) – seem surprising. The fact that the level of the pensioners to inactive population ratio in these age groups is low in the base year (2013) is due both to segments of the inactive population included in social security schemes other than pension (short-term disability, handicapped people…) and to the use of administrative definitions for employment and unemployment in the Belgian model (this model provides an exhaustive breakdown of the population between the different socio-economic groups). In particular, the unemployment rate on the basis of administrative data is much higher in these age groups than in the EUROSTAT definition. The corresponding public expenditure is nevertheless taken into account in the projection via a higher average unemployment benefit. The employment rate on the basis of administrative data is also higher than on the basis of the Eurostat definition, which contributes to a higher inactive population in the AWG projection.

Table 22   Pensioners (public schemes) to inactive population ratio by age group
In %

	2013	2020	2030	2040	2050	2060
Age group -54[9]	6.4	6.9	6.3	5.2	4.4	4.4
Age group 55-59	55.1	64.2	75.5	83.8	60.4	52.2
Age group 60-64	76.0	72.6	77.9	86.1	75.0	63.1
Age group 65-69	96.4	99.9	93.6	100.5	101.3	99.3
Age group 70-74	94.1	96.2	98.2	100.3	102.0	102.7
Age group 75+	99.6	100.3	100.3	101.9	102.6	103.3

Source: European Commission services based on Belgian pension questionnaire (November 2015)

To fully understand the evolution of the ratios for the age groups below 65, the evolution in average annual growth rate of both the numerator and the denominator have to be reviewed (see Table 23). It

---

[9]   Inactive population of -54 is the population from 0 to 54 diminished with the labour supply 15-54.

should be noted that the number of pensioners below 65 consists of disabled[10], unemployed with company allowance and old-age and survivor pensioners.

Table 23   Average annual growth rate of the number of pensioners, the inactive population and the population, below 65
In %

	2013-2020	2020-2030	2030-2040	2040-2050	2050-2060
Pensioners*					
-54	1.7	0.1	-1.2	-1.3	0.4
55-59	-2.2	-0.7	1.6	-2.0	-1.5
60-64	-2.2	-1.8	0.2	-0.2	-1.3
Inactive population*					
-54	0.6	0.9	0.7	0.5	0.3
55-59	-4.4	-2.3	0.5	1.2	0.0
60-64	-1.6	-2.5	-0.8	1.2	0.4
Population*					
-54	0.6	0.7	0.7	0.5	0.3
55-59	1.4	-0.6	0.4	1.0	0.0
60-64	1.8	0.4	-0.3	1.0	0.4

Source: * Belgian pension questionnaire (national model) – November 2015; ** CSM (November 2015) and EUROPOP2013; *** EUROPOP2013

Under 54, the evolution is mostly explained by a trend increase of the entry rate in disability during the first half of the projection period, which is assumed to be reversed in the long run (see Table 12 and Table 34 – section 4.3.1.d).

The increase of the ratio pensioners to inactive population in the age group 55-59 till 2030 is due to the decrease of the inactive population (large increase of the labour supply). During this period, despite the increasing number of disabled persons, the total number of pensioners declines due to the unemployed with company allowance non-job seekers and the survivor pensioners (see comment of Table 12). As from 2030, the evolution of the ratio pensioners to inactive population is mostly driven by the evolution of the number of pensioners (especially by the number of disabled persons), except between 2040 and 2050 when the strong growth of the inactive population amplifies the reduction of the ratio.

In the age group 60-64, despite the increasing number of disabled persons, the total number of pensioners declines until the mid-2030s due to the pension reform. The increase in the ratio pensioners to inactive between 2030 and 2040 is accentuated by the declining inactive population. Between 2040 and 2050, the decrease in this ratio reflects mostly the evolution of the inactive population. Between 2050 and 2060, the ratio evolution is mainly driven by the decline in the number of pensioners.

---

[10]   The evolution of the disabled population has been commented on in section 3.2.

Table 24   Female pensioners to inactive population ratio by age group
In %

	2013	2020	2030	2040	2050	2060
Age group -54	7.2	8.0	7.4	6.0	5.0	5.1
Age group 55-59	46.3	59.1	75.8	85.7	59.3	52.7
Age group 60-64	59.9	62.2	74.3	84.3	72.2	61.1
Age group 65-69	84.2	89.3	86.3	95.0	97.1	94.5
Age group 70-74	80.3	86.8	91.1	93.5	96.9	97.8
Age group 75+	94.2	96.3	97.0	99.2	100.0	100.7

Source: European Commission services based on Belgian pension questionnaire (November 2015)

The analysis of the ratio of the female pensioners to the inactive population (Table 24) is rather similar to the analysis of the global ratio.

Table 25 shows the ratio of the number of pensioners to the population by age group. The ratio of pensioners to population in the age group -54 follows the same evolution as the pensioners to inactive population ratio. For the age groups 55-59 and 60-64, the ratios pensioners to population decrease between 2013 and 2031. As from 2031, the evolution of the inactive population is quite similar to the evolution of the population, as well as the development of the ratios pensioners to (inactive) population. This global analysis is very similar for women (Table 26).

Table 25   Pensioners (public schemes) to population ratio by age group
In %

	2013	2020	2030	2040	2050	2060
Age group -54[11]	2.8	3.1	2.9	2.4	2.0	2.0
Age group 55-59	21.0	16.2	16.1	18.1	13.4	11.5
Age group 60-64	57.9	43.8	35.1	37.0	33.0	27.7
Age group 65-69	92.2	93.6	77.7	80.0	80.5	79.2
Age group 70-74	91.9	95.2	97.1	98.5	100.1	100.9
Age group 75+	99.6	100.3	100.3	101.9	102.6	103.3

Source: European Commission services based on Belgian pension questionnaire (November 2015)

For the age group 65-69, the total pensioners to population ratios decrease between 2020 and 2030 because of the raise in the statutory retirement age. It should be noted that ratios sometimes exceed 100%, which can be explained on the one hand by pensioners living abroad, on the other hand by the double counting of pensioners receiving both old-age and survivor benefits in the civil servants' scheme and finally by double counting of pensioners receiving benefits from different public sub-sectors in the civil servants' scheme (no data was available to avoid such double counting).

---

[11]   Population -54 is the population from 0 to 54.

Table 26 Female pensioners to population ratio by age group
In %

	2013	2020	2030	2040	2050	2060
Age group -54	3.5	3.8	3.6	2.9	2.4	2.5
Age group 55-59	21.0	18.7	19.8	22.1	15.2	13.4
Age group 60-64	48.8	39.6	36.3	38.9	33.8	28.4
Age group 65-69	81.9	84.6	72.8	76.7	78.1	76.2
Age group 70-74	79.3	86.2	90.2	91.8	95.2	96.1
Age group 75+	94.2	96.3	97.0	99.2	100.0	100.7

Source: European Commission services based on Belgian pension questionnaire (November 2015)

3.4.5. New public pension expenditure disaggregation

Table 27 and Table 28 illustrate the disaggregation of the new public pension expenditure by gender (old-age and early earnings-related) between the number of new pensions, the average contributory period (see comment of Table 8), the average accrual rate and the average pensionable earning. The average accrual rate is an average of the accrual rates by scheme: 1.67% (1/60) in the civil servants' scheme[12], 1.33% (60%/45) in the wage earners' and the self-employed schemes (1.67% for head of a household with dependent spouse (75%/45)) – see Box 1. Taking into account the average contributory period and the average accrual rate as separate factors in the calculation of the new pension expenditure, the average pensionable earning can be considered as a reference wage for a full career. The monthly average wage at retirement and economy-wide average wage are based on the National accounts (by scheme) and are provided by the Belgian questionnaire.

It must be noted that 2030 is atypical because of the rise in the statutory retirement age (there are almost no more entries in retirement in 2030). Indeed, for convenience, the impact of the rise (by one year in 2025 and in 2030) in the statutory retirement age is performed each time on a single year (while in reality, this effect is expected to be spread over several years), without any long-term consequences on the budgetary cost of pensions nor on the effective retirement age.

---

[12]   The 1.67% accrual rate for civil servants is in fact applied to end-of-career wages. As a consequence, the concept of monthly average pensionable earning is slightly inflated by the difference of start-of-career wages and end-of-career wages in the civil servants' scheme.

Table 27 Projected and disaggregated new public pension expenditure (old-age and early earnings-related pensions) - Male

	2013	2020	2030	2040	2050	2060
Projected new pension expenditure (millions EUR)*	1351.681	1581.821	211.499	3478.78	5159.243	7814.789
I. Average contributory period (years)	40.099	39.901	35.878	41.265	41.332	41.249
II. Monthly average pensionable earnings ('000 EUR)	2.702	3.200	3.974	5.767	8.015	10.974
III. Average accrual rates (%)	1.467	1.433	1.627	1.423	1.424	1.420
IV. Number of new pensions (in thousands)	70.871	72.031	7.600	85.616	91.106	101.279
V. Average number of months paid the first year	12.0	12.0	12.0	12.0	12.0	12.0
VI. Sustainability/Adjustment factor	0	0	0	0	0	0
Monthly average pensionable earnings/Monthly average wage at retirement**	0.762	0.783	0.725	0.744	0.728	0.701
Monthly average pensionable earnings/Monthly economy-wide average wage**	0.867	0.902	0.843	0.867	0.848	0.818

*new pension expenditure = I x II x (III/100) x IV x V with four decimal places (very close approximation with 3 decimal places)
**average wage at retirement and economy-wide average wage: figures from the Belgian pension questionnaire (November 2015)
Source: European Commission services based on Belgian pension questionnaire (November 2015)

As for men, the average contributory period increases by more than one year over the whole projection period as a result of the pension reform. The number of new pensions tends to increase over the whole projection period. Between 2013 and 2040, the average accrual rate slightly declines due to the replacement of male pensioners heads of household with a dependent spouse (75% of the reference wage) by single pensioners (60% of the reference wage) in the wage earners' and self-employed schemes, and remains stable afterwards.

Table 28 Projected and disaggregated new public pension expenditure (old-age and early earnings-related pensions) - Female

	2013	2020	2030	2040	2050	2060
Projected new pension expenditure (millions EUR)*	785.547	1071.7	201.739	2684.454	4104.684	6079.871
I. Average contributory period (years)	34.986	36.938	34.838	40.091	40.084	39.967
II. Monthly average pensionable earnings ('000 EUR)	2.259	2.610	4.263	4.981	6.909	9.519
III. Average accrual rates (%)	1.387	1.377	1.554	1.385	1.388	1.385
IV. Number of new pensions (in thousands)	59.699	67.285	7.285	80.876	88.974	96.164
V. Average number of months paid the first year	12.0	12.0	12.0	12.0	12.0	12.0
VI. Sustainability/Adjustment factor	0	0	0	0	0	0
Monthly average pensionable earnings/Monthly average wage at retirement**	0.637	0.638	0.778	0.643	0.628	0.608
Monthly average pensionable earnings/Monthly economy-wide average wage**	0.725	0.736	0.904	0.749	0.731	0.71

*new pension expenditure = I x II x (III/100) x IV x V with four decimal places (very close approximation with 3 decimal places)
**average wage at retirement and economy-wide average wage: figures from the Belgian pension questionnaire (November 2015)
Source: European Commission services based on Belgian pension questionnaire (November 2015)

As far as women are concerned, the evolution of the number of new pensions is similar to the men's. But the average contributory period of women increases from 35 years in 2013 to 40 years in 2060. It represents a strong rise by 5 years over the whole projection period due to the growing female participation rate and to the pension reform. The average accrual rate remains stable around 1.39.

Table 29   Projected and disaggregated new public pension expenditure (old-age and early earnings-related pensions) - Total

	2013	2020	2030	2040	2050	2060
Projected new pension expenditure (millions EUR)*	2137.228	2653.521	413.238	6163.234	9263.927	13894.66
I. Average contributory period (years)	37.885	38.427	35.035	40.658	40.692	40.600
II. Monthly average pensionable earnings ('000 EUR)	2.518	2.937	4.155	5.401	7.487	10.291
III. Average accrual rates (%)	1.430	1.406	1.589	1.405	1.407	1.404
IV. Number of new pensions (in thousands)	130.57	139.316	14.884	166.492	180.079	197.443
V. Average number of months paid the first year	12	12	12	12	12	12
VI. Sustainability/Adjustment factor	0	0	0	0	0	0
Monthly average pensionable earnings/Monthly average wage at retirement**	0.711	0.718	0.759	0.697	0.68	0.657
Monthly average pensionable earnings/Monthly economy-wide average wage**	0.808	0.828	0.882	0.812	0.793	0.767

*new pension expenditure = I x II x (III/100) x IV x V with four decimal places (very close approximation with 3 decimal places)
**average wage at retirement and economy-wide average wage: figures from the Belgian pension questionnaire (November 2015)
Source: European Commission services based on Belgian pension questionnaire (November 2015)

In total, the number of new pensions increases quickly between 2013 and 2031 (1.6% average annual growth rate) and then increases slightly (0.5% average annual growth rate), because of the dependency ratio evolution. The average contributory period increases from 37.9 to 40.6 years between 2013 and 2060, thanks to the increase of female participation rate and to the pension reform. The average accrual rate falls slightly until 2040 due to a decrease in the average male accrual rate.

3.5. Financing of the pension system

This section deals with the evolution of the contributions to the public pension system. In Belgium however, the financing of all social expenses is since 1/1/1995 carried out for the general scheme of wage earners and self-employed through the so-called "global management" system (contributions but also some tax revenues), which implies that there is only a global contribution rate for all social security schemes (pensions, disability, primary incapacity, maternity leave, unemployment…) and no longer a contribution rate by scheme. In the wage earners' and self-employed schemes, social spending is funded respectively by contributions (63.8% / 54.3% in 2013), but also by state subsidies (16.3% / 28.3%) and alternative funding (16.5% / 13.8%) mainly made up of VAT revenues. Most social benefits for civil servants, among others pensions, are financed through the general budget of the federal government. Therefore public contributions for pensions are not available in the following table (see also section 5.5).

Table 30   Revenue from contribution (million), number of contributors in the public scheme (in 1000), total employment (in 1000) and related ratios (%)

	2013	2020	2030	2040	2050	2060
Public contribution	:	:	:	:	:	:
Employer contribution	:	:	:	:	:	:
Employee contribution	:	:	:	:	:	:
State contribution	:	:	:	:	:	:
Number of contributors = employment (administrative concept)	4626.5	5044.2	5422.0	5809.4	6126.9	6345.4
Ratio of number of contributors / employment (administrative concept)	1.0	1.0	1.0	1.0	1.0	1.0
Employment AWG	4555.9	4958.0	5396.2	5761.9	6057.3	6245.1

Source: European Commission services based on Belgian pension questionnaire (November 2015)

In Belgium, the number of contributors is equal to the number of working people (following the administrative concept – see 4.2.3. below), so that the ratio between contributors and employment is one (Table 30 also shows the employment based on Eurostat statistics).

3.6. Sensitivity analysis

The next table shows the sensitivity of public pension expenditure in % of GDP to various scenarios, expressed in deviation from the baseline.

Table 31   Public pension expenditures under different scenarios (deviation from the baseline)
In % of GDP

	2013	2020	2030	2040	2050	2060
Public pension expenditure						
Baseline	11.8	11.8	12.3	13.0	12.9	13.0
Higher life expectancy (+2 extra years)	0.0	0.0	0.2	0.4	0.5	0.7
Higher labour productivity (+0.25 pp.)	0.0	0.0	-0.2	-0.4	-0.6	-0.8
Lower labour productivity (-0.25 pp.)	0.0	0.0	0.2	0.4	0.6	0.8
Higher employment rate (+2 pp.)	0.0	-0.2	-0.3	-0.3	-0.3	-0.3
Higher employment of older workers (+10 pp.)	0.0	-0.5	-1.2	-1.1	-1.1	-1.2
Lower migration (-20%)	0.0	0.1	0.3	0.5	0.5	0.5
Lower TFP (risk)	0.0	0.0	0.1	0.4	0.6	0.9
Policy scenario: linking retirement age to increases in life expectancy	0.0	0.0	0.0	0.0	0.0	0.0

Source: European Commission services based on Belgian pension questionnaire (November 2015)

3.6.1. Higher or lower productivity scenarios and risk scenario

In these scenarios, with unchanged parameters regarding the living standards adjustment, public pension expenditure respectively decreases (increases) by 0.8 (0.8 and 0.9) percentage point of GDP in 2060 in the higher (lower – risk) productivity scenario in comparison with the baseline.

Pension expenditure in the wage earners' scheme is indeed calculated on the basis of the income earned over the whole career, which means it only progressively reflects the effect of higher (lower) productivity, whereas GDP increases (decreases) immediately. As a result, the weight of these pensions expressed as a percentage of GDP is lower (higher). This effect is proportionally even stronger in the self-employed scheme because of the high number of people receiving a guaranteed minimum pension (adapted to 1% real growth). On the contrary, in the civil servants' scheme, the change in wages is directly mirrored in pensions (the reference wage for new retirees is the average wage over the last ten working years and the pensions are automatically indexed to nominal wages), so that the change in the productivity assumptions has practically no impact on the ageing cost of this scheme.

3.6.2. Higher employment rate and higher employment rate of older workers scenarios

A higher employment rate of two percentage points leads to a decrease in pension expenditure by 0.3 percentage point of GDP by 2060 in comparison with the baseline, because of a higher GDP.

The scenario of a higher employment rate of ten percentage points for older workers leads to a decrease by 1.2 percentage point of GDP by 2060 in comparison with the baseline because of a higher economic growth.

3.6.3. Demographic scenarios: higher life expectancy and lower migration

The higher life expectancy (by 2 years) scenario generates higher public pension expenditure compared to the baseline scenario (+0.7 percentage point of GDP in 2060), because of the higher number of pensioners. The higher dependency coefficient totally explains this evolution.

With a lower migration of 20%, public pension spending rises by 0.5 percentage point of GDP compared to the baseline in 2060. A lower working age population leads to lower employment, hence lower economic growth, which increases the relative weight of pension expenditure in percentage of GDP.

3.6.4. Linking retirement age to increases in life expectancy

This scenario is similar to the updated baseline projection.

3.7. Description of the changes in comparison with the 2006, 2009, 2012 and 2015 projections

Table 32 compares the average annual change in public pension expenditure in % of GDP between the new projection and the four previous projections (2006, 2009, 2012 and 2015). It also presents the contributory factors behind those evolutions.

Table 32   Average annual change in public pension expenditure to GDP during the projection period under the 2006, 2009, 2012 (July update), 2015 Ageing Report and the 2015 updated projection exercises

	Public pensions to GDP	Depend-ency ratio	Coverage ratio	Employment effect	Benefit ra-tio	Labour intensity	Residual (incl. Inter-action effect)
Pension/GDP – AR 2006 (2004-2050)	5.1	7.7	-0.4	-0.9	-1.2	:	-0.1
Pension/GDP – AR 2009 (2007-2060)	4.8	7.4	-0.9	-0.5	-1.0	:	-0.2
Pension/GDP – July 2012 (2010-2060)	5.1	7.4	-1.1	-0.5	-0.5	0.0	-0.2
Pension/GDP – AR 2015 in ESA 2010 (2013-2060)	3.3	5.6	-1.3	-0.6	-0.3	0.0	-0.1
Pension/GDP – November 2015 (2013-2060)	1.3	5.0	-2.0	-0.9	-0.4	0.0	-0.4

Source: European Commission services based on Belgian pension questionnaire

In the current projection, public pension expenditure increases by 1.3 % of GDP between 2013 and 2060, which is 2.1 percentage points of GDP less than in the 2015 Ageing Report (expressed in ESA 2010). The difference is mostly due to the changes in the coverage ratio and in the employment effect (or the inverse employment rate). These differences result from the 2015 pension reform[13].

The public pension expenditure in the 2015 Ageing Report increases by 3.3 % of GDP between 2013 and 2060, which is 1.8 percentage point of GDP less than in the 2012 exercise for the period 2010-2060 (peer review of July 2012, including the pension reform of December 2011). The difference is mostly due to the change in the population projection: the contribution of the dependency ratio is 1.8% of GDP lower than in the previous exercise. The different reforms introduced since 2012 have also an impact (see section 1.2.2.b). Finally the employment effect (or the inverse employment rate) contributes more negatively to the expenditure. It should be noted that the slightly less negative contribution of the benefit ratio (despite the reforms - section 1.2.2.b) results from the less favourable assumption on productivity growth.

The difference between the 2012 and 2009 exercises (+0.4% of GDP) is attributable to a less negative contribution of the benefit ratio due to a change of assumption regarding productivity growth (1.5% annual growth between 2010 and 2060 instead of 1.7% in the 2009 projection).

In the 2009 projection, the variation of public pension expenditure amounted to 4.8% of GDP between 2007 and 2060, i.e. a slightly smaller variation than in the 2006 exercise (5.1% of GDP). This was mainly due to a more limited positive contribution of the dependency ratio, while the negative contributions of both the inverse employment rate and the benefit ratio were less significant than in the 2006 exercise. In the 2009 exercise, the adjustments to living standards (which impact the benefit ratio) were based on the Generation Pact. It means that the ceilings evolved on the basis of a real growth of 1.25%, irrespective of wage growth, whereas in the 2006 exercise, the wage ceilings evolved at a growth rate which was

---

[13] Let us note that the negative contribution of the benefit ratio is slightly more important in the updated projection than in the 2015 Ageing Report projection (despite that the pension reform leads to increasing length of career). It results from a change in the composition of pensioners' population by scheme. The share of the civil servants' pensioners is reduced due, on one hand, to a more important career extension because of the abolishment of the service credit for the degrees in the career condition for early retirement and, on the other hand, to medium-term restrictive measures concerning civil servants' employment. This reduction in the share of civil servants' pensioners, together with a higher average pension for civil servants, leads to a slightly decrease in the benefit ratio compared with the 2015 Ageing Report projection.

0.5% lower than the productivity growth. Moreover, the Generation Pact implies an increase in the pension benefits of the wage earners' and self-employed schemes after the age of 62 (pension bonus).

Table 33 tries to break down the difference between the 2015 Ageing Report projection and the new one into various explanations.

Table 33   Breakdown of the difference between AR 2015 and the new public pension projection of November 2015
% of GDP

	2013	2020	2030	2040	2050	2060	2013-2060
Ageing report 2015 (ESA 2010)	11.8	12.7	14.7	15.2	15.0	15.1	+3.3
Change in assumptions	:	:	:	:	:	:	
Improvement in the coverage or in the modelling	:	:	:	:	:	:	
Change in the interpretation of constant policy	:	:	:	:	:	:	
Policy related changes	0.0	-0.9	-2.4	-2.1	-2.0	-2.0	-2.0
of which							
- the 2015 pension reform	0.0	-0.7	-2.0	-1.7	-1.6	-1.6	-1.6
- index jump	0.0	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
- shift of the employment by scheme	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1
New projection November 2015	11.8	11.8	12.3	13.0	12.9	13.0	+1.3

Source: European Commission services based on Belgian pension questionnaire (November 2015)

The cost of pension in the updated projection of November 2015 is 2.1 percentage points of GDP lower than in the 2015 Ageing Report projection due to the policy related changes. These are disaggregated following three factors: the 2015 pension reform which is responsible for 80% of the difference, and the index jump and the shift of the employment by scheme both for 20% of the difference.

4. Description of the pension projection model and its database

4.1. Institutional context

For the AWG pension projection exercise, the Belgian MALTESE system of models, developed by the Federal Planning Bureau, produces projections of pension expenditure for the first pillar using the national methodology but based on the AWG assumptions. As part of other (non-AWG) projection activities, this model also provides projections for other kinds of social expenditure as well as for the entire Belgian government's budget.

In 1987, at the request of the government, the Federal Planning Bureau started developing the Maltese system of models in order to assess long-term social expenditure within the overall framework of public finance. This was done within the scope of the statutory mission of the FPB to support economic policy-making. Since 1987, the Maltese system has constantly been improved.

Between 1987 and 2001, it was used several times, either on the initiative of the FPB or to support economic policy-making (especially for measuring the impact of various statutory public pension reforms in Belgium: 1990, 1996).

In 2001, the Act "guaranteeing a continuous reduction in public debt and the setting up of the Ageing Fund" was ratified. The goal of the Fund was to build up a demographic reserve to finance the additional expenses pertaining to the statutory pension schemes due to ageing during the period 2010-2030, as long as the public debt was reduced to 60% of GDP. This Act also initiated the creation of the Study Group on Ageing (SGA), which publishes a yearly report on the budgetary and social implications of ageing (estimate of the budgetary cost of ageing and specific studies). The Federal Planning Bureau has been entrusted with the technical and administrative work of the SGA. Consequently, the MALTESE system of models is used every year to produce a long-term projection of all social expenditure for the yearly report of the SGA. Then, the « Borrowing requirements of the Public Sector » department of the High Council of Finance provides its yearly Advice with recommendations for budgetary policy, based on the annual report of the SGA. And finally, the Federal Government publishes a yearly « Memorandum on Ageing » which is based on the annual report of the SGA and the annual Advice of the « Borrowing requirements of the Public Sector » department of the High Council of Finance.

As for the AWG, the MALTESE system of models is used for Belgium since the first long-term projection of 2001.

4.2. General description of the whole model

4.2.1. Type and structure of the whole model

MALTESE is a system of meso-economic models with one central model and several specific peripheral models (computing the number of pensioners, average pensions, health care, etc.). The global accounting frame of the system relies on the national accounts. The central model and the peripheral models are accounting models adequate for translating demographic projections into budgetary developments like the social security account and the overall public finance account. Special attention is paid to modelling social expenses by scheme, gender, age and categories (old-age, survivor, household, lone persons) for the number of beneficiaries (new and other) and the corresponding average benefits according to the calculation rules (ceiling, minimum, indexation rules, etc.). A very detailed database is used for this purpose. The baseline assumes no change in legislation, rules or policy.

The projection proceeds in five steps:
– The **first step** is **the projection of the population by age and gender given the assumptions on fertility rates, life expectancy and migration flows**.
– **Given the behavioural assumptions, legal parameters of eligibility and the macroeconomic framework, the population is**, **in a second step, split up into different socio-economic groups**: school population, labour force (working and unemployed), unemployed with company allowance, people

on a full-time career break, disabled persons, pensioners and other non-participating population (see section 6.2 for the data sources).

This socio-economic projection results from transition probabilities from one status to another. It is a generalisation of the AWG methodology which is used to produce the labour force projection. **The participation and retirement behaviour of the different generations in the different age and gender classes is based on assumptions regarding participation rates[14] and on present retirement behaviour, taking into account the effects of the numerous reforms.** The socio-demographic projection leads to a coherent projection of the number of beneficiaries in the different social security schemes.

– **In a third step, the benefits in the various schemes are projected on the basis of the number of beneficiaries and of the different institutional arrangements (wage ceilings, adjustment to living standards, etc.). Average benefits are calculated by branch, gender, age group and category,** except for healthcare and long-term expenditure which are estimated using an econometrical modelling (with GDP per capita and age structure as independent variables, and also unemployment rate and drug approvals in the case of healthcare).

– **In a fourth step, the dynamics of the benefits obtained in the third step are applied to the corresponding aggregates of national accounts.**

– Finally, social security expenditure is included in a projection of the public budget. This consolidation of the social security sector with the rest of public finances is necessary because of the links between the social security budget and other aspects of the budget. Social expenditure is not only financed by contributions, but also by social security taxes and transfers from the federal budget, and the civil servants' pensions are financed by the federal budget. The evolution of all revenues and primary expenditure leads to the calculation of public debt and interest payments.

4.2.2. Coverage of the whole model

Starting from a demographic projection, the whole model generates the evolution of expenditure in the different social security schemes (see Box 7), given socio-demographic and macroeconomic scenarios. The pension model for those AWG pension projections specifically covers the pensions, the disability allowances after one year and the unemployment with company allowance, all of which appear in bold in the box below.

---

[14] As defined by the AWG.

4.2.3. Assumptions made in the AWG labour force projection

The labour force projection is given by the AWG (employment and unemployment) on the basis of Eurostat Statistics. Importing this AWG projection into the MALTESE system raises two main issues. Firstly, the MALTESE system normally produces a consistent projection of the various socio-economic groups (not only the labour force but also disabled persons, pensioners, unemployed with company allowance, etc.), which is an important feature for simulating the evolution of the number of pensioners. Secondly, this socioeconomic projection results in an exhaustive breakdown of the population by age and gender for each projection year, which ensures the consistency between the demographic and the socio-economic projection. Both properties of the MALTESE system imply the use of the original data and definitions concerning the socio-economic groups, in particular the administrative employment and unemployment data. Otherwise, the transition probabilities from the labour force and from employment to other socio-economic statuses - retirement in particular – should be re-estimated, and the consistency of the demographic and the socio-economic projections, on the other hand, would be lost.

The projection of administrative employment and unemployment is aligned with the AWG labour force projection at two levels: the participation rate of the population aged 55 to 71 and the global employment rate. The administrative participation rate among the population aged 55 to 71 is supposed to follow, over the 2013-2060 period, a similar evolution to that simulated in the AWG projection for this age group. This assumption ensures the greatest possible consistency between the evolution of labour force and evolution of retired population. For the younger age groups, the development in administra-

tive participation rate is not aligned with the evolution shown in the AWG projection. Yet, the participation rates remain in both cases relatively stable over the period considered and hardly influence the future ratio pensioners to population of the considered age group (see following section). However, the administrative unemployment rate is adjusted so that global administrative employment and global employment from the AWG projection grow at the same pace between 2013 and 2060.

4.3. Assumptions and methodologies applied to the pension model

4.3.1. Number of pensions

The key principle used to model the number of pensions is to let the existing number of pensions grow old and to add new pensions based on recent "entry behaviour" and historical participation rates. The projection of the number of pensions is carried out at a disaggregated level per scheme, gender and age or age group.

a. Entries in the old-age pension system

The statutory retirement age is 65 years before 2025, 66 years from 2025 to 2029 and 67 years from 2030 onwards. As far as men are concerned, **the overall pension rate at the statutory retirement age** (number of pensions in the first pillar to the population aged 65 before 2025, 66 between 2025 and 2029 and 67 from 2030 onwards) is kept constant (because of the almost universal character of the legal pension). For women, a "total coverage rate" at the statutory retirement age is defined and also supposed to be constant. This "total coverage rate" is the ratio of the number of women with their own pension (old-age or survivor pension) or with their husband's (at the household rate, which is higher if the spouse has no income) to the overall number of women aged 65, 66 or 67.

The **distribution by scheme** (wage earners, self-employed and civil servants) **of the beneficiaries at the statutory retirement age** is determined according to the historical evolution of activity by scheme of the corresponding generation.

In a situation without reform, entries in old-age pension occur mainly between 60 and 65 years. The **entry profile for old-age pension between 60 and 65 years** depends on the socio-economic status of the population aged 59 to 64 years. Depending on this socio-economic status (employment, unemployment, unemployment with company allowance or disability) and on the scheme, retirements occur at varying ages: for example, workers retire at a younger age than beneficiaries of a disability allowance. In a second step, this entry profile explicitly takes into account the pension reform. It is adjusted to take into account the increase in the career conditions for early retirement before the statutory retirement age. Moreover the effective entry age in the pension schemes increases by about one year (then about two years) according to the labour force projection of the AWG, due to the rise in the statutory retirement age.

b. Entries in the survivor pension system

Before the age of 60, (female) entries in the survivor pension system are determined by scheme (wage earners, self-employed and civil servants) and 5-year age group, in function of the evolution of the female labour force, the widowed population and the distribution by scheme of the male labour force of the same age group. The projection also takes into account the survivor pension reform with the gradual increase of the minimum entry age: to 55 in 2030.

From the age of 60 onwards, the number of new female pensions in the survivor pension system is determined by the number of deceased (married) male pensions in the scheme concerned.

c. Entries into unemployment with company allowance non-job seeker

Entries into the unemployment with company allowance system are calculated on the basis of an entry probability by age and gender based on the number of wage earners workers. These probabilities are adjusted in order to take into account the new reform.

d. Entries into disability

The methodology implies that the disability rates (the shares of disabled persons per gender and age category in the demographic population) are calculated using the principle of cohorts. Firstly, the entry probabilities in the primary incapacity benefit system (disabled for less than one year; they are not taken into account in the results of pension expenditure) are calculated from the potential labour force[15]. Then, the entry probabilities in the disability benefit system (after one year primary incapacity) are calculated from the primary disabled category. Finally, probabilities of remaining in the disability system are calculated for the other disabled. These probabilities are adjusted in order to take into account the new pension reform.

The number of primary disabled and disabled persons by age category and gender is computed by applying these rates to the demographic projection. The distribution of the number of primary disabled and disabled persons in the wage earners' scheme and the self-employed scheme is carried out proportionally to the number of workers in the respective schemes.

The next table shows the disability rates by age group, i.e. the ratios of the disabled to the corresponding overall population. The maximum age to receive a disability allowance is 64 till 2024, 65 between 2025 and 2029 and 66 from 2030 onwards (beyond that age, the beneficiary gets retired).

Table 34   Disability rates by age group (%)

	2010	2013	2020	2030	2040	2050	2060
Age group -54	2.1	2.4	2.8	2.8	2.3	1.9	1.9
Age group 55-59	8.5	9.6	11.3	12.3	15.6	10.8	9.3
Age group 60-64	8.2	9.0	13.4	18.5	23.8	19.6	14.7
Age group 65-69	0.1	0.1	0.0	4.4	6.8	7.2	5.2
Age group 70-74	0	0	0	0	0	0	0
Age group 75+	0	0	0	0	0	0	0

Source: Belgian pension questionnaire (November 2015)

---

[15]   Working and unemployed people, people in unemployment with company allowance and on a full-time career break

The last observed data show increasing disability rates. In accordance with the National Institute for Health and Disability Insurance, the entry probabilities and the probabilities of remaining disabled still increase till almost the end of the 2010s (crisis, new diseases…), which results in increasing disability rates. Then, the entry probabilities and the probabilities of remaining disabled progressively decrease until the mid-2030s to their pre-crisis level and then remain constant. The cohort modelling implies increasing disability rates till 2040 for the 60-64. At the end of the projection period, the disability rates return approximately to their levels of 2010-2013, except for the age groups 60-64 and 65-69 which are influenced by the pension reform.

4.3.2. Average pension

The average pension amount in the different pension schemes is estimated by modelling as accurately as possible the main legislative parameters for the successive cohorts of persons entitled to a pension. For each pension scheme (wage earners, self-employed, civil servants), an average pension is estimated for each career profile (full career or not, retirement age), each category (old-age, survivor, household, lone person…) and according to the legal replacement rate (in the wage earners' and self-employed schemes).

The evolution of these shares depends on the socio-economic and macroeconomic projections. For instance, the increase in the female participation rate results in a growing number of women building up full pension rights. As a consequence, a growing number of pensioners, both in the wage earners' and self-employed schemes, claim a lone pensioner's allowance, which is calculated at a lower legal replacement rate, instead of a household rate pension.

Furthermore, the projection of the unemployment rate, of the early retirement rate, etc. affects the development of a full-time career. The assumption concerning productivity growth also has an impact on the evolution of average pension amounts through wages. This effect occurs faster in the case of pensioners from the civil servants' scheme, because their reference wages are calculated on the basis of their incomes over the last ten working years. As for employees and the self-employed, this wage evolution only appears in the long term, as their pension is calculated on the basis of the average income over their whole career, which, at the start of the projection period, is almost completely situated in the past.

The income distribution is supposed to remain constant in the projection. It is used, among other things, to compute the percentages of recipients with incomes above the wage ceiling and below the minimum pension.

In the wage earners' scheme, the average unemployment with company allowance for non-job seekers (only the part paid by the National Employment Office) and disability benefits are calculated per gender and age group, taking into account the respective ceilings. Disability allowances in the self-employed scheme are lump-sum benefits.

4.3.3. Career length or contributory period

Without the 2015 pension reform, it was assumed that the average career length of men taking their pension depended, within the various systems, on the participation profile of the generation (historical

participation rate for 5-year age groups). For women, the average career length was assumed to converge to that of men (without actually reaching that level). These evolutions are adjusted in relation to the postponed entries in old-age pension due to the pension reform.

4.3.4. Indexation and social policy assumptions

a. Legislation

All allowances are automatically indexed to prices (consumer price index, CPI), unless otherwise decided like the Act of 23 April 2015 on the employment promotion, published in the Belgian Gazette of 27 April introducing an "index jump".

In addition, they can also be subject to adjustment in real terms in order to take into account the growth of wage ceilings, the adjustment of the non-lump-sum benefits to living standards, the real growth of lump-sum benefits and the indexation of civil servants' pensions to real wages.

Adjustment in real terms in the wage earners', self-employed and assistance schemes

The Generation Pact of December 2005 introduces the principle of an adaptation of the replacement benefits (not only pensions) to living standards. This (biennial) mechanism works in two steps. First, the available budget by scheme (wage earners', self-employed and assistance scheme) is calculated, which is equivalent to the increase of:
– wage ceilings (and minimum claim of wage earners' pensions) by 1.25% per year;
– earning-related benefits by 0.5% per year;
– lump-sum benefits (including minimum benefits) by 1% per year.

In a second step, concrete measures of adjustment to living standards are proposed by the social partners. These measures have to respect, in each scheme, the abovementioned global financial constraint. However, in each scheme, they can be aimed at specific sectors, categories of beneficiaries or types of allowances. Lastly, the government decides on the final measures on the basis of the proposal of the social partners.

Adjustment in real terms in the civil servants' scheme

The indexation of civil servants' pensions to real wages implies that the real wage increases for active civil servants are mirrored in the pensions of the retired civil servants.

b. Projection

All allowances are indexed to prices (CPI), unless otherwise decided like the Act of 23 April 2015 on the employment promotion introducing an "index jump". It means that the next adjustment of pension benefits (and of other social allowances and wages) to price evolution will not happen. Given the 2% stepwise indexation mechanism, this corresponds to a 2% reduction in the pension benefits in real terms. This index jump was first foreseen in 2016 as taken into account in the updated projection. Finally the index jump has happened in the second half of 2015.

Regarding adjustment to living standards, until 2016, the projection takes into account all the measures already decided by the government.

In the wage earners', self-employed and assistance schemes, from 2017 onwards, social allowances are adjusted according to the general principle of available budget calculation (see parameters above). In the civil servants' scheme, pensions are adapted to the real wage increase of the working civil servants diminished by 0.4%. Indeed, historically, average pension increases have been 0.4% lower than the corresponding growth in wages due to a tendency for wage increases to take forms which bypass, at least partially, the indexation of the civil servants' pensions to the real wages.

4.3.5. Reforms incorporated in the model

All reforms mentioned in sections 1.2.1 and 1.2.2 are integrated in the projection.

4.4. Pension data used to run the model

From a general point of view, the model is fully consistent with the Belgian national accounts and covers all expenses of the global public finance account.

The following table presents the data sources used in MALTESE for the number of beneficiaries and the pension expenditure. Administrative sources are used for the number of beneficiaries and the detailed benefits (gender, age, minimum or not...). But finally, the pension expenditure results match the national accounts.

Table 35   Pension data sources (beneficiaries and expenses)

Administrative data concerning beneficiaries and benefits		
Unemployment with company allowance non-job seekers (wage earners' scheme)		National Employment Office
Disabled population (wage earners' and self-employed schemes)		National Institute for Health and Disability Insurance
Pension :		
- wage earners' scheme by category		National Pensions Office
	details about the career	National Pensions Office
- self-employed scheme by category		National Pensions Office
	details about the career	National Institute for the Social Security of the Self-Employed
- civil servants' scheme by category		Public sector pension service
	details about the career	Public sector pension service
Guaranteed income for elderly people		National Pensions Office
National accounts: expenditure		
Pensions (wage earners, self-employed, civil servants, GIEP)		
Unemployment with company allowance		National Accounts
Disability		

5. Methodological annex

Information about survivor and disability pensions is mentioned in sections 4.3.1.b and 4.3.1.d.

5.1. Economy-wide average wage at retirement

The next table presents the economy-wide average wage globally and at retirement, by scheme. The AWG questionnaire only provides a global economy-wide average wage, not by scheme. This table also provides economy-wide average wages by scheme on the basis of the National Accounts. As expected by the AWG, the economy-wide average wages at retirement (by scheme) are provided by the country. Their levels are consistent with the economy-wide average wages from the National Accounts.

Table 36   Economy wide average wage at retirement evolution (in thousand euro at constant 2006 prices)

	2013	2020	2030	2040	2050	2060
Economy-wide average wage (AWG)	35.7	36.9	40.3	46.6	54.3	63.3
Economy-wide average wage – National Accounts	32.7	33.2	36.2	41.9	48.8	56.8
Economy-wide average wage – National Accounts – Wage earners' scheme	32.9	33.7	36.8	42.6	49.6	57.8
Economy-wide average wage – National Accounts – Self-employed scheme	29.7	29.4	32.0	37.1	43.2	50.3
Economy-wide average wage – National Accounts – Civil servants' scheme	34.5	34.5	37.6	43.5	50.7	59.1
Economy-wide average wage at retirement	37.1	38.2	42.0	48.8	56.8	66.3
Economy-wide average wage at retirement – Wage earners' scheme	36.7	37.7	41.3	48.0	56.0	65.4
Economy-wide average wage at retirement – Self-employed scheme	34.1	33.7	36.7	42.5	49.5	57.7
Economy-wide average wage at retirement – Civil servants' scheme	44.5	45.3	50.0	57.7	66.8	77.9

Source: Belgian pension questionnaire (November 2015)

In the wage earners' scheme, the average wage at retirement is based on the gross wage multiplied by the ratio of the average wage of the people aged 60-64 year to the global average wage. This rate, by gender and blue/white-collar worker, evolves in the projection with the evolution of the share men/women and blue/white-collar worker.

In the self-employed scheme, based on data from the Statistics Belgium on the wages of the self-employed by sector (agriculture and fishing, industry and crafts, commerce, liberal professions, services) and by 5-year age group, the FPB calculates the coefficients linking the wages of the age categories (by 5- year groups) to the average wages which are projected until 2060 according to the aforementioned macroeconomic hypotheses. These coefficients remain constant throughout the projection. The wages at the career end are estimated by multiplying the average wages by the coefficient of the age group 60-64 years.

The observations of the average wages that civil servants receive at the end of their career are provided by the SdPSP ("Service des Pensions du Secteur Public"). They are the reference wages used to calculate the pensions of the new pensioners. They are available by type of civil servant (public administration, education). The FPB introduces a correction on these wages to take into account mixed careers, as the provided wages by SdPSP are those of civil servants who did not have a mixed career.

5.2. Pensioners vs pensions

The methodology behind the calculation of the number of pensions is presented in section 4.3.1. This number of pensions is a hybrid concept combining the number of pensions and the number of pensioners. Double counting of pensioners receiving benefits from both the wage earners' and the self-employed scheme is avoided (when pensioners receive a pension from both schemes, pensions are classified either in the wage earners' scheme or in the self-employed scheme, taking into account the average benefit in both schemes for "mixed" pensions). However, double counting between pensioners of the civil servants' scheme and pensioners of the general scheme for wage earners and the self-employed could not be avoided.

To obtain the number of pensioners, we firstly assume that there is no double counting at the ages below 60. For the ages above 59, the number of pensioners is obtained on the basis of observed data related to double counting between pensions of the civil servants' scheme and the wage earners' scheme (15% of wage earners' pensions) and between pensions of the civil servants' scheme and the self-employed scheme (7% of the self-employed pensions). In the assistance scheme (guaranteed income for elderly), the double counting rates with the other schemes are important: 78% for women, 92% for men and globally 83%. We assume that those double counting rates are the same by gender and age group and remain unchanged over the whole projection period.

5.3. Pension taxation

Gross pension is subject to contributions: 3.55% for health care if the pension benefit exceeds a threshold, solidarity contribution between 0 and 2% according to the pension benefit and contribution of 0.5% for funeral expenses in the civil servants' scheme. The implicit contribution rate is 2.2% in 2013.

Pension benefit is taxed if above a minimum amount varying according to the number of dependent children. The implicit tax rate is of 11.8% in 2013.

5.4. Non-earnings-related minimum pension

The non-earnings-related pensions are the guaranteed income for elderly persons (assistance scheme) and the disability benefit in the self-employed scheme.

The driving forces behind the expenditures for minimum income guarantee for elderly are the number of beneficiaries and their average benefit amount. The number of beneficiaries evolves with the older population and the number of pensioners. Since the minimum income guarantee is a means-tested scheme and more than 80% of its beneficiaries also receive a pension benefit, almost exclusively in the

wage-earners' or self-employed scheme, the average benefit amount is influenced by the maximum amount of this social assistance scheme and the evolution of pension benefits in the wage-earners' and self-employed scheme. The maximum amount of the minimum income guarantee evolves in line with the stipulations foreseen in the "Generation Pact", which is 1% per year.

The disability expenditure of the self-employed scheme is driven by the number of beneficiaries (see 4.3.1.d) and the evolution of the average benefit. The latter one is a lump-sum amount evolving in real terms with 1% per year (as foreseen in the "Generation Pact" - see sections 1.1.3 and 4.3.4).

5.5. Contributions

Since 1/1/1995, the financing of all social expenses in Belgium is carried out for the general scheme of wage earners and self-employed through the so-called "global management" system (contributions but also some tax revenues), which implies that there is only one global contribution rate for all social security schemes (pensions, disability, primary incapacity, maternity leave, unemployment…) and no longer a contribution rate by scheme. In the wage earners' scheme, the global contribution rates for employers and employees are 24.77% and 13.07% respectively. In the self-employed scheme, the global contribution rate in 2014 is 22% for revenues from 12,870 to 55,576 EUR and 14.16% for revenues from 55,576 to 81,903 EUR. It should be noted that the wage earners' and the self-employed schemes are not only funded by contributions (63.8% / 54.3% respectively in 2013) but also by state subsidies (16.3% / 28.3%) and alternative funding (16.5% / 13.8%) mainly made up of a percentage of VAT revenues. Most social benefits for civil servants, among others pensions, are financed through the general budget of the federal government.

5.6. Alternative pension spending decomposition

Reduction of the residual is not allowed in the next two tables. The analysis of these tables is similar to the one regarding Table 18 and Table 19.

Table 37   Factors behind the change in public pension expenditures between 2013 and 2060 (in percentage points of GDP) - pensions

	2013-2020	2020-2030	2030-2040	2040-2050	2050-2060	2013-2060
Public pensions to GDP	0.1	0.5	0.7	-0.1	0.1	1.3
Dependency ratio effect (pop. 65+/pop. 20-64)	1.1	2.3	1.1	0.3	0.9	5.8
Coverage ratio effect (pensions/pop. 65+)	-0.4	-1.1	0.0	-0.1	-0.2	-1.8
Coverage ratio old-age	*0.1*	*-0.6*	*0.3*	*0.1*	*0.0*	*0.0*
Coverage ratio early-age	*-1.5*	*-0.8*	*-0.4*	*-1.4*	*-0.8*	*-4.9*
Cohort effect	*-0.7*	*-2.3*	*-0.8*	*0.0*	*-0.4*	*-4.0*
Benefit ratio effect (average pension/(GDP/hours worked 20-74))	0.0	0.2	-0.1	-0.2	-0.3	-0.3
Labour market/Labour intensity effect	-0.6	-0.5	-0.1	0.0	0.0	-1.1
Employment ratio effect (pop.20-64/employment 20-64)	*-0.6*	*-0.3*	*0.0*	*0.0*	*0.0*	*-0.9*
Labour intensity effect (employment 20-64/hours worked 20-64)	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Career shift effect (hours worked 20-64/hours worked 20-74)	*0.0*	*-0.2*	*0.0*	*0.0*	*0.0*	*-0.2*
Residual	-0.1	-0.5	-0.2	-0.1	-0.3	-1.2

Source: European Commission services based on Belgian pension questionnaire (November 2015)

Table 38   Factors behind the change in public pension expenditures between 2013 and 2060 (in percentage points of GDP) - pensioners

	2013-2020	2020-2030	2030-2040	2040-2050	2050-2060	2013-2060
Public pensions to GDP	0.1	0.5	0.7	-0.1	0.1	1.3
Dependency ratio effect (pop. 65+/pop. 20-64)	1.1	2.3	1.1	0.3	0.9	5.8
Coverage ratio effect (pensions/pop. 65+)	-0.5	-1.0	0.0	-0.2	-0.2	-1.9
Coverage ratio old-age	*0.2*	*-0.5*	*0.3*	*0.1*	*0.0*	*0.2*
Coverage ratio early-age	*-1.5*	*-0.7*	*-0.4*	*-1.4*	*-0.8*	*-4.8*
Cohort effect	*-0.7*	*-2.3*	*-0.8*	*0.0*	*-0.4*	*-4.0*
Benefit ratio effect (average pension/(GDP/hours worked 20-74))	0.1	0.2	-0.1	-0.2	-0.2	-0.3
Labour market/Labour intensity effect	-0.6	-0.5	-0.1	0.0	0.0	-1.1
Employment ratio effect (pop.20-64/employment 20-64)	*-0.6*	*-0.3*	*0.0*	*0.0*	*0.0*	*-0.9*
Labour intensity effect (employment 20-64/hours worked 20-64)	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Career shift effect (hours worked 20-64/hours worked 20-74)	*0.0*	*-0.2*	*0.0*	*0.0*	*0.0*	*-0.2*
Residual	-0.1	-0.5	-0.2	-0.1	-0.3	-1.2

Source: European Commission services based on Belgian pension questionnaire (November 2015)s

6. Annexes

6.1. The characteristics of the different public pension schemes

The following box presents the characteristics of the different public pension schemes (main pension formulas for old-age, survivor, minimum pension...).

Pension scheme for wage earners

Formula for old-age pension:

$$P = 75\% \text{ or } 60\% \times \text{reference wage} \tag{1}$$

with reference wage =

$$\sum_{t=1}^{n} \frac{1}{45} \times \text{ wage in t up to the wage ceiling } \times \frac{\text{price index n}}{\text{price index t}} \tag{2}$$

The pension is computed at 75% of the reference wage for the head of household with a dependent spouse and 60% in all other cases.

The reference wage is calculated on the basis of the wage really earned during the career up to a wage ceiling (52760.95 EUR for the year 2013). This wage is adjusted to current prices by the CPI. The sum of those adjusted wages over the career is multiplied by 1/45th (a full career is 45 years). Some periods of unemployment, disability, etc. are valued at the last corresponding earned wage and some others at the minimum claim per working year.

The survivor pension is calculated as 80% of the deceased person's retirement pension, computed at the household rate (which means 80% of 75%), that is 60% of the reference wage.

A guaranteed minimum pension exists for the pensions acquired over a full career or a career which equals at least two thirds of a full career in the wage earners' scheme (1403.73 EUR per month for the head of household with a dependent spouse and 1123.34 EUR per month in all other cases, in September 2014 for a full career).

A minimum claim per working year also exists (guaranteed minimum wage of 1872 EUR per month in September 2014), as long as the beneficiary can prove he/she has worked at least 15 years in the wage earners' scheme, and provided his/her job was at least one third of a full-time job. In September 2014, for new pensioners meeting those requirements and provided that their adjusted wage in a full time employment of one year of career was lower than 22464 EUR, their pension is calculated for this year of career on the basis of this amount of the minimum claim per working year. The total pension cannot exceed 1191.1 EUR per month (1488.8 EUR per month for the head of household with a dependent spouse).

Statutory retirement age: 65 for men and women until 2024, 66 from 2025 till 2029 and 67 from 2030 onwards. At cruising speed, early retirement is allowed at the age of 63 for a minimum career length of 42 years as from 2019 onwards.

Since 2007, a pension bonus (old) has been granted for each working day after the age of 62 or to those who have a career of 44 years (see 1.1.2).With the December 2011 reform, the pension bonus starts one year after the worker complies with the requirements for early retirement. The 2015 pension reform abolishes the pension bonus as of 1/1/2015.

Pension benefits are automatically adjusted to the price index (unless otherwise decided – see index jump in 2015) and partially adjusted to living standards following the "Generation Pact".

Pension scheme for the self-employed

Formula for old-age pension:

$$P = 75\% \text{ or } 60\% \times \text{reference wage} \tag{3}$$

with reference wage =

$$\sum_{t=1}^{n} \frac{1}{45} \times \text{income} \times \frac{\text{price index } n}{\text{price index } t} \times \text{correction coefficients} \tag{4}$$

The pension is computed at 75% of the reference wage for the head of household with a dependent spouse and 60% in all other cases, just like in the wage earners' scheme.

For the reference wage, the working years before 1984 are valued at a fixed income, while for the working years as from 1984 (during which a self-employed professional activity has been performed), it is calculated on the basis of the business income used to compute social security contributions and income tax, up to an income ceiling.

The correction coefficients (reduction coefficients) reflect the discrepancy between the contributions paid by wage earners and by the self-employed.

A minimum pension exists, which is granted in proportion to the career fraction and for at least two thirds of a full career as a self-employed and/or wage earner (1403.73 EUR per month for the head of household with a dependent spouse and 1060.94 EUR per month in other cases, in September 2014 for a full career). When pensions (from the wage earners' scheme and the self-employed scheme) are cumulated, the total amount of the pension cannot exceed a ceiling. There is no minimum claim per year.

Survivor pension, pension bonus, adjustments to price index and living standards: similar to the wage earners' scheme.

Pension scheme for civil servants

Formula for old-age pension and disability pension (civil servants declared permanently unfit to continue their career, regardless of their age or seniority):

$$P = \frac{\text{considered service years (max 45 years)}}{60 \text{ (reference career fraction)}} \times \text{reference wage} = \text{maximum } 75\% \times \text{reference wage} \tag{5}$$

The reference wage is the average wage over the last ten years (five years for people born before 1962) of work, on the basis of the wage brackets.

The maximum replacement rate of 75% of the reference wage is obtained with a numerator of a maximum career length of 45 years and a reference career fraction of 60 (so-called tantieme). Some have a preferential tantieme (55 in teaching and less for other specific categories like magistrates and academic services). The December 2011 reform raises these last preferential tantiemes to at least 48.

To benefit from a minimum pension, 20 years of services are required.

The survivor pension is calculated as 60% of the reference wage.

Statutory retirement age: 65 for men and women until 2024, 66 from 2025 till 2029 and 67 from 2030 onwards. At cruising speed, early retirement is allowed at the age of 63 for a minimum career length of 42 years as from 2019 onwards.

Pension benefit is automatically adjusted to the CPI (unless otherwise decided – see index jump in 2015) and to the real wage increases of the working civil servants.

Assistance scheme: guaranteed income for elderly persons (GIEP)

The elderly people with no income or an insufficient income (pension) can receive the so-called guaranteed income for elderly persons (GIEP). In September 2014, the maximum amount of the GIEP is 1011.7 EUR per month for a lone person and 674.46 EUR per month for cohabitants (for each person). Before granting the GIEP, the financial means of the person are checked.

Statutory age: 65.

GIEP benefit is automatically adjusted to the CPI (unless otherwise decided – see index jump in 2015) and partially adapted to living standards following the Generation Pact.

Unemployment with company allowance scheme (only for wage earners)

The unemployment with company allowance consists of an unemployment benefit, paid by the public authorities (National Employment Office), which amounts to 60% of the last gross wage earned, limited by a ceiling (different from that used in the pension scheme). The beneficiaries also receive a company allowance, paid by the employer, which is not taken into account in the model.

Statutory age: 62 from 2015 onwards, provided the career length as a wage earner is minimum 40 years for men in 2015 and 31 years for women (afterwards increasing till 40 years in 2024).

Unemployment benefit with company allowance is automatically adjusted to the CPI (unless otherwise decided – see index jump in 2015) and partially adapted to living standards following the Generation Pact.

Disability

If a person's disability keeps him/her away from work during more than one year (if less than one year, it is called "primary incapacity", which is not taken into account in the results of pension expenditure), a disability benefit is paid.

In the wage earners' scheme, disability benefits are calculated at 65% of the limited lost wage for beneficiaries heads of household, 55% for lone persons, and 40% for cohabitants.

In the self-employed scheme, the disability benefits are fixed (lump-sum) but differ according to whether the beneficiary is in charge of a household or not.

Disability benefit is automatically adjusted to the CPI (unless otherwise decided – see index jump in 2015) and partially adapted to living standards following the Generation Pact.

6.2. Data sources of the socio-economic projection of the MALTESE model

The basic idea is to perform an exhaustive and consistent breakdown of the projected population into different socio-economic groups which are important for the projections. The projection of the labour force - which is at the basis of the projection of the economic growth - is thus consistent with the projection of the socio-economic groups receiving social benefits.

The four major socio-economic groups that are identified in the MALTESE model are the following: the school population, the potential labour force (further disaggregated into employment by professional status, unemployment, unemployment with company allowance and full-time career break), the disabled population (subdivided in primary disability and disability) and pensioners.

Data for the different relevant socio-economic groups come from administrative records issued by the different competent social security bodies (see next table). In contrast to this approach, groups may be based on a single source (like the Eurostat Labour Force Survey, LFS in short). However, not all types of social security beneficiaries and socio-economic categories can be readily distinguished by means of the LFS.

All data are collected by gender and 5-year age groups, sometimes even per age year.

Table 39   MALTESE model: sources of data for the overall socio-economic projection

Socio-economic groups	Sources of data	Remarks
School population	Labour Force Survey, NIS of Belgium	
Potentially labour force		
of which:		
- full-time career breaks	National Employment Office	
- unemployment with company allowance	National Employment Office	
- older unemployed exempt from job search requirements	National Employment Office	Beware: the definitions differ from those used in the LFS and by the AWG
- unemployed job-seekers	National Employment Office	
- employment: wage earners	National Accounts and Crossroads Bank for Social Security for the breakdown by sex and age groups	
- employment: self-employed	National Accounts and Crossroads Bank for Social Security for the breakdown by sex and age groups	Beware: the definitions differ from those used in the LFS and by the AWG
- civil servants (with a distinction between statutory and non-statutory)	National Accounts and Crossroads Bank for Social Security for the breakdown by sex and age groups	
Disabled population (primary disability and disability):		
- wage earners' scheme	National Institute for Disability and Health Insurance	
- self-employed scheme	National Institute for Disability and Health Insurance	
Pension beneficiaries:		
- wage earners' scheme by category[*]	National Pensions Office	
details about the career	National Pensions Office	
- self-employed scheme by category*	National Pensions Office	
details about the career	National Institute for the Social Security of the Self-Employed	
- civil servants' scheme by category*	Public sector pension service	
details about the career	Public sector pension service	
Guaranteed income for elder people	National Pensions Office	

*old-age, survivor; head of household, lone person in the wage earners' scheme and the self-employed schemes

6.3. Sources of information for updating the projection of public employment

6.3.1. Federal government:

– Chambre des représentants de Belgique, « Budget des recettes et des dépenses pour l'année budgétaire 2015. Exposé général », 12 novembre 2014, page 14.

– Conseil des Ministres, « Notifications Budget 2015-2019 », 15 octobre 2014.

– Chambre des Représentants de Belgique, « Justification du Budget général des dépenses pour l'année budgétaire 2015. SPF Ministère de la Défense nationale », 13 novembre 2014, page 10.

– « Projet de plan budgétaire de la Belgique (Draft budgetary plan - DPB) », octobre 2014, page 16.

6.3.2. Flemish Community and Region:

– Vlaams Parlement, « Toelichtingen bij de middelenbegroting en de algemene uitgavenbegroting van de Vlaamse Gemeenschap voor het begrotingsjaar 2015. Algemene toelichting », 17 octobre 2014, page 37 et 50.

– Vlaams Parlement, « Toelichtingen bij de middelenbegroting en de algemene uitgavenbegroting van de Vlaamse Gemeenschap voor het begrotingsjaar 2015. Meerjarenraming 2015-2020», 21 novembre 2014, page 22.

– «Projet de plan budgétaire de la Belgique (Draft budgetary plan - DPB)», octobre 2014, page 20.

6.3.3. Walloon Region:

– Parlement Wallon, « Budgets des recettes et des dépenses de la Région wallonne pour l'année bud-gétaire 2015. Exposé général », 13 novembre 2014, page 51.

– Parlement Wallon, « Budgets des recettes et des dépenses de la Région wallonne pour l'année bud-gétaire 2015. Observations de la Cour des comptes », 21 novembre 2014, page 67 et 68.

– Déclaration de politique régionale : Wallonie, « Oser, innover, rassembler », 23 juillet 2014.

– «Projet de plan budgétaire de la Belgique (Draft budgetary plan - DPB)», octobre 2014, page 24.

6.3.4. French-speaking Community:

– Parlement de la Communauté française, «Projet de décret contenant le Budget des dépenses pour l'année budgétaire 2015. Exposé général», 20 novembre 2014, page 58.

– Déclaration de politique communautaire 2014-2019 : Fédération Wallonie-Bruxelles, «Fédérer pour réussir», 23 juillet 2014.

– «Projet de plan budgétaire de la Belgique (Draft budgetary plan - DPB)», octobre 2014, page 29.

7. Technical annex: comparison between the AWG and national projection

This technical annex provides some comments on the updated pension projection of November 2015 and on the national projection made in July 2015 by the Study Group of Ageing[16], both including the 2015 pension reform.

7.1. Labour force projections in administrative definition and in LFS definition

In the Belgian pension model, the consistency of the socio-demographic projection is ensured by performing an exhaustive breakdown of the population into different socio-economic groups, which is based on administrative data and transition probabilities between the socio-economic groups. Therefore, the first step that we always have to take with an AWG projection exercise is to translate the labour force projection of the CSM into a corresponding projection in administrative definition. This sometimes leads to practical problems. For instance, in preparing the AR 2015 pension projection, we had to assume a slightly less strong increase of the labour force in the age group 55-69 in administrative definition than in the CSM projection. Otherwise, the transition probabilities from the labour force to the inactive population would have generated a socio-demographic projection incompatible with the demographic projection. A comparison between the increase of the labour force during the projection period as given by the CSM and the corresponding increase in administrative definition before the new reform is provided in Table 40. Please note that this adjustment was made by fully respecting the AWG employment projection. On the contrary, as can be seen in this table, the after-reform projection of the labour force did not present the same difficulty. The projection of the number of pensioners in the after-reform version is fully compatible with the labour force projection, both in administrative terms and as given by the CSM. However, the difference between the before and after-reform projections is obviously greater in administrative terms than in the CSM because of the adjustment that had to be made in the AR 2015 version. Moreover, the impact on the number of pensioners corresponds (more or less) to the difference between the labour force projection before and after the reform in administrative terms.

Table 40 Evolution of participation rates and labour supply 55-71, between 2013 and 2060, according to different definitions

	Participation rates 55-71 (% and p. p.)						Labour supply 55-71 (thousands)
	2013	Before new reform (BNR)		After new reform (ANR)		ANR - BNR	ANR - BNR
		2060	2013-2060	2060	2013-2060	2013-2060	2013-2060
Administrative definition	38.4	41.7	+3.3	53.5	+15.1	+11.8	341
AWG definition	30.1	36.4	+6.3	46.6	+16.4	+10.2	294

Source: Belgian updated pension projection (November 2015) and CSM projection (November 2015)

---

[16] « *Rapport annuel*" (Annual Report), Study Group on Ageing, July 2015

7.2. Age structure in the AWG projection and the national demographic projection

In the national projection, ageing is more pronounced than in the AWG projection. So, in 2060, the weight of the population aged 55-71 in the population aged 55 and over is 51.2% in the first projection and 53.4% in the second one. Therefore, a reform that leads to a reduction of the number of young pensioners will have more impact on the total number of pensioners in the AWG projection than in the national projection. So, in the AWG projection, the number of pension beneficiaries is reduced by 8.5% (in comparison with a scenario without reform). This number would have been reduced by 8% in the context of the national demographic projection. The more important decrease in the AWG projection leads, ceteris paribus, to a more pronounced reduction of the budgetary cost of pensions (by 0.1 p. p. of GDP).

Table 41 **Impact of differences in age structure between AWG and national demographic projections on budgetary cost of pensions in 2060**

	AWG projection	National demographic projection
Pop. 55-71/Pop. 55+	53.4%	51.2%
Increase of participation rate 55-71	+10.2 p. p.	+10.2. p. p.
Reduction of number of pensioners	-8.5%	-8.0%
Impact on budgetary cost of pensions in terms of GDP	-1.3 p. p.	-1.2 p. p.

Source: Belgian updated pension projection (November 2015), CSM projection (November 2015) and Study Group on Ageing (July 2015)

8. References

- G. DEKKERS, R. DESMET, N. FASQUELLE, S. WEEMAES, "*The social and budgetary impacts of recent social security reform in Belgium*", to be published in "The young and the elderly at risk. Individual outcomes and contemporary policy challenges in European societies"

- R. DESMET, N. FASQUELLE, C. JOYEUX, S. WEEMAES, « *La soutenabilité de la protection sociale* », Federal Planning Bureau, Working Paper 15-13, December 2013

- G. DE VIL, « *Les pensions du premier pilier en Belgique à la veille du vieillissement démographique : une analyse du système actuel et de son adéquation* », Federal Planning Bureau, Working Paper 4-10, March 2010

- G. DE VIL, G. DEKKERS, R. DESMET, "*The long-term adequacy of the Belgian public pension system: An analysis based on the MIDAS model*", Federal Planning Bureau, Working Paper 10-10, May 2010

- G. DE VIL, G. DEKKERS, R. DESMET, M. J. FESTJENS, « *Adéquation des pensions et coût budgétaire du vieillissement: impacts de réformes et de scénarios alternatifs* », Federal Planning Bureau, Working Paper 22-10, December 2010

- G. DE VIL, N. FASQUELLE, M.J. FESTJENS, C. JOYEUX, "*Liaison au bien-être des prestations sociales et des allocations d'assistance*", Federal Planning Bureau, Working Paper 4-11, March 2011

- M. ENGLERT, N. FASQUELLE, M.J. FESTJENS, M. LAMBRECHT, M. SAINTRAIN, C. STREEL, S. WEEMAES, "*Perspectives financières de la sécurité sociale 2000-2050 – Le vieillissement et la viabilité du système légal des pensions* ", Federal Planning Bureau, Planning Paper 91, January 2002

- N. FASQUELLE, M. J. FESTJENS, M. SAINTRAIN, B. SCHOLTUS, S. WEEMAES, « *Le financement à long terme de la sécurité sociale et ses conséquences sur les finances du pouvoir fédéral* », Federal Planning Bureau, Working Paper 24-08, December 2008

- N. FASQUELLE, K. HENDRICKX, C. JOYEUX, " *Vieillissement démographique et composition socio-économique de la population en Belgique* ", in Academia Editions, *Changements des structures par âge et populations actives*, April 2008

- N. FASQUELLE, K. HENDRICKX, C. JOYEUX, I. LEBRUN, "*The methodology developed by the Federal Planning Bureau to produce long-term scenarios*", Federal Planning Bureau, Working Paper 05-12, February 2012

- B. SCHOLTUS, "*MoSES (Model of the Self-Employed pension Scheme): une modélisation du régime de pensions des travailleurs indépendants*", Federal Planning Bureau, Working Paper 18-05, 30 December 2005

- B. SCHOLTUS, "*Coût budgétaire et effet sur la pension moyenne des mesures récentes dans le régime des travailleurs indépendants – Une analyse réalisée par une version adaptée de MoSES*", Federal Planning Bureau, Working Paper 07-08, 11 March 2008

- « *Rapport annuel*" (Annual Report), Study Group on Ageing, annually since 2002

- « *Perspectives économiques 2015-2020* », Federal Planning Bureau, Série Perspectives, May 2015