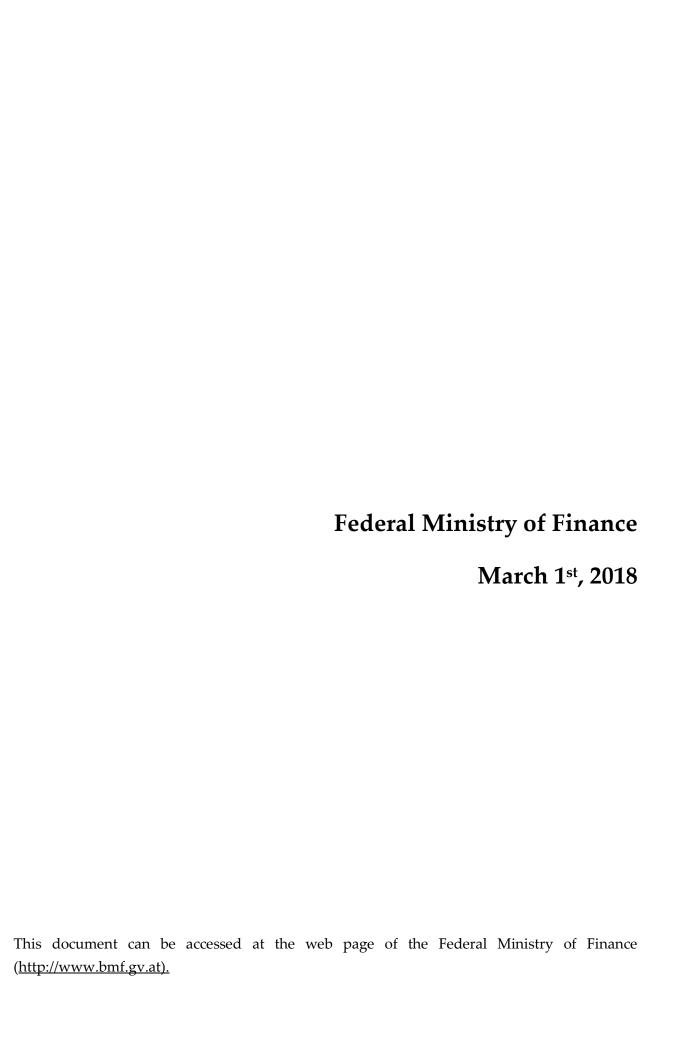# Austrian Country Fiche on Public Pensions

For the attention of the Economic Policy Committee's Ageing Working Group (AWG)

In cooperation with the Federal Ministry of Labour, Social Affairs and Consumer Protection (BMASK) and Statistics Austria (STAT)

Federal Ministry of Finance

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1. Overview of the pension system

1.1. Description

The **public pension system (1st pillar)** in Austria is based on a pay-as-you-go (PAYG) scheme and public pension benefits are by far the primary source of income for retirees.

In order to harmonise the different schemes of blue and white collar workers, farmers, self-employed and civil servants, a standardised, more actuarially-oriented pension account system was introduced in 2005 for all employed born after January 1st, 1955; established in the "Act on Harmonisation of Austrian Pension Systems". So this new pension system will gradually replace those different pension schemes over the long-run. The reform of 2005 also brought new regulations being less generous than the old regulations aiming at strengthening the fiscal sustainability of the pension system. For instance, the assessment base is gradually being extended from the best 15 years to life-time earnings, the accrual rate was reduced from 2% to 1.78% and annual deductions for early retirement were increased (see chapter 5.14.).

Table 1: Qualifying condition for retiring

			2016	2020	2030	2040	2050	2060	2070
Qualifying condition for retiring with a full pension	Minimum requirements	Contributory period - men	15	15	15	15	15	15	15
		Retirement age - men	65	65	65	65	65	65	65
		Contributory period - women	15	15	15	15	15	15	15
		Retirement age - women	60	60	63.5	65	65	65	65
	Statutory retirement age - men		65	65	65	65	65	65	65
	Statutory retirement age - women		60	60	63.5	65	65	65	65
Qualifying condition for retirement WITHOUT a full pension	Early retirement age - men		60	60	60	60	60	60	60
	Early retirement age - women		55	59	60	60	60	60	60
	Penalty in case of earliest retirement age		see Table 2	see Table 2	see Table 2	see Table 2	see Table 2	see Table 2	see Table 2
	Bonus in case of late retirement [1]		-	-	-	-	-	-	-
	Minimum contributory period - men		see Table 2	see Table 2	see Table 2	see Table 2	see Table 2	see Table 2	see Table 2
	Minimum contributory period - women		see Table 2	see Table 2	see Table 2	see Table 2	see Table 2	see Table 2	see Table 2
	Minimum residence period - men		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Minimum residence period - women		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

[1] Bonus in case of late-retirement (only when qualifying for full pension): 4.2% p.a.

Sources: BMASK, BMF

Entitlements for a regular old-age pension arise with a minimum of 15 insurance years (thereof at least 7 contribution years) and when the statutory retirement age has been reached.

The statutory retirement age is 65 years for men and all civil servants (also females) and 60 years for women, respectively. The female retirement age will be gradually raised to 65 years in the period from 2024 to 2033 (by ½ years steps). For postponing retirement beyond the

statutory retirement age bonuses are granted.

The public pension system comprises a few remaining possibilities for early retirement incl. discounts (corridor pension, early old-age pension for long-term contributors, heavy worker regulation), invalidity and occupational disability pensions as well survivors' pensions.

If individual pension claims are lower than legally defined thresholds[1], the gap will be closed by federal budget contributions (equalising allowance; "*Ausgleichszulage*") to guarantee a minimum income for pensioners (note i.e.: no legal minimum pension in Austria).

Table 2: Early retirement pension schemes

Pension Scheme	Min. retirement age		Required insurance/contribution years		Penalties for early retirement
	(women)	(men)	(women)	(men)	
Corridor pension (*"Korridorpension"*)	62 years[1]	62 years	40 years	40 years	5.1% per year[2]
Early old-age pension for long-term contributors (*"Hacklerregelung"*)	57 years[3]	62 years[4]	42 years[5]	45 years	4.2% % per year[6]
Heavy worker regulation (*"Schwerarbeitspension"*)	60 years[7]	60 years	45 years[8]	45 years[8]	1.8% per year[2]
Early old-age pension for long-term contributors in combination with heavy worker regulation (*"Hackler-Schwerarbeit"*)	55 years[9]	60 years[10]	40 years	45 years	1.8% per year

1) This gets relevant only by 2028

2) For persons born after January 1, 1955

3) Born after January 1, 1959; will be gradually raised to 62

4) Born after January 1, 1954

5) Will be gradually raised to 45

6) For men born after January 1, 1954/for women at the age of 62 born after January 1, 1966

7) This gets relevant only by 2024

8) At least 10 years of "hard labour" within 20 years before retirement

9) Born between January 1, 1959 and December 31, 1963

10) Born between January 1, 1954 and December 31, 1958

Sources: BMASK, BMF

The public pension system is financed mainly through compulsory contributions (up to a maximum contribution base). The present contribution rates are uniformly set at 22.8% (see table 3 and 4).

The differences to the standard contribution rate of 22.8% for farmers, self-employed and self-employed in the liberal professions are borne by federal transfers.

The social security insurance ("*Österreichische Sozialversicherung*") gets also federal transfers to cover supplementary periods of insurance years such as parental leave, times in unemployment or military service. The federal budget also covers the deficits in most public pension schemes in the case of their actual emergence ("*Bundesbeitrag*"). These deficits are, thus, financed by general taxation. In 2016, this "*Bundesbeitrag*" amounted to 9.856 bn € (2.8% of GDP).

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[1] For single pensioners: 889.84 € per month in 2017 (1,000 € after at least 30 contribution years); for couples in one household: 1,334.17 € per month in 2017

Contributions to public old-age provisions in Austria are exempt from taxation. Pensions and special pension payments, however, are treated like income from employment and are subject to income tax. Taxes payable are deducted from the gross pension reduced by health care contributions.

Pension benefits are adjusted to consumer price inflation (benchmark; can be higher or lower), the assessment basis are linked to the average insured wage (as the pension account), both with some small discretionary room for manoeuvre for the government.

Table 3: Contribution rates/contribution base

	Contribution rates		Maximum contribution base (in 2017, per month)
	Employees	Employers	
Blue and white collar staff	10.25%	12.55%	4,980 €[2]
Public employees with private contracts	10.25%	12.55%	4,980 €[2]
Civil servants	10.25%	12.55%	4,980 €[2]
Self-employed	18.5%[1]		5,810 €[3]
Self-employed in the liberal professions	20%[1]		5,810 €[3]
Farmers	17%[1]		5,810 €[4]

1) The difference to the standard contribution rate of 22.8% is borne by federal transfers.

2) Contribution base: gross salaries

3) Contribution base: income tax assessment notice

4) Contribution base: unit values of agricultural enterprises

Sources: BMASK, BMF

Table 4: Financing of the system

	Public employees	Private employees	Self-employed
Contribution base	Gross salaries	Gross salaries	Income tax assessment notice; unit values of agricultural enterprises for farmers
Contribution rate/contribution [1)]			
Employer	12.55%	12.55%	-
Employee	10.25%	10.25%	18.5% for self-employed; 17% for farmers; 20% for liberal professions
State			Difference with 22.8% covered by federal transfers
Other revenues	The federal budget covers the deficits in public pension schemes (Bundesbeitrag) financed by general taxation. The federal budget also covers equalising allowance (Ausgleichszulage) as well as compensatory periods (Ersatzzeiten).		
Maximum contribution	Maximum assessment base: monthly earnings of € 4,980 (2017)	Maximum assessment base: monthly earnings of € 4,980 (2017)	Maximum assessment base: monthly earnings of € 5,810 (2017)
Minimum contribution [2)]	-	-	-

[1)] These contribution rates relate to the harmonized scheme of 2005
[2)] Contributions only arise when assessment bases exceed a certain low income threshold

Sources: BMASK, BMF, European Commission

Table 5: Number of new pensioners by age group - administrative data 2015 (men)

Age group	All	Old age	Disability	Survivor	Other (including minimum)
15 - 49	2,792	0	992	1,800	0
50 - 54	2,037	0	1,843	194	0
55 - 59	4,641	0	4,419	222	0
60 - 64	15,971	12,952	2,703	316	0
65 - 69	9,867	9,284	41	542	0
70 - 74	828	255	0	573	0

Sources: BMASK, BMF, European Commission, STAT

Table 6: Number of new pensioners by age group - administrative data 2015 (women)

Age group	All	Old age	Disability	Survivor	Other (including minimum)
15 - 49	3,465	0	956	2,509	0
50 - 54	2,569	0	1,679	890	0
55 - 59	11,436	7,659	2,419	1,358	0
60 - 64	24,744	22,664	63	2,017	0
65 - 69	4,450	1,615	0	2,835	0
70 - 74	3,554	144	0	3,410	0

Sources: BMASK, BMF, European Commission, STAT

Table 7: Number of new pensioners by age group - administrative data 2015 (total)

Age group	All	Old age	Disability	Survivor	Other (including minimum)
15 - 49	6,257	0	1,948	4,309	0
50 - 54	4,606	0	3,522	1,084	0
55 - 59	16,077	7,659	6,838	1,580	0
60 - 64	40,715	35,616	2,766	2,333	0
65 - 69	14,317	10,899	41	3,377	0
70 - 74	4,382	399	0	3,983	0

Sources: BMASK, BMF, European Commission, STAT

Generally, private pensions in Austria (both occupational and private) are still of much less quantitative importance than public pensions. Nevertheless, the volumes of private pensions have gone up rapidly during the past decade. The Austrian Occupational Pension Act ("Betriebspensionsgesetz") contains regulations for **occupational old age provisions (2nd pillar)**. This Act regulates primarily following firm-related retirement provisions: 1) pension provision funds ("Pensionskassen"), 2) occupational collective insurances ("Betriebliche Kollektivversicherung", 3) direct provisions allowed by a company to an employer ("Direkte Leistungszusage") and 4) life insurances. By the end of 2016, assets in the pension provision funds increased to 20.8 bn € and assets in the occupational collective insurances (established in 2005) increased to 1.0 bn €.

Since 2002, employers are obliged to transfer 1.53% of the monthly salary of their employees to a staff provision fund ("Mitarbeitervorsorgekasse"), set up especially for the new severance payment ("Abfertigung neu"). In case of termination of employment by the employer and after a minimum working period of 36 months the employee is entitled to get a severance payment or to leave the amount in the staff provision fund. In view of old-age provision, retiring employees can choose to receive the pay-out in form of the total sum (taxed

with 6%) or a monthly paid additional pension (tax exempt). By end of 2016, assets of the new severance payment rose to 9.4 bn €.

Private pension provisions paid in by individuals form the **3rd pillar** of the Austrian pension system. Like in the occupational sector, also in the private sector individuals can choose between a multiple range of investment products, fulfilling directly or indirectly the purpose of old-age provision. Hence, in the private sector one can generally distinguish between concrete pension-directed provisions and a general accumulation of savings over the life-cycle. Concrete pension-directed provisions are funded by the state in order to strengthen the development of the 3rd pension pillar. Traditionally, life insurances play a significant role in long-term savings. Private life insurance contracts have continued to show a major upward trend over the past years. While in general a private life insurance leads to a one-off payment, private pension insurance contracts are usually concluded for the purpose of obtaining a life-long pension.

The most popular private old-age provision represents the premium-aided pension savings scheme ("Zukunftsvorsorge"). This was introduced in 2003 as a kind of life insurance (incl. a capital guarantee) subsidised by the state with a tax premium. After a minimum investment period of 10 years, the taxpayer may dispose of those entitlements. If the entitlements are, however, paid out, half of the allowed state bonuses must be paid back, together with a retroactive tax of 25% on the capital gains, and the capital guarantee will be lost. If the entitlements are transferred or used for pension payments, no tax will be due. This scheme has been recording strong growth since its launch in 2003. In 2013, a two-tier life-cycle model was implemented where the minimum percentage invested in equities differ between people who are over 50 years of age and those who are below (more flexibility and less stringent investment rules). Due to a reduction of the tax premium in 2012 and some problems with fulfilling the capital guarantee in coincidence with very low capital gains during the last years, there is a slight decrease of new contracts and payment of contributions. At the end of 2016, about 1.37 m contracts have been held by insurance companies and investment businesses. Contributions in 2016 were about 0.9 bn €, and the total of assets increased to 8.4 bn €.

1.2. Reforms of the pension system included in the projections

Austrian pension reforms of 2003 and 2005, together with the long-term harmonisation of the statutory retirement ages of women and men as well as the measures from the budgetary consolidation package of December 2010 were already taken into account in the previous rounds of long-term public pension projections.

Apart from that, the federal government implemented the following measures (inter alia) in

the context of the consolidation package 2012, which were already included in the AR 2015[2]:

- The eligibility criteria for the **corridor pension** were tightened. The penalty for early retirement was increased from 4.2% to 5.1% per year (as of 2017, for persons born after January 1st, 1955). The required insurance years for this corridor pension were gradually raised from 38.5 years in 2014 to 40 years in 2017.

- In 2014, eligibility criteria for the „*Hacklerregelung*" were designed to be more stringent, too. The minimum retirement age for this pension scheme was overall increased by 2 years. For women, the minimum retirement age will be gradually raised to 62 years and the required contribution years to 45 years, representing the same rules as for men. Times in schools or universities will not be counted for contribution years any more. The penalty for early retirement amounts to 4.2% per year (max. 15%) instead of no discounting.

- On January 1st, 2014 comprehensive new regulations for **invalidity and occupational disability pensions** came into effect with the main target to re-integrate people with health problems into the labour market. The temporary invalidity pension was replaced by medical and job-related rehabilitation and was completely abolished for people born after December 31st, 1963. These people will receive special unemployment benefits ("Rehabilitationsgeld") instead. Therefore, the temporary invalidity pension will fade out in the coming years.

- In order to harmonise the different pension schemes of blue and white collar workers, self-employed, farmers and civil servants a **new pension account system** was introduced in 2005. In 2014, pension credits up to the end of the year 2013 were calculated as a single Euro amount (considering credits granted under old and new law regulations) and posted as an initial credit to the pension accounts of all insured persons born after January 1st, 1955. The (revalued) annual partial credits will then be added up to calculate the total credit. As a result, only one formula for calculating individual pension benefits is used (replacement of the system of parallel calculation of old and new law provisions) which is designed in that way that every year of employment automatically and unlimitedly increases future pension. In the annex, you will find an example for an individual pension account.

- The age limit for **activity protection** was increased gradually from 57 years to the target age limit of 60 years in 2017.

- Only continuous **old-age part-time regulations** for employees (until the statutory retirement age) will be supported. Block-time arrangements will only entitle to old-age part-time pension, if a previously unemployed person or an apprentice is hired instead.

A measure that had not been part of the AR 2015 but is now included in the projections is the reduction of pension contributions to keep people in employment beyond the statutory re-

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[2] All these and further measures have been reported in the Austrian National Reform and Stability Programmes since 2012.

tirement age (effective since 2017). If a person works beyond the statutory retirement age and thus postpones retirement, the pension contributions of the employee and employer are reduced to half (up to 3 years). For the later pension calculation, however, the originally contributions are used.

2. Overview of the demographic and labour forces projections

2.1. Demographic development

The population projections 2015 by Eurostat (released on February 27th, 2017) represent the starting point of the common pension projections exercise. According to these, the Austrian population is expected to increase from 8.73 m persons in 2016 to a peak of 10.25 m in 2052, before it starts to decline again to the level of 10.17 m by 2070. The overall size of the Austrian population is projected to be larger by about 1.44 m inhabitants in 2070, but also much older than it is now. According to the projections, the working-age population (aged 15-64 years) will continue to expand modestly from 5.87 m (in 2016) to 6.14 m people until 2045, before commencing to go down to a level of 5.68 m by 2070. Simultaneously, the elderly population (aged 65 years and above) will increase markedly throughout the projection period. The number of elderly (65+ years) will go up by about 91%, rising from 1.62 m (in 2016) to 3.09 m in 2070.

Table 8: Main demographic variables evolution

	2016	2020	2030	2040	2050	2060	2070	Peak year*
Population (thousand)	8,729	9,043	9,703	10,101	10,249	10,228	10,168	2052
Population growth rate	1.1	0.9	0.6	0.3	0.0	0.0	-0.1	2016
Old-age dependency ratio (pop65/pop15-64)	27.6	28.6	36.1	42.3	45.5	51.3	54.4	2070
Ageing of the aged (pop80+/pop65+)	26.7	28.8	29.2	31.6	40.0	37.7	40.9	2070
Men - Life expectancy at birth	79.0	79.8	81.3	82.7	84.0	85.2	86.3	2070
Men - Life expectancy at 65	18.3	18.9	19.9	20.8	21.7	22.6	23.5	2070
Women - Life expectancy at birth	83.8	84.5	85.8	87.0	88.2	89.2	90.2	2070
Women - Life expectancy at 65	21.6	22.1	23.1	24.0	24.9	25.7	26.5	2069
Men - Survivor rate at 65+	86.5	87.6	89.4	90.9	92.2	93.3	94.3	2070
Men - Survivor rate at 80+	58.4	61.0	65.7	70.0	73.9	77.3	80.3	2070
Women - Survivor rate at 65+	92.4	92.9	94.0	94.8	95.6	96.2	96.7	2070
Women - Survivor rate at 80+	74.3	76.1	79.5	82.4	84.9	87.1	89.0	2070
Net migration	73.8	67.8	55.4	40.3	26.3	24.8	20.6	2017
Net migration over population change	0.8	0.9	1.0	1.4	7.3	-5.1	-3.1	2053

Sources: European Commission, EUROSTAT

The old-age dependency ratio (the ratio of persons 65+ years in relation to the age cohort 15-64 years) almost doubles from 27.6% (in 2016) to 54.4% (in 2070) due to the baby-boom generation reaching the retirement age and increasing life expectancy. This entails that Austria would move from having four working-age people for every person aged over 65 years to a ratio of two to one. The population projections 2015 will bring about for Austria the total fertility rate to rise from 1.47 in 2016 to 1.66 by 2070. In turn, life expectancy at birth for males is projected to increase by 7.3 years over the projection period, from 79 years (in 2016) to 86.3 (in 2070). For females, life expectancy at birth is expected to go up by 6.4 years, from 83.8

years (in 2016) to 90.2 years (in 2070). Annual net migration inflows are projected to fall from about 73,800 people in 2016 to 20,600 people by 2070.

Figure 1: Age pyramid comparison (2016 vs. 2070)

Sources: European Commission, EUROSTAT

2.2. Labour forces

The overall participation rate (for the age group 15-64 years) in Austria is anticipated to increase by 2.3 p.p. over the period 2016-2070 (from 76.3% in 2016 to 78.6% in 2070). The projected upward shift in the overall participation rate is mainly due to the increase of participation rates for elderly and women. While the participation rate for men within this age group declines slightly over the projection horizon (from 80.8% in 2016 to 80.1% in 2070), the participation rate for women will be boosted by 5.2 p.p. (from 71.7% in 2016 to 76.9% in 2070). Apparently, due to the enacted pension reforms, the biggest rise in participation rates is projected for older workers (60-64 years): around 26.9 p.p. for females and about 13.1 p.p. for males within the projection horizon. Hence, the overall labour supply (aged 15-64 years) in Austria is projected to drop by 0.37% from 2016 to 2070, whereby the female labour supply increases

by 2.55% and the male labour supply decreases by 2.94% over the projection horizon. According to the common methodology, the assumptions imply an initial unemployment rate of 6.1% in 2016 by Eurostat definition, decreasing to 4.9% until 2026 and staying at this level thereafter. Given the population projection, the unemployment rate assumptions and the labour force projection, the overall employment rate (of people age 15-64 years) in Austria is projected to increase from 71.6% (in 2016) to 74.7% in 2070; with a peak in 2039 (75%). The elderly employment rate (60-64 years) is expected to rise strongly from the relatively low level of around 26.9% (in 2016) to 47.2% in 2070. Women's employment rate (15-64) is expected to rise by about 5.8 p.p. from 67.7% in 2016 to 73.6% in 2070 while the men's employment rate is relatively stable (+0.4% to 75.9% in 2070).

Table 9: Participation rate, employment rate and share of workers for the age groups 55-64 and 65-74

	2016	2020	2030	2040	2050	2060	2070	Peak year*
Labour force participation rate 55-64	51.8	55.1	53.6	61.0	61.7	60.8	61.3	2048
Employment rate for workers aged 55-64	49.2	52.8	51.7	58.9	59.6	58.7	59.2	2048
Share of workers aged 55-64 on the labour force 55-64	95.1	95.7	96.4	96.5	96.5	96.6	96.6	2058
Labour force participation rate 65-74	7.4	9.2	14.2	15.5	18.1	18.2	17.7	2058
Employment rate for workers aged 65-74	7.4	9.2	14.2	15.5	18.1	18.2	17.7	2058
Share of workers aged 65-74 on the labour force 65-74	100.0	100.0	100.0	100.0	100.0	100.0	100.0	2056
Median age of the labour force	40.0	39.0	40.0	41.0	41.0	41.0	41.0	2035

Sources: European Commission, EUROSTAT

Table 10: Labour market effective exit age and expected duration of life spent at retirement - men

	2017	2020	2030	2040	2050	2060	2070	Peak year
Average effective exit age (CSM) (II)	64.0	64.0	64.2	64.2	64.2	64.2	64.2	2036
Contributory period	:	:	:	:	:	:	:	:
Duration of retirement	19.3	19.6	20.7	21.6	22.6	23.5	24.3	2069
Duration of retirement/contributory	:	:	:	:	:	:	:	:
Percentage of adult life spent at retirement	29.6	29.9	30.9	31.8	32.8	33.7	34.4	2069
Early/late exit	3.0	3.1	1.2	1.1	1.3	1.1	1.3	2019

Sources: European Commission, EUROSTAT

Table 11: Labour market effective exit age and expected duration of life spent at retirement - women

	2017	2020	2030	2040	2050	2060	2070	Peak year
Average effective exit age (CSM) (II)	62.0	61.2	61.4	63.2	63.2	63.2	63.2	2034
Contributory period	:	:	:	:	:	:	:	:
Duration of retirement	24.4	25.6	26.6	25.8	26.7	27.6	28.4	2070
Duration of retirement/contributory	:	:	:	:	:	:	:	:
Percentage of adult life spent at retirement	35.7	37.2	38.0	36.4	37.2	37.9	38.6	2024
Early/late exit	0.8	0.7	3.2	2.2	1.7	1.4	1.6	2032

Sources: European Commission, EUROSTAT

3. Pension projection results

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

The projection results comprise public gross pension expenditures (1st pillar) for:

- Private employees, public employees with private contracts, self-employed and farmers ("*Gesetzliche Pensionsversicherung*") and for
- Civil servants ("*Beamte*") from the federal, state and municipal levels as well as other public entities (such as the Austrian Federal Railways and the Austrian Post).

Thus, the projections delivered differentiate within the 1st pension pillar between the private and the public sector scheme, respectively. The projections do not include the 2nd pillar (occupational old age provisions) and 3rd pillar (private pension provisions) as these provisions are difficult to project and currently make up for only a relatively small proportion of an individual's overall pension income on average.

Comparing Eurostat (ESSPROS) with AWG public pension expenditure (see table below) the main difference arose from public expenditures spent by institutions other than the pension insurance (for example for injured person's pensions paid by the accident insurance) which are included in the Eurostat data but not in the AWG ones. The difference between Eurostat total pension expenditures and Eurostat public pension expenditures lies in the incorporation of occupational old-age provisions in the former one.

Table 12: Eurostat (ESSPROS) vs. Ageing Working Group definition of pension expenditure (% of GDP)

	2007	2008	2009	2010	2011	2012	2013	2014
1 Eurostat total pension expenditures	13.4	13.6	14.5	14.6	14.3	14.5	14.8	14.9
2 Eurostat public pension expenditures	12.8	12.9	13.8	13.9	13.7	13.9	14.1	14.2
3 Public pension expenditures (AWG)	12.4	12.4	13.2	13.3	13.2	13.4	13.6	13.7
4 Difference (2) - (3)	0.4	0.5	0.6	0.6	0.4	0.5	0.5	0.6
5 Expenditure categories not considered in the AWG definition, please specify:	:	:	:	:	:	:	:	:
5.1 …	:	:	:	:	:	:	:	:
5.2 …	:	:	:	:	:	:	:	:
5.3 …	:	:	:	:	:	:	:	:

Sources: BMASK, European Commission, STAT

3.2. Overview of projection results

Total pension expenditures in Austria (incl. equalising allowance ("*Ausgleichszulage*") and "*Rehabilitationsgeld*") are projected to rise from 13.8% of GDP in the year 2016 to a high of 15% in 2036. Thereafter, total public pension expenditures will decline to the level of 14.3% of

GDP until 2070 reflecting both, the effects of ageing populations and the implemented reforms.

Table 13: Austrian pension projections - baseline (in % of GDP)

	2016	2020	2030	2040	2050	2060	2070
Public pension expenditures (according to projections)	13.4	13.5	14.1	14.5	14.2	14.3	13.9
Equalising allowance (not included in the projections)	0.3	0.3	0.3	0.3	0.3	0.3	0.3
"Rehabilitationsgeld" (not included in the projections)	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total pension expenditures	13.8	13.9	14.4	14.9	14.6	14.7	14.3
Pension-related other expenditures not being directly linked to pension benefits							
Other (not included in the projections)[1]	1.1	1.2	1.3	1.3	1.3	1.4	1.4

[1] Health care and rehabilitation, health insurance, administrative costs and other expenses

Sources: BMASK, BMF, European Commission, STAT

While private sector gross pension expenditures (excl. equalising allowance and "Rehabilitationsgeld") will increase by 3.2 p.p. to 13.3% of GDP in 2070, a sharp decline for the public sector (excl. equalising allowance and "Rehabilitationsgeld") is projected (-2.7 p.p. to 0.6% in 2070). Reasons for the decline are twofold. Firstly, previous pension reforms will lead to a strong cutback of the average pension entitlements of civil servants and secondly, the number of civil servants' pensions will decrease, which is partly due to a marked reduction of the public workforce, but more importantly through the substitution of civil servants by public employees with private sector contracts.

Spending for disability pensions will decrease from 1.1% in 2016, which is also the peak year to 0.7% in 2070 which is mainly due to the reform of invalidity and occupational disability pensions. Survivor pensions expenditures will decrease continuously from 1.9% in 2016 (peak year) to 0.8% in 2070.

Public pension's contributions are projected to increase somewhat from 9.4% of GDP in the year 2016 to 9.6% in 2070 (2026 as the peak year: 9.8%).

Table 14: Projected gross and net pension spending and contributions (% of GDP)

Expenditures	2016	2020	2030	2040	2050	2060	2070	Peak year
Public pension expenditures (according to projections)	13.4	13.5	14.1	14.5	14.2	14.3	13.9	2036
Private occupational pensions	:	:	:	:	:	:	:	:
Private individual pensions	:	:	:	:	:	:	:	:
Mandatory private	:	:	:	:	:	:	:	:
Non-mandatory private	:	:	:	:	:	:	:	:
Equalising allowance (not included in the projections)	0.3	0.3	0.3	0.3	0.3	0.3	0.3	:
"Rehabilitationsgeld" (not included in the projections)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	:
Total pension expenditures	13.8	13.9	14.4	14.9	14.6	14.7	14.3	2036
Net public pension expenditures	:	:	:	:	:	:	:	:
Net total pension expenditures	:	:	:	:	:	:	:	:
Contributions	2016	2020	2030	2040	2050	2060	2070	Peak year
Public pension contributions	9.4	9.7	9.8	9.7	9.6	9.6	9.6	2026
Total pension contributions	9.4	9.7	9.8	9.7	9.6	9.6	9.6	2026

Sources: BMASK, BMF, European Commission, STAT

Table 15: Projected gross public pension spending by scheme (% of GDP)

Pension scheme	2016	2020	2030	2040	2050	2060	2070	Peak year
Public pension expenditures (according to projections)	13.4	13.5	14.1	14.5	14.2	14.3	13.9	2036
of which								
Old age and early pensions:	10.5	10.9	11.8	12.4	12.4	12.6	12.4	2059
Flat component	:	:	:	:	:	:	:	:
Earnings related	10.5	10.9	11.8	12.4	12.4	12.6	12.4	2059
Minimum pensions (non-contributory) i.e. minimum	:	:	:	:	:	:	:	:
Disability pensions	1.1	0.8	0.7	0.7	0.6	0.7	0.7	2016
Survivor pensions	1.9	1.8	1.6	1.4	1.2	1.0	0.8	2016
Equalising allowance (not included in the projections)	0.3	0.3	0.3	0.3	0.3	0.3	0.3	:
"Rehabilitationsgeld" (not included in the projections)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	:
Total pension expenditures	13.8	13.9	14.4	14.9	14.6	14.7	14.3	2036

Sources: BMASK, BMF, European Commission, STAT

3.3. Description of main driving forces behind the projection results

In order to describe and analyse the main driving forces behind the projection results, a standard arithmetic decomposition of the ratio of pension expenditures to GDP is used. Pension expenditure dynamics are decomposed into the dependency-, coverage- and benefit ratio and the labour market/labour intensity.

Figure 2: Main driving forces behind the projection results

$$\frac{\text{Pension Exp}}{\text{GDP}} = \overbrace{\frac{\text{Population } 65+}{\text{Population } 20-64}}^{\text{Dependency Ratio}} \times \overbrace{\frac{\text{Number of Pensioners (Pensions)}}{\text{Population } 65+}}^{\text{Coverage Ratio}}$$

$$\times \overbrace{\frac{\dfrac{\text{Average income from pensions (Average Pension)}}{\text{GDP}}}{\text{Hours Worked } 20-74}}^{\text{Benefit Ratio}} \times \overbrace{\frac{\text{Population } 20-64}{\text{Hours Worked } 20-74}}^{\text{Labour Market / Labour Intensity}}$$

Source: European Commission

For the 2015 projection round some methodological refinements were implemented:

1. The coverage ratio was further split into the *coverage ratio old-age*, the *coverage ratio early-age* and the *cohort effect*.

Figure 3: Decomposition of the coverage ratio

$$\overbrace{\frac{\text{Number of Pensioners}}{\text{Population }65+}}^{\text{Coverage Ratio}} =$$

$$= \overbrace{\frac{\text{Number of Pensioners }65+}{\text{Population }65+}}^{\text{Coverage Ratio Old-Age}} + \left(\overbrace{\frac{\text{Number of Pensioners} \leq 65}{\text{Population }50-64}}^{\text{Coverage Ratio Early-Age}} \times \overbrace{\frac{\text{Population }50-64}{\text{Population }65+}}^{\text{Cohort effect}} \right)$$

Source: European Commission

2. The labour market indicator was decomposed into the *employment rate*, the *labour intensity* and the *career prolongation effect*.

Figure 4: Decomposition of the labour market / labour intensity

$$\overbrace{\frac{\text{Population }20-64}{\text{Hours Worked }20-74}}^{\text{Labour Market / Labour Intensity}} =$$

$$\overbrace{\frac{\text{Population }20-64}{\text{Working People }20-64}}^{1/\text{Employment Rate}} \times \overbrace{\frac{\text{Working People }20-64}{\text{Hours Worked }20-64}}^{1/\text{Labour intensity}} \times \overbrace{\frac{\text{Hours Worked }20-64}{\text{Hours Worked }20-74}}^{1/\text{Career shift}}$$

Source: European Commission

Table 16: Factors behind the change in public pension expenditures between 2016 and 2070 using pension data (in percentage points of GDP) - pensions

	2016-20	2020-30	2030-40	2040-50	2050-60	2060-70	2016-70	Average annual change
Public pensions to GDP (according to projections)	0.1	0.5	0.4	-0.3	0.1	-0.4	0.5	0.009
Dependency ratio effect	0.4	3.4	2.5	1.0	1.8	0.9	10.1	18.1%
Coverage ratio effect	-0.2	-1.5	-0.6	-0.4	-0.8	-0.5	-3.9	-7.4%
*Coverage ratio old-age**	0.3	-0.2	0.0	-0.4	-0.8	-0.4	-1.6	-3.0%
*Coverage ratio early-age**	-1.7	-3.3	-2.8	-0.3	2.1	0.3	-5.8	-11.6%
*Cohort effect**	0.3	-3.6	-2.0	0.0	-2.3	-1.1	-8.7	-17.1%
Benefit ratio effect	0.0	-0.8	-0.9	-1.0	-0.6	-0.8	-4.0	-7.5%
Labour Market/Labour intensity effect	-0.2	-0.4	-0.4	0.1	-0.2	0.0	-1.1	-2.1%
Employment ratio effect	-0.2	-0.1	-0.4	0.1	0.0	-0.1	-0.7	-1.3%
Labour intensity effect	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1%
Career shift effect	0.0	-0.3	0.0	-0.1	-0.1	0.1	-0.5	-0.9%
Residual	0.0	-0.3	-0.1	0.0	-0.1	0.0	-0.5	-0.2%

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

Sources: BMASK, BMF, European Commission, STAT

Table 17: Factors behind the change in public pension expenditures between 2016 and 2070 using pensioners data (in percentage points of GDP) - pensioners

	2016-20	2020-30	2030-40	2040-50	2050-60	2060-70	2016-70	Average annual change
Public pensions to GDP (according to projections)	0.1	0.5	0.4	-0.3	0.1	-0.4	0.5	0.009
Dependency ratio effect	0.4	3.4	2.5	1.0	1.8	0.9	10.1	18.1%
Coverage ratio effect	-0.1	-1.4	-0.5	-0.3	-0.7	-0.4	-3.3	-6.2%
*Coverage ratio old-age**	:	:	:	:	:	:	:	:
*Coverage ratio early-age**	:	:	:	:	:	:	:	:
*Cohort effect**	0.3	-3.6	-2.0	0.0	-2.3	-1.1	-8.7	-17.1%
Benefit ratio effect	0.0	-0.9	-1.0	-1.1	-0.7	-0.9	-4.6	-8.7%
Labour Market/Labour intensity effect	-0.2	-0.4	-0.4	0.1	-0.2	0.0	-1.1	-2.1%
Employment ratio effect	-0.2	-0.1	-0.4	0.1	0.0	-0.1	-0.7	-1.3%
Labour intensity effect	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1%
Career shift effect	0.0	-0.3	0.0	-0.1	-0.1	0.1	-0.5	-0.9%
Residual	0.0	-0.3	-0.1	0.0	-0.1	0.0	-0.5	-0.2%

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

Sources: BMASK, BMF, European Commission, STAT

Table 16 (basing on the number of pensions and not pensioners) shows the driving forces of the projections. The dynamic of the expenditure evolution up to 2070 is mainly driven by the increase in the dependency ratio. However, this effect is mitigated by all the other factors (coverage ratio, benefit ratio and labour market/labour intensity effect).

The **dependency ratio effect** reflects the evolution of the ratio of old-aged people to working-age people. While this ratio amounts to 0.28 in 2016, it is expected to almost double to 0.54 until 2070. If no other effect would offset these adverse dynamics, pure ageing would boost public pension spending by 10.1 p.p. of GDP in 2070.

The reduction of the **coverage ratio** goes back predominantly to the enacted legal changes assuming a marked increase of exit ages from the labour market in the coming decades. After some reforms stepping in during the subsequent years (e.g. phasing out of old law early pension opportunities), the harmonisation of the statutory retirement age of women from 60 to 65 years between 2024 and 2033 is expected to have the largest impact on exit ages. The declining number of pensions in relation to elderly people is also linked to the reduction of the relative share of survivor pensions (21.7% of all pensions in 2016, 16.1% in 2070). This results from emerging changes in family structures, converging life expectancies of women and men and fading out of pensions for World War II victims or veterans.

The **replacement rate** (of old-age earnings-related and disability pensions) goes down from 44.4% in 2016 to 42.5% in 2070. Apart from the gradual substitution of the more generous old regulations by the new law the dampening effects also stem from an increasing share of cross-country pensions with pension entitlements being on average smaller and more women working part-time. Consequently, lower relative first pensions feed through ultimately to the pension stock, with the respective dampening effects on benefit ratios.

The **benefit ratio** (of old-age earnings-related and disability pensions) falls over the whole projection period from initially 53.9% to 42.2% in 2070.

Table 18: Replacement rate at retirement (RR), benefit ratio (BR) and coverage by pension scheme (in %)

	2016	2020	2030	2040	2050	2060	2070
Public scheme (BR)	50%	51%	48%	46%	43%	41%	39%
Public scheme (RR)	:	:	:	:	:	:	:
Coverage	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Public scheme old-age earnings related (BR)	54%	54%	52%	50%	47%	45%	42%
Public scheme old-age earnings related (RR)	44%	43%	52%	48%	46%	44%	42%
Coverage	79.0	81.1	82.7	83.3	83.4	84.2	84.4
Private occupational scheme (BR)	:	:	:	:	:	:	:
Private occupational scheme (RR)	:	:	:	:	:	:	:
Coverage	:	:	:	:	:	:	:
Private individual scheme (BR)	:	:	:	:	:	:	:
Private individual scheme (RR)	:	:	:	:	:	:	:
Coverage	:	:	:	:	:	:	:
Total (BR)	:	:	:	:	:	:	:
Total (RR)	:	:	:	:	:	:	:

Sources: BMASK, BMF, European Commission, STAT

Labour market developments also help to counteract demographically induced spending, though they play a lower role.

Table 19: System dependency ratio and old-age dependency ratio

	2016	2020	2030	2040	2050	2060	2070
Number of pensioners (thousand) (I)	2373.3	2507.3	2884.0	3269.9	3433.8	3530.4	3560.9
Employment (thousand) (II)	4263.0	4458.1	4621.9	4763.2	4743.8	4584.1	4453.9
Pension System Dependency Ratio (SDR) (I)/(II)	55.7	56.2	62.4	68.6	72.4	77.0	80.0
Number of people aged 65+ (thousand) (III)	1617.1	1721.8	2194.6	2579.9	2770.2	2988.0	3090.0
Working age population 15 - 64 (thousand) (IV)	5866.3	6024.0	6076.9	6100.7	6084.2	5825.7	5675.1
Old-age Dependency Ratio (ODR) (III)/(IV)	27.6	28.6	36.1	42.3	45.5	51.3	54.4
System efficiency (SDR/ODR)	2.0	2.0	1.7	1.6	1.6	1.5	1.5

Sources: BMASK, BMF, European Commission, STAT

In 2016, the number of pensioners amounted to 2,373.262 of whom 12.3% received more than one pension. The overwhelming majority of the mostly female "multi-pensioners" receive in most cases an old-age or in a lesser number of cases an invalidity pension in combination with a survivors' pension. The tables 20 and 21 show the number of pensions to inactive population ratio by age group (%) and to total population ratio by age group (%) respectively. As the Austrian national pension projection model is based on the number of pensions and not on the number of pensioners due to the high number of pensioners receiving more than one pension base year figures for the age groups 60+ can be above 100.

Uncertainty surrounding the size of the decline in the number of pensioners (and by extension the coverage ratio) in the last two decades of the projections poses upside risks to pensions spending.

Table 20: Pensions (public scheme) to inactive population ratio by age group (%)

	2016	2020	2030	2040	2050	2060	2070
Age group -54	5.3	4.8	4.1	3.9	4.0	4.0	3.8
Age group 55-59	70.0	43.1	38.1	36.5	34.7	43.8	46.2
Age group 60-64	115.0	119.4	69.0	72.6	69.4	75.0	81.1
Age group 65-69	122.4	135.0	128.2	137.5	126.8	122.6	128.6
Age group 70-74	120.8	125.9	128.3	125.9	121.9	116.4	113.8
Age group 75+	133.4	132.0	138.3	134.2	132.1	124.5	115.8

Sources: BMASK, BMF, European Commission, STAT

Table 21: Pensions (public scheme) to total population ratio by age group (%)

	2016	2020	2030	2040	2050	2060	2070
Age group -54	1.9	1.7	1.5	1.4	1.4	1.4	1.4
Age group 55-59	20.3	13.6	11.0	9.8	8.9	11.3	11.9
Age group 60-64	82.9	72.5	42.9	38.4	35.9	39.0	42.0
Age group 65-69	111.8	116.8	105.8	106.3	96.5	93.0	97.5
Age group 70-74	113.6	120.3	115.3	114.9	108.0	102.8	100.9
Age group 75+	133.4	132.0	138.3	134.2	132.1	124.5	115.8

Sources: BMASK, BMF, European Commission, STAT

Table 22 shows the evolution of new public pension expenditure from 2016 up to 2070, table 23 for the private and table 24 for the public sector. In the private sector the average contributory period is assumed to rise by 1.1 years until 2070 whereas in the public sector an increase of 3.9 years is expected. The weighted average accrual rates are supposed to evolve from 1.3% to 1.2% by 2070. The decreasing path is due to the substitution of the more generous old law provisions by the new law.

Table 22: Projected and disaggregated new public pension expenditures (old-age and early earnings-related pensions)

New pension	2016	2020	2030	2040	2050	2060	2070
I Projected new pension expenditures (V*VI*VII+VIII) - mln EUR	1655	1721	3488	4188	6212	8498	10617
II. Average contributory period	35.3	35.6	35.8	36.1	36.2	36.3	36.2
III. Monthly average pensionable earnings - EUR	2686	2908	3955	5512	7782	11020	15618
IV. Average accrual rates - %	1.3	1.2	1.5	1.3	1.3	1.2	1.2
V. Average monthly new pension (II*III*IV) - EUR	1191	1242	2063	2673	3558	4850	6632
VI. Number of new pensions - '000	96.9	96.8	120.5	113.0	125.0	125.1	114.6
VII Average number of months paid the first year	14.0	14.0	14.0	14.0	14.0	14.0	14.0
VIII. Residual (I-V*VI*VII)	38.6	38.7	7.9	-41.5	-14.4	3.1	-28.0
Monthly average pensionable earnings / Monthly economy-wide average wage	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Sources: BMASK, BMF, European Commission, STAT

Table 23: Disaggregated new public pension expenditures (old-age and early earnings-related pensions) – private sector employees

New pension	2016	2020	2030	2040	2050	2060	2070
I Projected new pension expenditures (V*VI*VII+VIII) - mln EUR	1417	1493	3253	4086	5960	8095	10282
II. Average contributory period	34.9	35.2	35.5	36.0	36.0	36.0	36.0
III. Monthly average pensionable earnings - EUR	2599	2822	3865	5411	7669	10895	15480
IV. Average accrual rates - %	1.3	1.2	1.5	1.3	1.3	1.2	1.2
V. Average monthly new pension (II*III*IV) - EUR	1135	1190	2006	2623	3502	4773	6550
VI. Number of new pensions - '000	89.1	89.6	115.8	111.3	121.6	121.1	112.1
VII Average number of months paid the first year	14.0	14.0	14.0	14.0	14.0	14.0	14.0
VIII. Residual (I-V*VI*VII)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Monthly average pensionable earnings / Monthly economy-wide average wage	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Sources: BMASK, BMF, European Commission, STAT

Table 24: Disaggregated new public pension expenditures (old-age and early earnings-related pensions) – public sector employees

New pension	2016	2020	2030	2040	2050	2060	2070
I Projected new pension expenditures (V*VI*VII+VIII) - mln EUR	238	229	235	102	253	404	336
II. Average contributory period	39.6	40.5	43.1	43.0	42.9	43.7	43.5
III. Monthly average pensionable earnings - EUR	4206	4601	6133	8272	10978	14467	19308
IV. Average accrual rates - %	1.3	1.2	1.4	1.2	1.1	1.1	1.1
V. Average monthly new pension (II*III*IV) - EUR	2194	2282	3613	4142	5270	7237	9525
VI. Number of new pensions - '000	7.8	7.2	4.6	1.8	3.4	4.0	2.5
VII Average number of months paid the first year	14.0	14.0	14.0	14.0	14.0	14.0	14.0
VIII. Residual (I-V*VI*VII)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Monthly average pensionable earnings / Monthly economy-wide average wage	1.6	1.6	1.6	1.5	1.4	1.3	1.2

Sources: BMASK, BMF, European Commission, STAT

Table 25: Revenue from contribution (millions), number of contributors in the public scheme (in 1000), total employment (in 1000) and related ratios (%)

	2016	2020	2030	2040	2050	2060	2070
Public contribution	32819.7	38574.2	55997.6	80149.1	112724.1	154192.3	211787.3
Employer contribution	:	:	:	:	:	:	:
Employee contribution	:	:	:	:	:	:	:
State contribution	:	:	:	:	:	:	:
Other revenues	:	:	:	:	:	:	:
Number of contributors (I)	3945.2	4118.9	4290.3	4422.2	4429.6	4274.7	4139.9
Employment (II)	4263.0	4458.1	4621.9	4763.2	4743.8	4584.1	4453.9
Ratio of (I)/(II)	0.9	0.9	0.9	0.9	0.9	0.9	0.9

Sources: BMASK, BMF, European Commission, STAT

3.4. Sensitivity analysis

Given the uncertainty surrounding the assumptions of long-run projections, it is necessary to carry out a number of sensitivity tests so as to quantify the responsiveness of projection results to changes in key underlying assumptions.

As already shown before, pension spending is projected to increase from 13.4% of GDP in 2016 to 13.9% of GDP in 2070 in the baseline scenario (excl. equalising allowance and "Rehabilitationsgeld").

Given the underlying common framework the following eleven sensitivity tests additionally to the baseline scenario were carried out. These tests deliver following concrete results (see table 26):

- **Higher life expectancy:** A scenario with an increase of life expectancy at birth of about two years by 2070 compared with the baseline projection.

Projection results: Compared to the baseline scenario the assumption of higher life expectancy will raise expenditure in 2070 by 0.7 p.p. of GDP. The increase develops gradually in line with the higher longevity. Higher life expectancies leaves average pensions unchanged, but increases the years spent in retirement and, hence, the number of pensions.

- **Lower/higher migration:** A scenario with 33% less/more migration compared with the baseline projection.

Projection results: If migration is 33% lower/higher than in the baseline, pension spending to GDP will increase/decrease. This result draws heavily on the migrant population to become, to a large extent, part of the working age population until 2070, therefore only a small fraction adds to the retirees. Hence, lower migration decreases employment and output, whereas pension spending falls only marginally (i.e. therefore the "denominator effect" dominates the "numerator effect") and vice versa.

- **Lower fertility:** A scenario with 20% lower fertility gradually by 2070 compared with the baseline projection.

Projection results: The lower fertility will raise expenditure by 1.2 p.p. in 2070. The lower fertility scenario is mostly relevant for the contribution side of the projection (it has a very small effect on disability and survivors pensions due to the demographic structure). It causes less income for the pension system due to the missing contributions from (predominantly young and according to the economic model, equally qualified) migrants. However, because of the lower GDP the overall rise in expenditure is mainly caused by a denominator effect.

- **Lower/higher employment rate:** A scenario with the employment rate being 2 p.p. lower/higher compared with the baseline projection for the age-group 20-64. The decrease/increase is introduced linearly over the period 2018-2030 and remains 2 p.p. higher thereafter. The higher employment rate is assumed to be achieved by lowering the rate of structural unemployment (the NAWRU).

Projection results: A rise in the employment rate compared to the baseline scenario is projected to cause a reduction of pension expenditures. Considering annual average real GDP and pension spending growth rates the overall dampening effect stems mainly from the denominator effect (enhanced GDP growth) and only to a minor part to the numerator effect (pension spending). The denominator effect comes from higher employment raising (potential) output. The numerator effect is due to the reduction in the number of pensions, though being partly compensated by higher pension entitlements. A lower employment rate has the opposite effect leading to an increase of pension expenditures.

- **Higher employment rate of older workers:** A scenario with the employment rate of older workers (55-74) being 10 p.p. higher compared with the baseline projection. The increase is introduced linearly over the period 2018-2030 and remains 10 p.p. higher thereafter. The higher employment rate of this group of workers is assumed to be achieved through a reduction of the inactive population.

Projection results: An increase of the employment rate of the elderly (55-74 years) in relation to the baseline scenario will result in lower pension expenditures by 0.7 p.p. in 2070.

- **Lower/higher total factor productivity (TFP) growth:** A scenario where TFP growth is assumed to converge by 2045 to a growth rate which is 0.4 p.p. lower/higher than in the baseline scenario (0.6% and 1.4% respectively in the two alternative scenarios). The increase is introduced linearly during the period 2026-2045.

Projection results: Productivity changes have two effects in the projection outcome (higher/lower pensions and higher/lower contributions) which interact which each other (with a time lag). Higher Productivity means higher wages and therefore higher contributions (with a ceiling). This leads (with a serious time lag) to higher pensions (even beyond the forecast horizon). The same is true for the lower variety.

- **Lower TFP growth (risk scenario):** A scenario where TFP growth is assumed to converge to 0.8% (the target rate) in 2045.

Projection results: For the workings of TFP changes see lower/higher total factor productivity (TFP) growth.

- **Policy-change scenario**: This scenario considers the adoption of an automatic mechanism. Retirement ages are shifted year-over-year in line with change in life expectancy at current retirement ages.

Projection results: This policy-change assumption leads to a reduction of pension expenditures by 2.3 p.p. at the end of the projection period. Considering annual average real GDP and pension spending growth rates, about 1/3 stems from the denominator effect (enhanced GDP growth) whereas 2/3 are due to the numerator effect (decreased pension spending). The denominator effect comes from higher employment raising output, whereas the numerator effect is mainly due to the reduction in the number of pensions.

Table 26: Public and total pension expenditures under different scenarios (p.p. deviation from the baseline)

	2016	2020	2030	2040	2050	2060	2070
Public pension expenditures (according to projections)							
Baseline	13.4	13.5	14.1	14.5	14.2	14.3	13.9
Higher life expectancy (2 extra years)	0.0	0.0	0.1	0.2	0.4	0.5	0.7
Higher Total Factor Productivity Growth (+0.4 pp.)	0.0	0.0	0.0	-0.1	-0.5	-0.5	-0.3
Lower Total Factor Productivity Growth (-0.4 pp.)	0.0	0.0	0.0	0.2	0.5	0.6	0.4
Higher emp. rate (+2 pp.)	0.0	-0.1	-0.6	-0.9	-1.0	-0.8	-0.4
Lower emp. rate (-2 pp.)	0.0	0.1	0.6	0.9	1.0	0.8	0.3
Higher emp. of older workers (+10 pp.)	0.0	-0.1	-1.0	-1.6	-1.7	-1.4	-0.7
Higher migration (+33%)	0.0	-0.2	-0.6	-0.9	-1.1	-1.2	-1.3
Lower migration (-33%)	0.0	0.2	0.7	1.0	1.2	1.2	1.0
Lower fertility	0.0	0.0	0.0	0.3	0.8	1.2	1.2
Risk scenario	0.0	0.1	0.4	0.8	0.8	0.7	0.3
Policy scenario: linking retirement age to increases in life expectancy	0.0	0.0	-0.4	-0.5	-0.9	-1.8	-2.3
Total pension expenditures							
Baseline	13.8	13.9	14.4	14.9	14.6	14.7	14.3
Higher life expectancy (2 extra years)	0.0	0.0	0.1	0.2	0.4	0.6	0.7
Higher Total Factor Productivity Growth (+0.4 pp.)	0.0	0.0	0.0	-0.1	-0.5	-0.5	-0.3
Lower Total Factor Productivity Growth (-0.4 pp.)	0.0	0.0	0.0	0.2	0.5	0.6	0.4
Higher emp. rate (+2 pp.)	0.0	-0.1	-0.6	-0.9	-1.0	-0.8	-0.4
Lower emp. rate (-2 pp.)	0.0	0.1	0.6	1.0	1.0	0.8	0.3
Higher emp. of older workers (+10 pp.)	0.0	-0.1	-1.1	-1.7	-1.8	-1.5	-0.7
Higher migration (+33%)	0.0	-0.2	-0.6	-1.0	-1.2	-1.2	-1.3
Lower migration (-33%)	0.0	0.2	0.7	1.1	1.2	1.2	1.1
Lower fertility	0.0	0.0	0.0	0.3	0.8	1.2	1.3
Risk scenario	0.0	0.1	0.4	0.8	0.9	0.7	0.3
Policy scenario: linking retirement age to increases in life expectancy	0.0	0.0	-0.4	-0.5	-1.0	-1.8	-2.4

Sources: BMASK, BMF, European Commission, STAT

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

Table 27 presents the effects of the different underlying factors on total pensions spending across the current and previous projection exercises.

Table 27: Overall change in public pension expenditures to GDP under the 2006, 2009, 2012 and 2015 projection exercises

	Public pensions to GDP	Dependency ratio	Coverage ratio	Employment effect	Benefit ratio	Labour intensity	Residual (incl. Interaction effect)
2006 *	-0.99	11.26	-5.76	-1.33	-4.34	:	-0.82
2009 **	0.86	9.93	-2.62	-0.51	-4.95	:	-0.99
2012 ***	1.98	10.98	-2.91	-0.56	-4.52	0.07	-1.07
2015****	0.32	9.40	-4.12	-0.54	-3.38	0.03	-1.07
2018*****	0.50	10.08	-3.92	-0.68	-4.01	0.05	-1.02

* 2004-2050; ** 2007-2060; *** 2010-2060; **** 2013-2060; *****2016-2070

Sources: BMASK, BMF, European Commission, STAT

Table 28 delivers the decomposition of the difference between 2015 and the new public pension projections in % of GDP. The differences between these two rounds of projections are due to changes in assumptions (demographic and macroeconomic assumptions) but also on improvements in modelling. A serious assessment of the effects is not possible.

Table 28: Decomposition of the difference between 2015 and the new public pension projection (% of GDP)

	2016	2020	2030	2040	2050	2060	2070
Ageing report 2015 [1]	13.9	13.9	14.4	14.7	14.6	14.4	:
Change in assumptions	:	:	:	:	:	:	:
Improvement in the coverage or in the modelling	:	:	:	:	:	:	:
Change in the interpretation of constant policy	:	:	:	:	:	:	:
Policy related changes	:	:	:	:	:	:	:
New projection [1]	13.8	13.9	14.4	14.9	14.6	14.7	14.3

[1] incl. equalising allowance and "Rehabilitationsgeld"

Sources: BMASK, BMF, European Commission, STAT

4. Description of the pension projection model and its base data

4.1. Institutional context in which those projections are made

Traditionally, medium-term pension projections, covering at least five future years, are contained in the yearly report submitted by the Austrian Pension Commission (APC) to the federal government in preparation of annual pension adjustments. This consultative body represents the main forum for periodic policy discussions. It is composed of experts, academics, government and social partner representatives.

Initially, these medium-term projections, which are limited to the private social insurance schemes ("*Gesetzliche Sozialversicherung*"), have been the central policy instrument for assessing pension developments. However, the tendency towards a more frequent use of quantitative analyses and external advice was intensified during past reform efforts. As a result, long-term pension projections based on demographics by Statistics Austria were presented as a complementary tool to clarify the need for adjustment and to assess the impacts of the major past reform efforts initiated by the federal government. This has proven to be a very helpful and transparent instrument. This is why, with the aim to have long-term pension projections constantly available and to ensure long-term financial sustainability of the Austrian pension system, the federal government set up a permanent monitoring mechanism as of 2007.

The APC reviews financial developments in the pension system every three years and in particular with regard to the sustainability factor newly established in 2005. This sustainability factor does not operate automatically. The analysis of the financial sustainability of the Austrian pension system by the APC is based on recent demographic projections of Statistics Austria, in particular projections of life expectancy at the age of 65. If life expectancy exceeds the reference value as defined in the law by more than 3% the committee is obliged to put forward respective proposals to offset potentially higher pension expenditures (e.g. through changes in the contribution rate, retirement age, benefit adjustment). The APC concluded work on the sustainability factor the first time in April 2011 with a set of recommendations to the federal government. The APC will now put its emphasis on the monitoring of the implementation of measures to increasing actually the effective retirement age during the next decade. In 2016 there was a reform of the ACP concerning the composition of members as well as the scope. On the one hand the number of voting members was drastically reduced (with the inclusion of non-voting experts) and on the other hand the civil service sector was included which will have a separate middle and long term projection (but based on the same assumptions).

4.2. Assumptions and methodologies applied

The Austrian pension projections within the given EU framework are based on two autonomous models, covering the private social insurance sector and the civil service schemes, respectively. They include all benefits and contributions to old-age, early retirement, disability and survivor schemes. The pension projections, therefore, include all public pension expenditure. The pension projections contain the effects of all existing major pension reforms.

Both models consist of partial equilibrium models and comprise deterministic elements only. In order to achieve consistency in the results, the two basic models for the private social insurance and the civil service sectors are consolidated, both as to macroeconomic developments and to expected shifts of contributors from one to the other category of schemes. For instance, the developments in civil service sector employment are captured by the private social insurance sector model; vice versa the macro scenario of the private social insurance sector schemes forms an important input into the civil service projections. Hence, though the two models are autonomous, they have been made fully consistent with regard to employment and wage developments.

The **private social insurance sector model**, accounting for nearly three quarters of total public pension expenditure is central to simulate the financial effects of population ageing. It covers all relevant social insurance schemes, for blue and white collar employees (ASVG) incl. public employees with private contracts ("*Vertragsbedienstete*"), self-employed and farmers, among others. The model is composed of two major blocs that are intimately linked together. The macro part is made up of ten modules, reflecting economic, labour market, public finance and pension insurance developments. In effect, most single parameters are endogenously determined with the exception of participation and inflation rates, which fit in as exogenous inputs. The pension-specific micro part relies on inputs from the macro side on employment and on the payroll, from demographics and from age-related time series describing past pension contributions and benefits. These micro modules are designed so as to incorporate already enacted reforms with their effects in the near and distant future (based on the financial estimates made during the establishment of the reforms) and to simulate reform options. The basis of the micro modules is a large sample of new pensioners (in the base year) including their whole working career which is then modified (according to enacted reforms e.g. raised retirement age) and projected into the future. These pension modules permit to calculate the bulk of already existing pensions, the number of new pensions and of exits, average pension benefits and as well as aggregate figures in a given (future) year. On the other hand, pension contribution rates and the level of the social insurance pension deficit covered by the federal budget feed back into the macro modules.

Secondly, the **civil service model** covers the pension projections of the civil servants, taking into proper consideration the fact that these pension benefits are fully financed out of the

federal, Länder and the various communal budgets. The federal sector clearly dominates by size. In this vein, the federal segment comprises all pension and survivors' benefit payments to civil service retirees of the federal government, the postal, telecom and railway services and specific groups of regional governments, such as primary and secondary school teachers. However, the model also takes account of all vital developments at the other government levels.

Ongoing structural reforms in the civil service sector aim at enhanced application of private-sector-based labour contracts for employees in the public sector ("Vertragsbedienstete"). As a consequence the number of civil servants is decreasing from 214,000 in 2016 to around 150,000 by 2060 remaining constant thereafter. This decline, however, will be compensated by public employees with private-sector-based labour contracts (then included in the private social insurance sector model) keeping the number of public employees almost unchanged.

As a general trend, civil service developments are assumed to be much more exposed to the present age-structure in the civil service and the future internal reforms rather than to demographics and economic developments, which are nonetheless taken into adequate consideration.

4.3. Data used to run the model

In line with the common and agreed methodology for delivering EU-wide comparable results population projections 2015 delivered by Eurostat and labour force projections (using a cohort simulation model) as well as macroeconomic projections (using a production function framework) both delivered by the European Commission Services were used as data input to run the national pension model. For more detailed information on this, please see the report on "The 2018 Ageing Report: Underlying Assumptions and Projections Methodologies" by the European Commission (Link: https://ec.europa.eu/info/publications/economy-finance/2018-ageing-report-underlying-assumptions-and-projection-methodologies_en).

5. (Methodological) annex

5.1. Private social insurance sector model modifications

Since the AR 2015 there were four main modifications to the model starting with the disability pensions which are now estimated separately from the old age pensions. The driving forces (based on historical pension data) are the population, the number of employees and the number of unemployed (by one year age group). Another modification is the new modelling of the rise of the pensionable age for women. We therefore incorporated the cohort based transition into the model (which resulted in higher pension expenditures due to the high employment rate of women at the age of 65+). In addition to that we tried to better capture the effects of the transition (which will last until 2050) from the "old" pension system to the new pension account. A further amendment in the model is the inclusion of a new measure (effective since 2017) aiming at keeping people in employment beyond the statutory retirement age (by a reduction of contributions for employers and employees). This measure is linked to the participation rate in the following way: the higher the participation rates for the age group 65-71 the higher the probability to work beyond the statutory retirement age of 65, thus postponing retirement.

5.2. Average gross wage vs. average gross wage at retirement

We deliver an average gross wage at retirement for private sector employees and for public sector employees respectively. The data for the public sector is output of the model and linked to labour productivity as well as seniority. However, in the private sector model only a starting value for 2016 is available (resulting in a base-year-effect) which subsequently is linked to the growth of the average gross wage given by the European Commission. Thus the consolidated average gross wage at retirement closely evolves in line with the average gross wage.

Table 29: Average gross wage vs. average gross wage at retirement (in 1000 euro)

	2016	2020	2030	2040	2050	2060	2070
Average gross wage (current prices - 1000 €)	36.3	39.5	54.0	75.7	107.2	152.3	216.4
Average gross wage at retirement (current prices - 1000 €)	37.6	40.7	55.4	77.2	108.9	154.3	218.7

Sources: BMASK, BMF, European Commission, STAT

5.3. Average contributory period

As the private sector model does not provide an average contributory period only a starting value for 2016 is available. To project a time series, we linked this starting value to the average exit age (provided by the European Commission).

5.4. Benefit ratio and gross average replacement rate

For the benefit ratio (old age + disability) we use the outlined average gross wage. Due to data constraints we cannot distinguish between a public and private average gross wage.

For the gross average replacement rate (old age new + disability new) we use the average gross wages at retirement for the private and the public sector respectively.

5.5. Number of pensioners vs. number of pensions

The Austrian pension projections are based on two autonomous models, covering the private social insurance sector and the civil service schemes, respectively. Both models are based on the number of pensions (pay slips) and not on the number of pensioners.

Given the fact that many pensioners receive more than one pension the number of pensioners differs from the number of pensions in Austria. In 2016 the private and public sector schemes counted for about 2,631,900 public pensions that were claimed by about 2,373,300 pensioners, giving a ratio of 90.2%. It is assumed that due to the rising female employment rates more women will claim more own (and higher) pensions in the future and thus will to a lesser extent fulfil requirements to claim multiple pensions (i.e. survivor pensions). Given this probable assumption the number-of-pensioners- to the number-of-pensions-ratio is assumed to go up from 90.2% in 2016 to 94.2% by 2070.

5.6. Pension taxation

Contributions to public old-age provisions are exempt from taxation. Pensions and special pension payments (e.g. 13. and 14. pension), however, are treated like earned income and are subject to income tax. The annual income tax will be calculated as follows:

Figure 5: Tax rate/annual income tax

Annual income	Tax rate	Annual income tax in €
Up to 11,000 €	0	0
Over 11,000 € up to 18,000 €	25%	$\dfrac{(Income - 11,000) * 1,750}{7,000}$
Over 18,000 € up to 31,000 €	35%	$\dfrac{(Income - 18,000) * 4,550}{13,000} + 1,750$
Over 31,000 € up to 60,000 €	42%	$\dfrac{(Income - 31,000) * 12,180}{29,000} + 6,300$
Over 60,000 € up to 90,000 €	48%	$\dfrac{(Income - 60,000) * 14,400}{30,000} + 18,480$
Over 90,000 € up to 1,000,000 €	50%	$\dfrac{(Income - 90,000) * 455,000}{910,000} + 32,880$
Over 1,000,000 €	55%	$(Income - 1,000,000) * 0.55 + 487,880$

Source: BMF

In addition the Austrian tax system provides for several tax allowances and tax credits, which reduce the assessment base and the amount of tax payable respectively. Care and equalising allowances are exempt from taxation.

Taxes payable are deducted from gross pension reduced by health care contributions.

5.7. Equalising allowance (Ausgleichszulage)

The Austrian pension system does not provide for a minimum pension. If individual pension claims are lower than legally defined thresholds the gap will be closed by federal budget contributions (equalising allowance) to guarantee a minimum income for pensioners (in order to avoid elderly poverty). In 2017 these thresholds amounted to 889.84 € per month for single pensioners (1,000 € if a single person has at least 30 contribution years) and 1,334.17 € per month for couples in one household.

In 2016 211,237 recipients were counted (2/3 female) and total equalising allowance amounted to 971 m € - which corresponds to 0.3% of GDP.

As you can see in table 13 the equalising allowance is added to the "Public Pension Expenditures (according to projections)" to get "Total Pension Expenditures". It is not included in the

projections (as it was in the AR 2015) because it cannot be divided into subcategories (old-age and early pensions, survivor und disability pensions).

Therefore (as in the previous round of projections) we assumed to remain it to stay around 0.3% of GDP over the projection horizon. This approach is based on the assumption that the effect of more and on average higher own pensions in the future due to rising employment rates (i.e. especially of women and the elderly) will outweigh the general falling benefit ratio effect.

5.8. „Rehabilitationsgeld"

The consolidation package of 2012 brought a reform of disability pensions. People being classified as "temporarily disabled" and born after December 31st, 1963 do not claim any longer disability pensions but so called "Rehabilitationsgeld".

"Rehabilitationsgeld" are (strictly speaking) health care expenditures which are paid out of the "pension insurance pocket". Therefore "Rehabilitationsgeld" is not included in the health care projections. Because of this reason we added it to "Public pension expenditure (according to projections)", as the equalising allowance, to get "Total pension expenditures" (see table 13). It is not included in "Public pension expenditures (according to projections)" because recipients of this benefit are no pensioners.

5.9. One-off and temporary measures

One-off and temporary measures like the "Pensionshunderter" (a one-off payment of 100 € in 2016/2017) indeed burden the budget but are excluded from long-term projections as they have no impact on assessment bases.

5.10. Non-earning related minimum pension (means-tested minimum income)

The means-tested minimum income is the responsibility of the federal states. Therefore the level of benefits varies from federal state to federal state. An entitlement to the means-tested minimum income is given if a person does not have sufficient financial security through other means (e.g. income, benefits from social insurance, maintenance, etc.) or assets. Those who are capable of work, however, must be prepared to take on a job with a few exceptions (e.g. care obligations). If a reasonable job is not accepted, the means-tested minimum income can be reduced or even withdrawn. Before the means-tested minimum income can be claimed one's own assets and income have to be used up; again with a few exceptions (e.g. objects used for exercising a profession, vehicles which are required for work or due to a disability).

5.11. Disability pension

The driving factors behind the disability pension are historical pension data (and therefore disability rates), actual pension law (with future consequences like abolishment of temporary disability pensions, rise (age) of the protection of activities ("Tätigkeitsschutz") for farmers), age, population by age group and participation rate. The table below is primarily driven by the participation rate (for example the massive drop of age group 60-64 in the year 2020 is (primarily) caused by the massive increase of a rise in the male participation rate from 38.2% to 55.9%) and the abolishment of temporary disability pensions. After the statuary pension age the disability pension transforms into an old age pension (but with the same amount).

Table 30: Disability rates by age groups

	2016	2020	2030	2040	2050	2060	2070
Age group -54	1.05%	0.88%	0.81%	0.79%	0.94%	1.05%	1.06%
Age group 55-59	8.82%	6.02%	6.65%	5.47%	5.77%	7.71%	8.13%
Age group 60-64	12.10%	7.20%	5.24%	7.74%	6.85%	9.28%	10.44%
Age group 65-69	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Age group 70-74	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Age group 75+	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Sources: BMASK, BMF

5.12. Survivor pensions

The main driver behind the survivor pensions is the population (by age group) on the one hand and sociodemographic trends on the other. Based on historical data (by gender, type (widow/orphan) and insurer (employed, self-employed and farmer)) a path is estimated as percentage of the corresponding age group incorporating (among other factors) an increasing divorce rate, rise of one person households and a rising percentage of women with pension rights.

5.13. Contributions

Contributions are estimated based on the number of insured people (which is a subgroup of the labour supply) subdivided by insurer. The reason for the lower number of people (in relation to the labour supply) who pay contributions is due to a lower threshold (425.7 € per month in 2017). Contributions amount to 22.8%. There are also contributions for partial insurance periods which are defined as a fixed amount of money per month (e.g. for child bearing, military service) or as a percentage of the income (e.g. unemployment).

5.14. Pension account system

In order to harmonise the different schemes of blue and white collar workers, farmers, self-employed and civil servants, a pension account system was introduced in 2005 for all employed born after January 1st, 1955. The most important benefit of this pension account system is that entitled persons always have a clear overview of their future pension (more transparency).

A simple example of an individual pension account is given below and shown in Figure 6.

How does the pension account work and how is the monthly pension calculated?

For the following example of the pension account we assume an individual starting full-time employment at the age of 20 and working 45 years without interruptions (e.g. due to unemployment, raising children etc.), thus retiring at the age of 65 without bonuses or penalties.

The assessment basis for the calculation of the monthly pension is the annual contribution base (i.e. the annual income of the individual up to a certain ceiling). The annual contribution base is multiplied by the accrual rate of 1.78% which results in a partial credit for this year. This procedure is repeated for every consecutive year in employment whilst the partial credits of the preceding years are revaluated on a yearly basis. The sum of the partial credit and the revalued credits results in the total credit. At retiring the total credit is divided by 14 and will be paid to the retiree on a monthly basis (14 times a year).

Hence every year of employment automatically increases the future monthly pension.

Figure 6: Example of an individual pension account

Age	Year	Monthly income (14 times)	Annual contribution base	Accrual rate	Partial credit (current year)	Revalued credit (previous year)	Revaluation coefficient	Total credit
20	2017	2,500	35,000	1.78%	623	0	1.01	623
21	2018	2,525	35,350	1.78%	629	629	1.01	1,258
22	2019	2,550	35,704	1.78%	636	1,271	1.01	1,907
23	2020	2,576	36,061	1.78%	642	1,926	1.01	2,568
24	2021	2,602	36,421	1.78%	648	2,593	1.01	3,241
25	2022	2,628	36,785	1.78%	655	3,274	1.01	3,929
26	2023	2,654	37,153	1.78%	661	3,968	1.01	4,629
27	2024	2,680	37,525	1.78%	668	4,676	1.01	5,344
28	2025	2,707	37,900	1.78%	675	5,397	1.01	6,072
29	2026	2,734	38,279	1.78%	681	6,132	1.01	6,814
30	2027	2,762	38,662	1.78%	688	6,882	1.01	7,570
31	2028	2,789	39,048	1.78%	695	7,646	1.01	8,341
32	2029	2,817	39,439	1.78%	702	8,424	1.01	9,126
33	2030	2,845	39,833	1.78%	709	9,217	1.01	9,926
34	2031	2,874	40,232	1.78%	716	10,026	1.01	10,742
35	2032	2,902	40,634	1.78%	723	10,849	1.01	11,573
36	2033	2,931	41,040	1.78%	731	11,688	1.01	12,419
37	2034	2,961	41,451	1.78%	738	12,543	1.01	13,281
38	2035	2,990	41,865	1.78%	745	13,414	1.01	14,159
39	2036	3,020	42,284	1.78%	753	14,300	1.01	15,053
40	2037	3,050	42,707	1.78%	760	15,204	1.01	15,964
41	2038	3,081	43,134	1.78%	768	16,123	1.01	16,891
42	2039	3,112	43,565	1.78%	775	17,060	1.01	17,836
43	2040	3,143	44,001	1.78%	783	18,014	1.01	18,797
44	2041	3,174	44,441	1.78%	791	18,985	1.01	19,776
45	2042	3,206	44,885	1.78%	799	19,974	1.01	20,773
46	2043	3,238	45,334	1.78%	807	20,981	1.01	21,788
47	2044	3,271	45,787	1.78%	815	22,005	1.01	22,820
48	2045	3,303	46,245	1.78%	823	23,049	1.01	23,872
49	2046	3,336	46,708	1.78%	831	24,110	1.01	24,942
50	2047	3,370	47,175	1.78%	840	25,191	1.01	26,031
51	2048	3,403	47,646	1.78%	848	26,291	1.01	27,139
52	2049	3,437	48,123	1.78%	857	27,411	1.01	28,267
53	2050	3,472	48,604	1.78%	865	28,550	1.01	29,415
54	2051	3,506	49,090	1.78%	874	29,709	1.01	30,583
55	2052	3,542	49,581	1.78%	883	30,889	1.01	31,772
56	2053	3,577	50,077	1.78%	891	32,089	1.01	32,981
57	2054	3,613	50,578	1.78%	900	33,310	1.01	34,211
58	2055	3,649	51,083	1.78%	909	34,553	1.01	35,462
59	2056	3,685	51,594	1.78%	918	35,817	1.01	36,735
60	2057	3,722	52,110	1.78%	928	37,102	1.01	38,030
61	2058	3,759	52,631	1.78%	937	38,410	1.01	39,347
62	2059	3,797	53,158	1.78%	946	39,741	1.01	40,687
63	2060	3,835	53,689	1.78%	956	41,094	1.01	42,049
64	2061	3,873	54,226	1.78%	965	42,049	1.00	43,015

Monthly income at retirement:	3,873
Monthly pension at retirement:	3,072
RR at Retirement:	**79.3%**

Annual contribution base = Monthly income x 14

Partial credit = Annual contribution base x Accrual rate

Revalued credit = Total credit (t-1) x Revaluation coefficient

Total credit = Partial credit + Revalued credit

Sources: **BMASK, BMF, PV**

5.15. Alternative pension spending decomposition

In comparison to the tables 16 and 17 where the decomposition is calculated based on 5-yearly linearization (consecutive 5year averages over the projection horizon) the decomposition in the tables below is based on the full period change (entire projection horizon).

Table 31: Factors behind the change in public pension expenditures between 2016 and 2070 using pension data (in percentage points of GDP) - pensions

	2016-20	2020-30	2030-40	2040-50	2050-60	2060-70	2016-70
Public pensions to GDP (according to projections)	0.1	0.5	0.4	-0.3	0.1	-0.4	0.5
Dependency ratio effect	0.4	3.7	3.2	1.5	2.9	1.7	13.4
Coverage ratio effect	-0.2	-1.4	-0.5	-0.3	-0.6	-0.3	-3.3
*Coverage ratio old-age**	0.3	-0.2	0.0	-0.4	-0.7	-0.4	-1.5
*Coverage ratio early-age**	-1.7	-2.7	-1.7	-0.2	1.1	0.2	-5.0
*Cohort effect**	0.3	-3.4	-1.4	0.0	-1.4	-0.5	-6.5
Benefit ratio effect	0.0	-0.7	-0.8	-0.8	-0.5	-0.6	-3.4
Labour Market/Labour intensity effect	-0.2	-0.4	-0.4	0.1	-0.1	0.0	-1.0
Employment ratio effect	-0.2	-0.1	-0.4	0.1	0.0	-0.1	-0.7
Labour intensity effect	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Career shift effect	0.0	-0.3	0.0	-0.1	-0.1	0.1	-0.5
Residual	0.0	-0.6	-1.1	-0.8	-1.5	-1.1	-5.1

Sources: BMASK, BMF, European Commission, STAT

Table 32: Factors behind the change in public pension expenditures between 2016 and 2070 using pensioners data (in percentage points of GDP) - pensioners

	2016-20	2020-30	2030-40	2040-50	2050-60	2060-70	2016-70
Public pensions to GDP (according to projections)	0.1	0.5	0.4	-0.3	0.1	-0.4	0.5
Dependency ratio effect	0.4	3.7	3.2	1.5	2.9	1.7	13.4
Coverage ratio effect	-0.1	-1.3	-0.4	-0.3	-0.5	-0.3	-2.9
*Coverage ratio old-age**	:	:	:	:	:	:	:
*Coverage ratio early-age**	:	:	:	:	:	:	:
*Cohort effect**	0.3	-3.4	-1.4	0.0	-1.4	-0.5	-6.5
Benefit ratio effect	0.0	-0.8	-0.9	-0.8	-0.5	-0.7	-3.8
Labour Market/Labour intensity effect	-0.2	-0.4	-0.4	0.1	-0.1	0.0	-1.0
Employment ratio effect	-0.2	-0.1	-0.4	0.1	0.0	-0.1	-0.7
Labour intensity effect	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Career shift effect	0.0	-0.3	0.0	-0.1	-0.1	0.1	-0.5
Residual	0.0	-0.6	-1.1	-0.8	-1.5	-1.1	-5.2

Sources: BMASK, BMF, European Commission, STAT

Sources/Links

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