Economic Policy Committee - Ageing Working Group

2024 Ageing Report

LATVIA - Country Fiche

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Ministry of Welfare of Latvia

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Introduction

The present country fiche for Latvia is part of the 2024 Ageing Report, which provides long-term projections of the economic and budgetary impact of population ageing at unchanged policy. The 2024 edition is the eighth update and covers the period up to 2070.

This fiche was prepared by Ministry of Welfare of Latvia in agreement with the *Ageing Working Group* of the *Economic Policy Committee* and based on a common set of assumptions and methodologies. The pension expenditure projections presented in this fiche have been peer reviewed by the other Member States and the European Commission within the *Ageing Working Group*. The projections were finalised in the autumn of 2023 and represent the situation of the pension system on 01/12/2023.

Section 1 provides a general overview of the pension system in Latvia. Section 2 describes the demographic and labour market assumptions underlying the pension expenditure projections presented in Section 3, which also discusses the sensitivity scenarios around the baseline. Finally, Section 4 gives an overview of the model used to produce the pension projections, with complementary data provided in the methodological annex.

1. Overview of the pension system[1]

1.1. Description of the pension system

Latvia has a **three-pillar pension system**:

- The notional defined contribution (NDC) public pension scheme is a pay-as-you-go scheme in place since 1996.
- The state mandatory funded defined contribution (FDC) pension scheme was launched in July 2001.
- Voluntary private pension funds are operating since July 1998.

The social insurance contribution rate for the state old-age pensions (NDC + FDC) is 20 per cent of the gross wage.

The first pillar old-age pension scheme (introduced in 1996) is based on insurance principles, as the social insurance contributions, earmarked for old-age pensions, are recorded in notional individual accounts, with a theoretical rate of return applied until retirement so that a (notional) pension capital is accumulated, while contributions are actually used for financing current pension expenditures. Pensions are calculated by dividing the amount accumulated in the notional account by the projected cohort-specific unisex life expectancy at retirement.

Benefits can be claimed at any time starting from the minimum retirement age and it is possible to receive a full pension while continuing work after retirement. Working pensioners continue to contribute and accumulate additional notional pension capital. This newly accrued pension capital also yields a rate of return and the benefit is recalculated once a year. The principle behind this is that it provides an opportunity and support for flexible withdrawal from the labour force.

The minimum insurance record (qualification period) for eligibility to a state old-age pension was 10 years until 2013, since 2014 it is 15 years and in January 2025 it will rise to 20 years.

Since 2017, a person who has an insurance period below the minimum insurance record (or no insurance record) and has reached the statutory retirement age (SRA) (before 2017: 5 years after SRA) is granted the state social security benefit, financed by the state basic budget. The monthly amount of the benefit was EUR 64.03 in 2019; EUR 109 in 2021 and in 2022 . From 2023 (as of July 1st) the amount of social security benefits and basis for minimum pension amount calculation are linked to the median income and revised annually. As of 1st Jul 2023, the benefit amount is set at EUR 125, but minimum of old age pension calculation base is set at EUR 157.

These state social security benefits are included in the pension projections.

Legislation provides an opportunity to retire 2 years before the statutory retirement age for people whose insurance record is 30 years or more. The amount of the early retirement pension is 50% of the pension amount. The full pension is restored after reaching the statutory retirement age.

The statutory retirement age for men and women has been increasing by three months every year since 2014 (when it was 62 years) and will reach 65 years in 2025 (SRA in 2023: 64 years and 6 months for men and women, see Table 1).

[1] For an exhaustive description of pension schemes, please consult the PENSREF database.

TABLE 1 – QUALIFYING CONDITIONS FOR RETIREMENT

			2022	2030	2040	2050	2060	2070
Qualifying condition for retiring ***with*** a full pension	Statutory retirement age - men		64y3m	65	65	65	65	65
	Statutory retirement age - women		64y3m	65	65	65	65	65
	Minimum requirements	Contributory period - men	15	20	20	20	20	20
		Retirement age - men	64y3m	65	65	65	65	65
		Contributory period - women	15	20	20	20	20	20
		Retirement age - women	64y3m	65	65	65	65	65
Qualifying condition for retirement ***without*** a full pension	Early retirement age - men		62y3m	63	63	63	63	63
	Early retirement age - women		62y3m	63	63	63	63	63
	Penalty in case of earliest retirement age		50%	50%	50%	50%	50%	50
	Bonus in case of late retirement		-	-	-	-	-	-
	Minimum contributory period - men		30	30	30	30	30	30
	Minimum contributory period - women		30	30	30	30	30	30
	Minimum residence period - men *		5	5	5	5	5	5
	Minimum residence period - women*		5	5	5	5	5	5

** to qualify for minimum pension from the State basic budget*
Source: Ministry of Welfare of Latvia

The average benefit is directly dependent on the pensioner's actual age, number of years worked until 1996, contributions paid since 1996 and dynamics of the contribution wage base (growth of the contribution wage sum in Latvia), which determines the rate of return for the NDC pension capital.

Old-age pension formula:

P = K/G, where

P – pension
K – pension capital
G – life expectancy at retirement

The contribution wage sum consists of the total base (employed and self-employed income, pension contributions transfers from the state basic budget and the state special budget) on which contributions are made.

Transitional rules as part of the Law on State Pensions are the most important implementation tool of the pension system. This covers all insured persons who retire after 1996 and had made contributions prior to 1996. An important element of the transitional provisions is the evaluation of individual contributions before 1996, when there were no personified registrations of social insurance contributions. According to the design of the NDC scheme's transitional provisions, the insurance period until 1995 is credited with an initial capital, calculated using the average individual contribution wage[2] in 1996-1999. Retired people with insurance records of at least 30 years but whose income has been below the national average, are also supported financially, e.g. for the starting capital calculation in relevant years (1996–1999) the average wage in Latvia is taken into account, not the individual contributions wage.

Old-age pension formula in transitional period:

P = (Ks+K)/G, where

P – pension

[2] The average contribution wage is the average wage on which contributions are actually based. It takes into account evasion as well as ceilings and also social transfers (for the non-contributory periods) and is usually lower than the economy-wide average wage.

Ks – pension capital until 1996, estimated by individual average wage 1996-1999
K – pension capital after 1996
G – life expectancy at retirement

Pensions granted before 1996 were not recalculated according to the rules of the NDC scheme. Nevertheless, the same rules for indexation are applied for both the old-law and new-law pensioners.

Within the framework of the 1996 pension reform it was also intended to introduce a 4th pension tier from the state basic budget in order to reduce the impact of the transitional period for those pensioners whose working years until 1996 forms the major part of their record. A measure somewhat similar to the 4th pension tier was introduced in 2006 from the state special insurance budget resources. Since January 2006, supplements for each insurance year up to 31 December 1995, are paid to old-age pensioners. In 2009, this supplement was defined for all old-age and disability pensions as one euro for each year worked. Since 2014, the supplement is financed from the state basic budget. In July 2018, this supplement was increased to EUR 1.50 for those who retired until 1996.

Since October 2019, the standard indexation regime is also applied to this pension supplement, increasing it annually by the actual consumer price index and 50% of the real increase in the social insurance contribution wage sum. Therefore, if before a person received EUR 1.00 for each insurance year until 31 December 1995, then after the indexation it was EUR 1.07 but if he/she received EUR 1.50, then after the indexation it was EUR 1.61.

Supplements to the old-age and disability pensions for newly granted pensions have been suspended since 2012.

People whose insurance record is at least three years and who have been recognised as disabled, are **entitled to a disability pension**, with the exception of persons whose disability has been caused by an accident at work or an occupational disease. The latter are entitled to indemnity (compensation) for the loss of the work capacity.

People with disabilities are divided into three categories (Category I being the most severe). The Health and Working Capacity Medical Expert Commission determines the category of disability as well as the cause and anticipated duration of the disability.

Disability pension formulas:

Category I
$P = 0.45 \times Vi + (ASi / ASie) \times Vi \times 0.1$

Category II
$P = 0.40 \times Vi + (ASi / ASie) \times Vi \times 0.1$, where

P – pension
Vi – reference earnings (the best 3 earning years in the last 5 years)
Asi – individual insurance record in years
Asie – maximum possible insurance record from the age of 15 until statutory retirement age

For disabled persons of category III: the pension amount was fixed at EUR 136 in 2021 and 2022, but from 1 July 2023 it is linked to the income median and revised annually.

The amount of the disability pension for Groups I and II cannot be lower than the minimum (guarantee amount), from 1 July 2023 linked to the income median and revised annually.

Disabled persons who have reached the statutory retirement age are granted the old-age pension instead of disability pension (disability pensioners, who reached the statutory retirement age before 1996 continue to receive disability pensions – until the transition period ends). If the amount of old-age pension is lower than the disability pension, people continue to receive the higher disability pension amount.

To provide more universal support for people with disabilities, the state social security benefit is granted to persons who are not entitled to state disability pensions, which are based on contributions made. Since 1 July 2023 the benefit is linked to the income median and revised annually..

These state social security benefits, including for people with disabilities, are included in the pension projections.

If the breadwinner has been an insured person, his/her family members are entitled to a **survivor's pension** irrespective of the cause of death of the breadwinner.

Family members (under the age of 18) incapable of work who have been dependent on the deceased breadwinner are entitled to the survivor's pension.

Persons are also considered incapable of work if, at the time of the death of the breadwinner or later, they are full-time students at secondary, vocational or tertiary educational establishments and aged below 24.

The survivor's pension is calculated taking into account the breadwinner's possible old-age pension:

- for one child - 50% of the pension;
- for two children - 75% of the pension;
- for three and more children - 90% of the pension.

The amount of the survivor's pension for each child cannot be less than the minimum amount, since 1 July 2023 is linked to income median and revised annually.

On 1 January 1999, the determination of insurance records qualifying **for old (phasing out) service pensions (special pensions paid during the transition period**, financed from the state social insurance special budget) was terminated. Only persons who by 1 January 1999 had worked in special qualifying occupations for not less than three fourths of the insurance period required for allocation of the service pension in accordance with special regulations, retained their entitlements. These service pensions are paid from the state pension special budget. Service pensions are not included in the projections.

Persons who have been granted the service pension in accordance to the special regulations and who have reached the statutory retirement age, are granted the old-age pension instead of the service pension. It cannot be lower than the service pension received prior.

Regarding current service pensions, some of these cover small numbers of participants. Contributions are made to the old-age scheme as upon reaching the SRA the old-age pension is granted. Upon calculating old age pension amount, if it is below the one previously received according to special rules, the difference (if any) is calculated and covered by state basic budget. These special specific public sector service pensions are paid from the state basic budget (army officers; officials with special service ranks working in Institutions of the system of the Ministry of the Interior and the Prison Administration (police officers, firefighters, etc.); judges; prosecutors; diplomats; medical staff (emergency transport team); officials of State Security Institutions; artistists- service pensions for

artists of local government orchestras, choirs, concert organizations, theatres and circus, ballet artists; officials of the Corruption Prevention and Combating Bureau) are not included in the projections. In 2022 the state basic budget expenditure for covering current service pensions was around 74 million EUR or around 0.2% of GDP.

The FDC pension scheme in Latvia was started in July 2001 and constitutes one of the pillars of the Latvian pension system. It is a fully funded statutory pension scheme, with part of the total contribution rate of 20% for old-age pensions invested in financial assets. Diversification of future risks into pillars helps to ensure the long-term financial sustainability of the state pension system, to decrease state's liabilities for the future pensioners as well as to invest in the economy.

Coverage in the FDC pension scheme is mandatory for persons who were under the age of 30 on 1 July 2001, when the State Funded Pension Law came into force. Persons who were at that moment in the age group 30-49 can affiliate to this scheme on a voluntary basis at any time. Participation conditions are simplified as much as possible and synchronized with the participation in the NDC PAYG pension scheme. This means that the FDC pension scheme gradually covers almost all persons covered by the state pension insurance. Persons who were at the age of 50 or older when the law came into force, did not have the option to participate. This scheme is expected to be fully mandatory around 2035, when all cohorts of voluntary participants have retired.

The share of contributions dedicated for saving in the FDC scheme has increased gradually, proportionally reducing the contribution rate for the 1st pillar (NDC PAYG). Starting from 2016 the contribution rate to the funded pension scheme according to the Law on State Funded Pensions is set at 6%. As the state mandatory funded pension scheme is within the framework of the state pension system, all contributions on behalf of the individual, paid by the state budget or other social insurance budgets (in case of child care, unemployment etc.) were attributed to both schemes accordingly. Since 2020 all such contributions are directed only to the 1st pillar.

There are two options at retirement. Depending on the participant's choice the accumulated state funded pension capital will be:

- added to the 1st pillar pension capital for calculation of the total old-age pension, based on the NDC scheme formula, or
- transferred to the life insurance company, which subsequently will provide a life annuity.

Since 1 January 2020, inheriting pension capital is possible in case the contributor dies before retirement.

The **voluntary private pension scheme** is not included in projections. This scheme exists since 1 July 1998. Its purpose is to accumulate and invest the voluntarily contributions of participants by means of private pension funds, thus ensuring additional pension capital in old age. Pension plan participants may participate directly or with involvement of their employer. The pension plan participant can receive all accumulated pension capital from the age of 55 or continue participating and receive capital in parts.

In 1998, changes were introduced in the area of **financing social insurance**. Four special social insurance sub-budgets (special budgets) were approved instead of one special insurance budgetPersons made social insurance contributions against risks that could materialize. Access to old age pensions for self-employed with relatively low income has been introduced since 2018.

Pensions are included in the **annual taxable income**. Pensions granted prior to 1996 are not subject to income tax. For pensioners whose pensions were granted or recalculated since 1/1/1996, the annual

non-taxable minimum is EUR 6000 per year in 2023. Annual additional tax exemption limits for disability pensions granted or recalculated since 1/1/1996:

- Group I & II: EUR 1 848 per annum
- Group III: EUR 1 440 per annum

Since 2015 the indexed part of the pension benefit is not higher than 50% of previous year's average contribution wage. However, pensions for persons with a Group I disability, for politically repressed persons and for liquidators of the Chernobyl nuclear disaster are indexed in full. Since 2017**, pension indexation** is based on actual consumer price index (CPI) and 50% of the real increase in the contribution wage sum.

As of 2018, when indexing old-age pensions for persons with high contribution records, a higher share of the average contribution wage sum real increase is applied:

- 60%, if the contribution record is 30-39 years long, as well as for pensions for employment in hard and hazardous or extra hard and hazardous employment conditions;
- 70% if the contribution record is 40 or more years;
- from 1 October 2019 – 80% (instead of 70%), if the contribution record is 45 years or more.
- Supplements to old-age pensions are indexed since October 2019 to CPI and 50% of contribution wage sum real growth.

Upon retirement, the yearly nominal growth of the contribution wage sum is used for the **valorisation of the NDC pension capital**.

1.2. Recent reforms of the pension system included in the projections

Support to tackle poverty has been directed to pensioners who receive low old-age pensions, survivor pensions and to persons with disabilities (both recipients of state social security benefit (SSSB) and recipients of low disability pensions) as well as social insurance benefit receivers. In 2020 the the minimum base for old-age pension calculation was increased from EUR 64.03 to EUR 80. In 2021 a further increase took place, calculating the amount as share (25%) of actual income median for 2018.

Since 2023 (as of July 1st) the amounts of social security benefits and bases for minimum pensions amount calculation are linked to the income median and revised each year.n setting the minimum income thresholds there has been a recent shift from the minimum income threshold currently set in euro to a percentage of the median minimum income. The new minimum income thresholds entered into force on 1 July 2023 and will be revised in January each year from 2024 onwards.

Amendments to the Law on Social Security provide for the minimum income threshold to be fixed at a minimum of 20 % of the median income[3]. In addition, it will be reviewed annually. The amendments to the laws provide for the establishment of a methodologically justified minimum income level corresponding to the socio-economic situation and it conforms with the judgments of the Constitutional Court[4] regarding the need to link the minimum income thresholds to a specific socio-economic indicator.

The amendments to the Law on Social Security provide that since 1 July 2023, the minimum income threshold shall not be lower than 20% of the median income. In the fields of social protection systems,

[3] Amendments to the Law on Social Security (Adopted on 08 March 2023), entered into force on 1 July 2023, available in Latvian only: https://likumi.lv/ta/id/340390-grozijumi-likuma-par-socialo-drosibu-

[4] The norm that sets the defined guaranteed minimum income level is incompatible with Article 1 and Article 109 of the Satversme: https://www.satv.tiesa.gov.lv/en/press-release/the-norm-that-sets-the-defined-guaranteed-minimum-income-level-is-incompatible-with-article-1-and-article-109-of-the-satversme/

differentiated minimum income thresholds are laid down, they apply to recipients of state social security benefits, recipients of minimum old-age and disability pensions and recipients of social assistance in the municipality

The minimum income thresholds, set as a percentage of the median income, are different for different social groups, are subject to different coefficients and vary according to the specific disability group for the person and whether or not a disabled person is employed.

The basis of calculation of the minimum old-age pension and disability pension is now 25 % of the median income and for persons with disabilities from childhood — 30 % of the median income. In turn, the amount of the minimum **survivor's pension** for each child from birth until reaching the age of seven — 25 % of the median income, for a child from the age of seven — 30 % of the median income. The actual median income is published by the Central Statistical Bureau of Latvia.

The level of the minimum of old-age pension now depends on both: the value of the minimum pension calculation basis and the duration of the insurance record. Since January 2021 the minimum of old-age pension calculation base is set at EUR 136,00 (for persons with disability since childhood as EUR 163,00). The minimum old-age pension for each year of insurance increases (starting from 15 years of insurance-where coefficient applied is 1.1. However, for each contribution year over 15 qualification years a 0.02 coefficient is applied for each next year; the coefficient increases further for 0.02 per each additional year. In case of 40 years it would be 1.6). Therefore, from 1st July 2023 the minimum monthly amounts vary from EUR 172.70 in case of 15 years of insurance period to, for instance EUR 251.20 in case of 40 years of insurance period.

The monthly minimum wage has been increased EUR 620 to EUR 700 for 2024.

A number of measures is under consideration:

- Currently the Parliament (Saeima) is considering the gradual renewal of supplements for contribution record before 1996.
- Early retirement possibilities for people with 3-4 children are under discussion (people with 5 children or more already have such option).
- The Constitutional Court considers minimum guarantees as a share of the median wage are still too low and amounts need to be increased further[5].

1.3. Description of the actual 'constant policy' assumptions used in the projection

Transfers form budgets go only to the NDC scheme since 2020 (before also to FDC), revenues increase, due to that however, the model does not capture this regarding expenditure.

Pensions in payment are also paid abroad, very recently, based on an inquiry for the Constitutional Court, the world-wide portability of old-age pensions has been introduced. However, the pension model does not capture this.

The guarantee part of pension benefits has been increased but we are not fully convinced that the model performs adequately since the full impact on expenditure is not observed.

[5] https://www.satv.tiesa.gov.lv/wp-content/uploads/2020/01/2020-07-03-Spriedums.pdf#search

2. Overview of the demographic and labour force projections[6]

Part 2 contains a description of the main demographic changes implied by EUROPOP2023 and the changes in the labour force as projected by the Cohort Simulation Model. These provide the framework for the pension expenditure projections.

2.1. Demographic projections

Table 2 shows the development of the main EUROPOP23 demographic indicators between 2022 and 2070.

TABLE 2 – MAIN DEMOGRAPHIC VARIABLES

	2022	2030	2040	2050	2060	2070	peak value	peak year	change 2022-2070
Population (thousand)	1 885	1 746	1 580	1 460	1 352	1 257	1 889	2023	-628
Population growth rate	0.0%	-1.2%	-0.9%	-0.8%	-0.8%	-0.6%	0.2%	2023	-0.6%
Old-age dependency ratio (pop 65+ / pop 20-64)	36.0	42.8	49.8	58.8	69.0	61.0	69.4	2059	25.0
Old-age dependency ratio (pop 75+ / pop 20-74)	14.1	15.9	21.0	25.2	29.9	34.5	35.1	2068	20.5
Ageing of the aged (pop 80+ / pop 65+)	28.9	26.5	31.2	34.5	36.1	47.9	47.9	2070	19.0
Men - Life expectancy at birth	70.3	72.6	75.4	78.0	80.4	82.5	82.5	2070	12.2
Women - Life expectancy at birth	79.8	81.5	83.4	85.2	86.9	88.4	88.4	2070	8.6
Men - Life expectancy at 65	14.1	15.5	17.1	18.6	20.1	21.5	21.5	2070	7.4
Women - Life expectancy at 65	19.0	20.3	21.7	23.0	24.2	25.4	25.4	2070	6.4
Men - Survivor rate at 65+	68.2	72.9	78.2	82.5	86.0	88.8	88.8	2070	20.6
Women - Survivor rate at 65+	87.1	88.9	90.9	92.6	93.9	95.0	95.0	2070	7.8
Men - Survivor rate at 80+	29.8	36.9	45.5	53.7	61.2	67.7	67.7	2070	37.9
Women - Survivor rate at 80+	60.1	65.7	71.4	76.3	80.5	84.0	84.0	2070	23.9
Net migration (thousand)	32.9	-7.4	-2.4	-0.4	0.2	1.9	32.9	2022	-31.0
Net migration (% population previous year)	1.7%	-0.4%	-0.2%	0.0%	0.0%	0.1%	1.7%	2022	-1.6%

Source: Eurostat, European Commission.

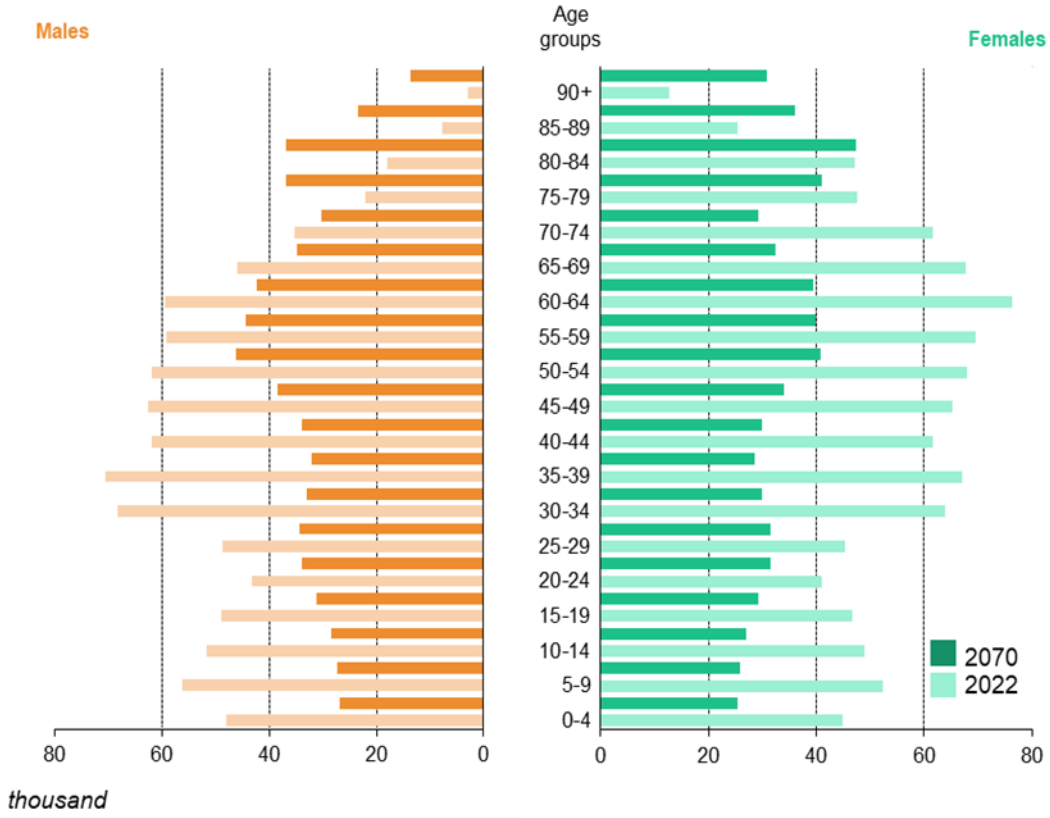
The Latvian population is expected to continue declining, shrinking by a third between 2022 and 2070. The total population is projected to decline somewhat less than in the previous EUROPOP projections used for the 2021 Ageing Report (AR 2021), when the population in 2070 was projected at 1.2 million or 79 000 fewer people than in the new EUROPOP2023 projections.

The projected demographic changes, with a sharp increase in projected life expectancy (close to projections for AR 2021) as well as migration (higher difference in base year), lead to a rapid increase in the old-age dependency ratio in the long run – from 36% in 2022 to 61% in 2070 or an increase by 25 p.p. Compared to the AR 2021 the old-age dependency ratio is lower throughout the projection period.

Figure 1 illustrates how demographic changes are expected to result in fewer people in all ages groups except the oldest ones, thus resulting in high dependency rates and social pressure on the state pension system.

[6] For more details, see European Commission and EPC (2023), *'The 2024 Ageing Report: Underlying assumptions and projection methodologies'* European Economy, Institutional Paper 257.

FIGURE 1 – AGE STRUCTURE: 2022 VS 2070



Source: Eurostat, European Commission.

2.2. Labour force projections

Table 3 shows the projected development of the main labour market indicators over the projection period. Labour force participation rates, employment rates and shares are projected to increase limitedly compared with the base year level. Only the employment rates and participations rates for ages 65-74 are projected to fall compared with the base year level.

TABLE 3 – PARTICIPATION RATE, EMPLOYMENT RATE AND SHARE OF WORKERS

	2022	2030	2040	2050	2060	2070	peak value	peak year	change 2022-2070
Labour force participation rate 20-64	82.7	82.7	82.7	82.8	84.1	83.3	84.1	2061	0.6
Employment rate of workers aged 20-64	77.0	77.1	77.0	77.5	78.7	78.0	78.7	2061	1.0
Share of workers aged 20-64 in the labour force 20-64	93.1	93.2	93.1	93.5	93.6	93.5	93.8	2027	0.5
Labour force participation rate 20-74	73.0	69.1	68.9	67.7	66.9	71.4	73.0	2022	-1.6
Employment rate of workers aged 20-74	68.2	64.6	64.3	63.4	62.7	66.9	68.2	2022	-1.2
Share of workers aged 20-74 in the labour force 20-74	93.3	93.4	93.3	93.7	93.7	93.7	93.9	2027	0.3
Labour force participation rate 55-64	73.7	73.5	74.0	72.5	74.3	74.6	75.1	2063	0.9
Employment rate of workers aged 55-64	69.5	69.4	69.8	68.6	70.4	70.6	71.1	2063	1.1
Share of workers aged 55-64 in the labour force 55-64	94.3	94.5	94.3	94.6	94.6	94.6	94.9	2027	0.4
Labour force participation rate 65-74	22.8	10.8	11.0	11.1	9.8	11.1	22.8	2022	-11.7
Employment rate of workers aged 65-74	22.3	10.6	10.7	10.9	9.6	10.8	22.3	2022	-11.5
Share of workers aged 65-74 in the labour force 65-74	97.9	98.0	97.9	97.9	97.9	97.9	98.0	2025	0.1
Median age of the labour force	43	43	44	42	42	43	44	2032	0

Source: European Commission.

Tables 4a and 4b show labour market exit ages, contributory period, as well as expected durations of life spent at retirement by sex. The tables show that the effective labour market exit age is slightly lower for men, while the current retirement age is almost identical. Female contributory periods are longer, with a difference expected to last in the projections.

The effective retirement age is lower than the estimated labour market exit age, as different types of pensions are included, like disability, where recipients combine early retirement with work.

TABLE 4 – LABOUR MARKET EXIT BEHAVIOUR

TOTAL	2022	2030	2040	2050	2060	2070	peak value	peak year	change 2022-2070
Average effective retirement age*	62.4	62.7	62.7	63.1	62.7	62.7	63.2	2053	0.3
Average labour market exit age (CSM)**	64.2	64.9	64.9	64.9	64.9	64.9	64.9	2054	0.7
Contributory period	36.0	36.0	36.0	36.0	36.0	36.0	36.0	2022	0.0
Duration of retirement***	14.5	17.9	19.4	20.8	22.2	23.5	23.5	2070	9.0
Duration of retirement/contributory period	40%	50%	54%	58%	61%	65%	65%	2070	25%
Percentage of adult life spent in retirement****	28%	28%	30%	32%	33%	34%	34%	2070	6%
Early/late exit*****	0.8	0.8	0.8	0.8	0.6	0.6	0.9	2033	-0.2

MEN	2022	2030	2040	2050	2060	2070	peak value	peak year	change 2022-2070
Average effective retirement age*	62.3								
Average labour market exit age (CSM)**	64.2	64.9	64.9	64.9	64.9	64.9	64.9	2030	0.7
Contributory period	35.5	35.5	35.5	35.5	35.5	35.5	35.5	2022	0.0
Duration of retirement***	13.0	15.5	17.1	18.6	20.1	21.5	21.5	2070	8.5
Duration of retirement/contributory period	37%	44%	48%	52%	57%	61%	61%	2070	24%
Percentage of adult life spent in retirement****	25%	26%	28%	29%	31%	32%	32%	2070	7%
Early/late exit*****	0.9	0.9	1.0	0.9	0.6	0.7	1.0	2035	-0.2

WOMEN	2022	2030	2040	2050	2060	2070	peak value	peak year	change 2022-2070
Average effective retirement age*	62.6								
Average labour market exit age (CSM)**	64.2	64.9	64.9	64.9	64.9	64.9	64.9	2030	0.7
Contributory period	36.4	36.4	36.4	36.4	36.4	36.4	36.4	2022	0.0
Duration of retirement***	16.0	20.3	21.7	23.0	24.2	25.4	25.4	2070	9.4
Duration of retirement/contributory period	44%	56%	60%	63%	66%	70%	70%	2070	26%
Percentage of adult life spent in retirement****	31%	31%	33%	34%	35%	36%	36%	2070	5%
Early/late exit*****	0.7	0.7	0.7	0.8	0.5	0.6	0.8	2025	-0.1

** The 'average effective retirement age' is the age at which people start receiving a pension benefit (old-age, early or disability). It is calculated on the basis of the administrative data on new pensioners for 2022, showing projected data for the other years for the total. ** 'Average labour market exit age (Cohort Simulation Model)' refers to 2023 instead of 2022. *** 'Duration of retirement' is the remaining life expectancy at the average labour market exit age. **** The 'percentage of adult life spent in retirement' is calculated as the ratio between the duration of retirement and the life expectancy minus 20 years. ***** 'Early/late exit' is the ratio between those who exit the labour market before reaching the statutory retirement age and those who exit at or beyond the statutory retirement age. For 2022, the value refers to 2023.*

3. Pension projection results

The aim of this chapter is the presentation of the results of the pension projections for Latvia and the description of the main driving forces behind these results.

3.1. Coverage of the pension projections

The Latvian projections cover old-age I pillar (public), including supplement for service years before 1996 and II pillar pensions (funded, private mandatory), disability pensions, survivor pensions, minimum pensions (state social security benefits), as well as old service pensions (in transition period) for the base year. Projections do not cover private voluntary pensions nor specific public sector service pensions paid by the State basic budget.

TABLE 5 – ESSPROS AND AWG DEFINITION OF PENSION EXPENDITURE (%GDP)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	change 2013- last available year
Eurostat total pension expenditure	8.2	7.9	7.7	7.5	7.4	7.4	7.5	8.1	7.9	-0.3
Eurostat public pension expenditure (A)	8.2	7.9	7.7	7.5	7.4	7.4	7.5	8.1	:	-0.1
Public pension expenditure (AWG: outcome) (B)	7.9	7.6	7.4	7.3	7.1	7.1	7.1	7.7	7.4	-0.4
Difference Eurostat/AWG: (A)-(B)	0.3	0.3	0.3	0.2	0.3	0.3	0.4	0.4	:	0.1

Source: Eurostat, European Commission.

The main factors explaining the difference between ESSPROSS and AWG data on pension expenditures are that the State pension system – Social security and private mandatory (funded) pension schemes as well as minimum (guarantee) pensions – are included in the Ageing Report projections, while ESSPROSS figures include also indemnities of insurance against work injury, specific public sector service pensions.

3.2. Overview of projection results

Table 6 shows the projected dynamics of gross pension expenditures and contributions. The expected decrease of gross public pension expenditure relative to GDP during the entire projection period is mainly connected with the redistribution of the pension contribution rate between the NDC and FDC schemes. Some impact also comes from increases in the retirement age in the first projection years and the indexation rules. Gross public pension expenditure as % of GDP declines by 1.7 p.p. during the projection period, while spending on the mandatory private pension increases by 2.1 p.p.

To project taxes, it is assumed that tax revenues as a share of pension expenditure stay constant (at 3.79%) at the 2022 level. As a result, net pension expenditure follows the same trend as gross expenditure.

The public pension contributions include contributions to the state pension special budget (covering old-age pensions, survival pensions, old service pensions, funeral benefits, benefit in case of deceased spouse) and contributions to disability insurance. The contribution rate to the state pension insurance varies – it depends on spending shares of social insurance special budgets. The contribution rates to the state pension budget and for disability insurance were fixed in the projections at the rates in 2022.

TABLE 6 – PROJECTED GROSS AND NET PENSION SPENDING AND CONTRIBUTIONS (%GDP)

	2022	2030	2040	2050	2060	2070	peak value	peak year	change 2022-2070
Expenditure									
Gross public pension expenditure	**7.2**	**6.9**	**6.5**	**6.3**	**6.1**	**5.4**	**7.4**	**2023**	**-1.7**
Private occupational pensions	:	:	:	:	:	:	:	:	:
Private individual mandatory pensions	0.1	0.2	0.5	1.2	1.9	2.2	2.2	2070	2.1
Private individual non-mandatory pensions	:	:	:	:	:	:	:	:	:
Gross total pension expenditure	7.2	7.1	7.0	7.5	8.0	7.6	8.1	2058	0.4
Net public pension expenditure*	6.9	6.7	6.2	6.1	5.9	5.2	7.1	2023	-1.7
Net total pension expenditure*	6.9	6.9	6.8	7.2	7.8	7.4	7.9	2058	0.5
Contributions									
Public pension contributions	7.9	7.3	7.2	7.2	7.2	7.1	7.9	2022	-0.8
Total pension contributions	9.7	9.2	9.1	9.1	9.1	9.0	9.7	2022	-0.7
Balance of the public pension system (%GDP)**	0.8%	0.4%	0.7%	0.9%	1.0%	1.7%	0.4%	2028	0.9%

**Net pension expenditure excludes taxes on pensions and compulsory social security contributions paid by beneficiaries. **Public pension contributions - gross public pension expenditure (peak value/year shows most negative value).*

Source: European Commission, EPC.

Table 7 shows projected developments of expenditure in the earnings-related old-age and early pensions, minimum pensions, disability and survivors' pensions.

The change in old-age and early pensions spending is mainly due to the redistribution of pension contribution rates between NDC and FDC. The ratio of disability and survivors' pension spending mostly follows demographic developments.

TABLE 7 – GROSS PUBLIC PENSION SPENDING BY SCHEME (%GDP)

	2022	2030	2040	2050	2060	2070	peak value	peak year	change 2022-2070
Total public pensions	7.2	6.9	6.5	6.3	6.1	5.4	7.4	2023	-1.7
Old-age and early pensions	6.3	6.2	5.8	5.6	5.5	4.7	6.6	2023	-1.7
Flat component	:	:	:	:	:	:	:	:	:
Earnings-related	6.3	6.2	5.8	5.6	5.4	4.7	6.6	2023	-1.7
Minimum pensions (non-contributory)	0.01	0.01	0.01	0.02	0.02	0.02	0.02	2059	0.01
Disability pensions	0.7	0.6	0.6	0.6	0.5	0.6	0.7	2022	-0.1
Survivor pensions	0.1	0.2	0.1	0.1	0.1	0.1	0.2	2032	0.0
Other pensions	:	:	:	:	:	:	:	:	:

Source: European Commission, EPC.

3.3. Description of main driving forces behind the projection results and their implications

This part provides more details about the development of public pension expenditures (Table 8). It uses a standard arithmetic disaggregation of the pension expenditures-to-GDP ratio into the dependency ratio, coverage ratio, benefit ratio and a labour market effect (Figure 2, first equation). Two further sub-decompositions can be conducted. First, the coverage ratio can be split to look into the take-up ratios for old-age pensions and early pensions (second equation in Figure 2). Second, the labour market indicator is further disaggregated according to the third equation in Figure 2.

FIGURE 2 – DISAGGREGATION OF PUBLIC PENSION EXPENDITURE

$$\frac{pension\ \ expenditure}{GDP} = \underset{\downarrow}{\frac{population\ \ 65+}{population\ \ 20-64}} \times \underset{\downarrow}{\frac{number\ \ of\ pensioners}{population\ \ 65+}} \times \underset{\downarrow}{\frac{average\ \ pension\ \ income}{\frac{GDP}{hours\ \ worked\ \ 20-74}}} \times \underset{\downarrow}{\frac{population\ \ 20-64}{hours\ \ worked\ \ 20-74}} \quad [1]$$

dependency ratio; coverage ratio; benefit ratio; labour market effect

$$\frac{number\ \ of\ pensioners}{population\ \ 65+} = \underset{\downarrow}{\frac{number\ \ of\ pensioners\ \ 65+}{population\ \ 65+}} + \left(\underset{\downarrow}{\frac{number\ \ of\ pensioners\ \ \leq 65}{population\ \ 50-64}} \times \underset{\downarrow}{\frac{population\ \ 50-64}{population\ \ 65+}}\right) \quad [2]$$

coverage ratio old-age; coverage ratio early-age; cohort effect

$$\frac{population\ \ 20-64}{hours\ \ worked\ \ 20-74} = \underset{\downarrow}{\frac{population\ \ 20-64}{employed\ \ people\ \ 20-64}} \times \underset{\downarrow}{\frac{employed\ \ people\ \ 20-64}{hours\ \ worked\ \ by\ people\ \ 20-64}} \times \underset{\downarrow}{\frac{hours\ \ worked\ \ by\ people\ \ 20-64}{hours\ \ worked\ \ by\ people\ 20-74}} \quad [3]$$

1/employment rate; 1/labour intensity; 1/career shift

Source: European Commission, EPC.

Table 8 provides the breakdown of development of pension expenditures. The expenditure-increasing dependency ratio effect reflects the impact of the current demographic situation, fertility projections and the assumed increase in life expectancy and survivor rates, causing the dependency ratio to rise during most of the projection period. However, as of 2060 a negative dependency ratio effect is projected - explainable by the demographic developments.

The main driving force behind the overall decrease of the public pension expenditures-to-GDP is the benefit ratio. The constant decrease in the benefit ratio (average benefit/average wage) over the projection period (see also Table 9) is explained mainly by switching part of the public old-age scheme into private funded schemes – so public provision decreases while the private mandatory part increases. Also, indexation at rates below average wage growth plays a role.

The decrease of the coverage ratio for old-age pensioners in the first period of projection is the result of the increase in the retirement age and early retirement age as well as that pensioners living abroad are included in overall pensioners at the start of projections, but not thereafter. The coverage ratio for early age pensioners reflect demography - developments by sexes and single ages as assumptions in the model are used. The labour market effect is limited.

TABLE 8 – FACTORS BEHIND THE CHANGE IN PUBLIC PENSION EXPENDITURE BETWEEN 2019 AND 2070 (PPS OF GDP) – PENSIONERS[7]

	2022-30	2030-40	2040-50	2050-60	2060-70	2022-70
Public pensions to GDP	-0.2	-0.4	-0.2	-0.2	-0.7	-1.7
Dependency ratio effect	1.3	1.1	1.1	1.1	-0.7	3.8
Coverage ratio effect*	-0.4	-0.3	-0.1	-0.2	0.1	-0.9
Coverage ratio old-age	-0.2	-0.1	0.0	0.0	-0.1	-0.4
Coverage ratio early-age	-0.2	-0.5	0.8	0.6	-0.6	0.2
Cohort effect	-1.1	-0.3	-1.5	-1.5	1.8	-2.6
Benefit ratio effect	-1.1	-1.2	-1.0	-0.9	-0.2	-4.4
Labour market effect	0.2	0.0	-0.1	-0.1	0.1	0.1
Employment ratio effect	0.0	0.0	0.0	-0.1	0.1	-0.1
Labour intensity effect	0.0	0.0	0.0	0.0	0.0	0.0
Career shift effect	0.2	0.0	0.0	0.0	0.1	0.2
Residual	-0.1	-0.1	-0.1	-0.1	0.0	-0.4

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

Source: European Commission, EPC.

Changes in the replacement rate at retirement and in the benefit ratio are shown in Table 9. Both benefit rates and replacement rates decline significantly during almost the entire projection period.

The gross average replacement rate at retirement is the ratio of the first average pension of those who retire in a given year over the average wage at retirement. Switching part of the public old-age scheme into private funded schemes is the main driving factor behind the decrease in the replacement ratio of the social security scheme.

- Under the NDC scheme, the old-age pension capital is valorised on the basis of changes in the contribution wage sum. The negative growth of employment during most of the projection period has thus a negative impact on the future replacement rate of the social security pension scheme – wages grow faster than the contribution wage sum.
- Old-age pension at retirement is calculated as accumulated pension capital divided by the life expectancy at retirement age, as discussed in Section 1. At an unchanged retirement age, higher life expectancy thus has a negative effect on the pension amount and on the replacement rate at retirement.

At the same time, the replacement rate of the private mandatory scheme should increase (not included in the projections due to a lack of data).

The decrease in the benefit ratio (average benefit/average wage) over the projection period is explained mainly by switching part of the public old-age scheme into the private funded scheme – so the public provision decreases while the private mandatory part increases. Also, pension indexation at rates below average wage growth plays a role.

In the Latvian projection exercise the actual average contribution wage in 2022 for contributors (excluding transfers) at the age of 63 is used (963,38 EUR per month). For future years, the average nominal wage growth rate was applied, as provided by the Commission. For the calculation of old-age pensions, the insurance period until 1995 (included) is credited with an initial capital, calculated using an average contribution wage[8] of individuals in 1996-1999. Retired people, whose insurance record is

[7] For the disaggregation based on the number of *pensions*, see Table A3 in the methodological annex.

[8] The average contribution wage is the average wage on which contributions are actually based. It takes into account special regimes of contributors, ceilings and also social transfers (for the non-contributory periods) and is

not shorter than 30 years, but whose income has been below the state average, are also supported financially, e.g. for starting capital calculation in relevant years (1996–1999) the average wage is taken into account, not the individual contribution wage. More than half of new granted pensions benefited from this privilege as well as from other privileges and advantages, which has a positive impact on old-age pension amounts in the transitional period. Year by year these privileges and their impact decrease and pure NDC rules dominate.

The state social insurance scheme is mandatory with a coverage rate of 100%. The coverage rate of the private pension scheme as it started to operate in 2001 grows over the projection period. It currently covers about 90% of the population 15-74. This scheme is expected to be fully mandatory around 2035, when cohorts of voluntary participants gradually vanish.

TABLE 9 – BENEFIT RATIO (BR), REPLACEMENT RATE AT RETIREMENT (RR) AND COVERAGE BY PENSION SCHEME (IN %)

	2022	2030	2040	2050	2060	2070	change 2022-2070 (pps)
Public scheme (BR)	25%	23%	19%	16%	14%	13%	-12%
Coverage	100%	100%	100%	100%	100%	100%	0%
Public scheme: old-age earnings related (BR)	28%	25%	21%	17%	14%	14%	-14%
Public scheme: old-age earnings related (RR)	56%	39%	28%	24%	23%	24%	-33%
Coverage	80%	81%	82%	84%	86%	83%	4%
Private occupational scheme (BR)	:	:	:	:	:	:	:
Private occupational scheme (RR)	:	:	:	:	:	:	:
Coverage	:	:	:	:	:	:	:
Private individual schemes (BR)	:	:	:	:	:	:	:
Private individual schemes (RR)	:	:	:	:	:	:	:
Coverage	:	:	:	:	:	:	:

Coverage of each pension scheme is calculated as a ratio of the number of pensioners within the scheme and the total number of pensioners in the country. In case data on pensioners are not available, the calculation is based on the number of pensions.

TABLE 10 – SYSTEM DEPENDENCY RATIO AND OLD-AGE DEPENDENCY RATIO

	2022	2030	2040	2050	2060	2070	change 2022-2070
Number of pensioners (thousand) (I)	543	541	538	540	535	474	-68
Employment (thousand) (II)	896	783	696	610	537	520	-376
Pension system dependency ratio (SDR) (I)/(II)	0.6	0.7	0.8	0.9	1.0	0.9	0.3
Number of people aged 65+ (thousand) (III)	394	418	432	443	450	393	-1
Working-age population 20-64 (thousand) (IV)	1094	975	867	753	652	643	-451
Old-age dependency ratio (OADR) (III)/(IV)	0.4	0.4	0.5	0.6	0.7	0.6	0.3
System efficiency (SDR/OADR)	1.7	1.6	1.6	1.5	1.4	1.5	-0.2

Source: European Commission, EPC.

In Table 11 the consistency is verified between, on the one hand, the number of pensioners by age group and, on the other hand, the inactive population in the same age group and the total population in the age group. The same analysis is done with a focus on women (Table 12).

usually lower than the economy-wide average wage. There is a large difference between the average gross wage as calculated by the Commission and used for the benefit ratio and the actual contribution wage from national administrative data of Latvia. In 2022, the average contribution wage from administrative data was 1217,54 EUR per month, which is 72% of the wage provided by Commission in projections.

The ratio of pensioners to inactive population in age group 55-59 is higher than in age group 60-64 due to differences in participation rates. The participation rates in age group 60-64 are lower than in age group 55-59.

The ratio to population and to inactive population shows the relation between demographic, labour force and pensioner projections.

The number of pensioners in the first year of the projections are actual statistical data, which include also pensioners living abroad, which thereafter are not considered in the Latvian pension model.

TABLE 11 – PUBLIC PENSIONERS TO (INACTIVE) POPULATION BY AGE GROUP (%)

pensioners / inactive population	2022	2030	2040	2050	2060	2070
Age group -54	13.2	15.1	16.6	15.0	16.3	17.3
Age group 55-59	76.5	82.8	82.1	82.3	93.4	94.4
Age group 60-64	97.0	66.0	68.2	72.9	78.3	77.2
Age group 65-69	151.6	116.8	117.8	118.4	118.3	117.4
Age group 70-74	119.0	105.1	102.3	103.5	103.2	104.4
Age group 75+	106.2	106.3	102.8	102.6	102.9	100.0

pensioners / total population	2022	2030	2040	2050	2060	2070
Age group -54	5.5	6.3	6.6	6.1	6.6	6.9
Age group 55-59	14.6	14.8	15.0	16.3	16.9	17.0
Age group 60-64	32.2	23.5	23.6	24.6	26.5	25.6
Age group 65-69	103.7	98.2	98.2	98.5	99.5	97.7
Age group 70-74	104.3	99.6	97.5	98.7	98.5	99.6
Age group 75+	106.2	106.3	102.8	102.6	102.9	100.0

Source: European Commission, EPC.

TABLE 12 – FEMALE PENSIONERS TO (INACTIVE) POPULATION BY AGE GROUP (%)

female pensioners / inactive population	2022	2030	2040	2050	2060	2070
Age group -54	11.8	13.5	14.9	13.5	14.8	15.5
Age group 55-59	71.7	81.2	74.4	78.6	90.0	88.6
Age group 60-64	95.2	64.5	64.0	69.9	76.2	73.7
Age group 65-69	144.3	115.6	115.3	115.1	115.8	115.7
Age group 70-74	117.4	103.6	100.2	100.4	101.2	101.8
Age group 75+	105.6	104.8	100.7	100.7	102.3	100.5

female pensioners / total population	2022	2030	2040	2050	2060	2070
Age group -54	5.1	6.0	6.4	5.9	6.5	6.7
Age group 55-59	13.5	14.5	15.4	17.1	17.8	17.4
Age group 60-64	31.2	22.6	23.4	24.8	26.7	25.4
Age group 65-69	103.0	97.0	96.1	96.4	97.8	96.7
Age group 70-74	103.9	98.3	95.6	96.0	96.7	97.2
Age group 75+	105.6	104.8	100.7	100.7	102.3	100.5

Source: European Commission, EPC.

To assess the consistency of the pension projections, Table 13 provides information on (i) new old-age earnings-related public pension expenditure, (ii) the number of new pensions, (iii) average contributory periods, (iv) average accrual rates, (v) average pensionable earnings, (vi) sustainability or adjustment factors and (vii) the number of months a pension benefit is received the first year.

The contributory period is assumed constant at the level observed in 2022 for men and women during the entire projection period.

The average notional accounts contribution rate declines in almost all projection years, because of the periodical change of the NDC contribution rate (FDC contribution rate changes accordingly) from 2001 to 2016 as well as a gradual increase in the FDC rate impact (decrease in NDC rate impact accordingly) for new pensioners.

The annuity factor increases during the entire projection period because life expectancy is rising while the legal retirement age remains constant as of 2025.

The decrease in average pensionable earnings as % of average wage is explained by the the fact that the contribution wage sum (not wage index) is used for the valorisation of the notional capital upon retirement. In addition, the transitional period's privileges decrease, which has a negative impact on pensionable earnings over time. A gradual stabilisation and then increase in the ratio is projected after 2050.

The average contributory period for women is higher than for men, while the average pensionable earnings are higher for men. The average accrual rate for both men and women is the same as a unisex life table is used to determine the pension benefit.

The number of new pensioners develops in line with demography.

TABLE 13 – BREAKDOWN OF NEW PUBLIC PENSION EXPENDITURE (OLD-AGE AND EARLY EARNINGS-RELATED PENSIONS)

TOTAL	2022	2030	2040	2050	2060	2070
Projected new pension expenditure (million EUR)*	77	87	95	131	107	173
I. Number of new pensions (1000)	21.8	22.4	21.8	23.4	13.7	15.1
II. Average contributory period (years)	36.0	36.0	36.0	36.0	36.0	36.0
III. Average accrual rate (%) (c/A)	1.1%	1.0%	0.8%	0.7%	0.6%	0.6%
Notional-accounts contribution rate (c)	19.1%	18.6%	16.0%	14.7%	14.1%	14.0%
Annuity factor (A)	18.1	18.6	20.2	21.7	23.0	24.3
IV. Monthly average pensionable earnings (1000 EUR)	1.4	1.7	2.3	3.5	5.4	8.5
V. Sustainability/adjustment factors	1.0	1.0	1.0	1.0	1.0	1.0
VI. Average number of months paid the first year	6.5	6.5	6.5	6.5	6.5	6.5
Monthly average pensionable earnings / monthly economy-wide average wage	85%	63%	56%	56%	59%	65%

MEN	2022	2030	2040	2050	2060	2070
Projected new pension expenditure (million EUR)*	34	40	47	69	59	95
I. Number of new pensions (1000)	9.5	10.0	10.3	11.7	7.3	7.9
II. Average contributory period (years)	35.5	35.5	35.5	35.5	35.5	35.5
III. Average accrual rate (%) (c/A)	1.1%	1.0%	0.8%	0.7%	0.6%	0.6%
Notional-accounts contribution rate (c)	19.1%	18.6%	16.0%	14.7%	14.1%	14.0%
Annuity factor (A)	18.1	18.6	20.2	21.7	23.0	24.3
IV. Monthly average pensionable earnings (1000 EUR)	1.5	1.7	2.5	3.8	5.8	9.0
V. Sustainability/adjustment factors	1.0	1.0	1.0	1.0	1.0	1.0
VI. Average number of months paid the first year	6.5	6.5	6.5	6.5	6.5	6.5
Monthly average pensionable earnings / monthly economy-wide average wage	88%	66%	59%	60%	62%	70%

WOMEN	2022	2030	2040	2050	2060	2070
Projected new pension expenditure (million EUR)*	42	47	48	62	48	78
I. Number of new pensions (1000)	12.3	12.4	11.5	11.7	6.5	7.2
II. Average contributory period (years)	36.4	36.4	36.4	36.4	36.4	36.4
III. Average accrual rate (%) (c/A)	1.1%	1.0%	0.8%	0.7%	0.6%	0.6%
Notional-accounts contribution rate (c)	19.1%	18.6%	16.0%	14.7%	14.1%	14.0%
Annuity factor (A)	18.1	18.6	20.2	21.7	23.0	24.3
IV. Monthly average pensionable earnings (1000 EUR)	1.4	1.6	2.2	3.3	5.1	7.9
V. Sustainability/adjustment factors	1.0	1.0	1.0	1.0	1.0	1.0
VI. Average number of months paid the first year	6.5	6.5	6.5	6.5	6.5	6.5
Monthly average pensionable earnings / monthly economy-wide average wage	82%	60%	53%	52%	55%	61%

Source: European Commission, EPC.

3.4. Financing of the pension system

In 2022, the total social insurance contribution rate in Latvia was 34.09% of the gross contribution wage, with the employer part at 23.59% and the employee's at 10.5%. The largest part of the total social insurance contributions goes to pension insurance – 23.91 pps, of which 6 pps flows to the 2nd tier, if one participates to the 2nd tier. These contributions are not divided between employer and employee contributions.

The line "Employer contributions" in Table 15 shows developments as a % of GDP of all contributions paid by employer/employee to pension insurance, excluding contributions to the 2nd tier, contributions to disability insurance, as well as contributions made by other social insurance budgets for insured beneficiaries (recipients of sickness benefits, parental leave, unemployment, etc.). The line "Other

revenues" includes additional targeted revenue from the state basic budget for the pension supplement during the transition period.

TABLE 14 – FINANCING OF THE PUBLIC PENSION SYSTEM

	Public employees	Private employees	Self-employed
Contribution base	Gross salary	Gross salary	Earnings
Contribution rate/contribution			
Employee	Total contribution rate for old-age pension capital (employer and employee): 20% (if no participant of 2nd tier) or 14% (if participant of 2nd tier), with 6% contribution to the 2nd tier. Solidarity part (employer and employee) for pension insurance - 3,91% . For disability insurance the rate of 2.29% applies.		Total contribution rate for old-age pension capital (employer and employee): 20% (if no participant of 2nd tier) or 14% (if participant of 2nd tier), with 6% contribution to the 2nd tier. Solidarity part (employer and employee) for pension insurance - 3,91%. For disability insurance the rate of 1.68% applies.
Employer			
*State**	For beneficiaries insured from the State basic budget and special social insurance budgets the contribution rate for old-age pensions - 20% mostly from benefit amount.		
*Other revenues**	Additional targeted revenues from the state basic budget taken into account for the supplement coverage (for transition period pensioners).		
Maximum contribution	78100 EUR per year (maximum contribution base) – in 2022		
Minimum contribution	Minimum contribution base of 500 EUR (minimum wage) per month – in 2022		Minimum contribution base of 500 EUR (minimum wage) per month – in 2022. Up to minimum - 10% of earnings goes to old age pension insurance.

**Only legislated contributions are reported.*

Source: European Commission, EPC.

TABLE 15 – REVENUE FROM CONTRIBUTIONS AND NUMBER OF CONTRIBUTORS IN THE PUBLIC SCHEME

	2022	2030	2040	2050	2060	2070	change 2022-2070 (pps)
Public pension contributions (%GDP)	7.9	7.3	7.2	7.2	7.2	7.1	-0.8
Employer contributions	*7.2*	*7.1*	*7.1*	*7.2*	*7.1*	*7.1*	*0.0*
Employee contributions	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
*State contribution**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
*Other revenues**	*0.8*	*0.3*	*0.1*	*0.0*	*0.0*	*0.0*	*-0.8*
Number of contributors (I) (1000)	939	827	734	650	571	548	-391
Employment (II) (1000)	896	783	696	610	537	520	-376
(I) / (II)	105%	106%	106%	107%	106%	105%	1%

**Includes only legislated contributions.*

Source: European Commission, EPC.

3.5. Sensitivity analysis

Table 16 presents the scenarios in terms of deviation from the baseline.

Amounts of newly granted pension at retirement are calculated by dividing the amount of contributions accumulated in the notional account by projected life expectancy at retirement for the individual's birth cohort. The higher life expectancy scenario increases the number of pensioners, but that is partly offset by smaller average pension amounts.

In the higher/ lower labour productivity scenarios, due to the indexation regime (CPI + part of real wage sum growth is used for indexation of pensions; wage sum growth is used for valorisation of NDC pension capital), the ratio of public pension expenditures to GDP is smaller/higher in comparison to the baseline.

The higher employment of older workers scenario not only leads to higher GDP but also results in a larger accumulated pension capital and thus higher average pensions.

Higher/lower migration scenarios shows little effect to the pension expenditures, decreases/increases the number of contributors as well as number of pensioners.

Lower fertility: a lower fertility rate leads to fewer future contributors. To some extent also GDP decreases and the pension expenditure ratio increases.

In the scenario with higher inflation, the ratio of public pension expenditures to GDP is almost unchanged from the baseline. Higher inflation leads, through indexation, to correspondingly higher public pension expenditure. Public pensions in payment are indexed to 100% of actual inflation and part of the real wage sum growth, so the real value of pensions is unchanged.

TABLE 16 – EXPENDITURE PROJECTIONS UNDER DIFFERENT SCENARIOS (PPS DEVIATION FROM BASELINE)[9]

Public pension expenditure	2022	2030	2040	2050	2060	2070	change 2022-2070 (pps)
Baseline (%GDP)	7.2	6.9	6.5	6.3	6.1	5.4	-1.7
Higher life expectancy at birth (+2y)	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Higher migration (+33%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lower migration (-33%)	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Lower fertility (-20%)	0.0	0.0	0.0	0.0	0.1	0.2	0.2
Higher inflation scenario (2% by 2052)	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
Higher employment rate of older workers (+10 pps)	0.0	-0.1	0.0	0.1	0.1	0.0	0.0
Higher productivity (TFP converges to 1%)	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
Lower productivity (TFP converges to 0.6%)	0.0	0.0	0.2	0.2	0.2	0.1	0.1
Policy scenario: link retirement age to longevity	0.0	-0.1	-0.3	-0.4	-0.2	-0.2	-0.2
Policy scenario: constant retirement age	0.0	0.2	0.1	0.1	0.0	0.1	0.1
Policy scenario: constant benefit ratio	0.0	0.1	1.4	2.8	4.2	3.9	3.9

Source: European Commission, EPC.

Linking the retirement age to the increase in life expectancy would increase the number of contributors, decrease the number of pensioners and result in a larger accumulated pension capital and higher average pension. During the initial period there is a higher positive impact, which later decreases by higher life expectancy and higher benefits.

The constant benefit ratio scenario, which keeps the earnings-related public benefit ratio constant from the moment it falls to 90% of the base year level, leads to substantially higher pension expenditure. This

[9] For more information on the design of the sensitivity scenarios, see Chapter 5 of Part I in European Commission and EPC (2023), *'2024 Ageing Report: Underlying assumptions and projection methodologies'*, European Economy, Institutional Paper 257.

reflects the steep decline of adequacy indicators under the baseline (see Table 9). Offsetting this projected decline bears a considerable budgetary cost.

The constant retirement age scenario produces additional expenditure in the initial stages but later on the effect is neutralized by lower benefits, which might not be socially sustainable.

3.6. Changes in comparison with previous Ageing Report projections

The results from the new projections are compared with the results from previous projection rounds in Table 17. There are some changes in comparison with the previous AWG projections, with the revision compared to the previous exercise primarily due to lower dependency ratio and benefit ratio effects.

The impact of the *benefit ratio* on expenditure is higher (more negative) than in the AR 2021. The benefit ratio is higher initially than in the previous projections (due to the changes in the assumptions, in particular a higher wage level in the base yearn as well as some technical improvements in the modelling) but eventually declines to the same level as in the previous projections, implying a bigger decline and thus larger negative contribution to overall pension expenditure.

Changes in the demographic projections lead to a lower increase in the *dependency ratio*. The *coverage ratio effect* is relatively small and the *labour market effect* is about neutral.

TABLE 17 – DISAGGREGATION OF THE CHANGE IN THE PUBLIC PENSION EXPENDITURE-TO-GDP RATIO IN CONSECUTIVE AGEING REPORTS (PPS OF GDP)

	Public pension expenditure	*Dependency ratio effect*	*Coverage ratio effect*	*Benefit ratio effect*	*Labour market effect*	*Residual (incl. interaction effect)*
2006 Ageing Report (2004-2050)	**-0.9**	*3.4*	*-1.3*	*-2.3*	*-0.7*	*0.0*
2009 Ageing Report (2007-2060)	**-0.4**	*5.7*	*-1.6*	*-3.9*	*-0.2*	*-0.4*
2012 Ageing Report (2010-2060)	**-3.7**	*6.7*	*-2.1*	*-6.2*	*-1.4*	*-0.8*
2015 Ageing Report (2013-2060)	**-3.1**	*3.8*	*-1.4*	*-4.5*	*-0.8*	*-0.3*
2018 Ageing Report (2016-2070)	**-2.6**	*4.4*	*-1.4*	*-4.7*	*-0.5*	*-0.5*
2021 Ageing Report (2019-2070)	**-1.2**	*4.6*	*-1.4*	*-4.1*	*0.1*	*-0.5*
2024 Ageing Report (2022-2070)	**-1.7**	*3.8*	*-0.9*	*-4.4*	*0.1*	*-0.4*

- The disaggregation for 2006/2009/2012 is on the basis of the number of pensions; for the other vintages it is on the basis of pensione

- The projection horizon has been extended over consecutive Ageing Reports, limiting comparability over time.

Source: European Commission, EPC.

Table 18 compares the projections of the 2021 Ageing Report with actual public pension expenditure between 2019 (the previous base year) and 2022 (the new base year).

The changes in assumptions include the differences in macro, labour force and demographic assumptions. Also there is a small impact because of a 4-year cycle used for modelling retirement ages during the period of increasing the retirement age (by 3 months each year until 2025). Increase in full years is currently used in projections, instead of actual increase by 3 months every year.

TABLE 18 – DISAGGREGATION OF THE DIFFERENCE BETWEEN THE 2021 PROJECTIONS AND ACTUAL PUBLIC PENSION EXPENDITURE IN 2019-2022 (%GDP)

	2019	2020	2021	2022
Ageing Report 2021 projections (%GDP)	7.1	8.1	7.7	7.6
Assumptions (pps of GDP)	0.0	-0.4	-0.2	-0.5
Coverage of projections (pps of GDP)	0.0	0.0	0.0	0.0
Constant policy impact (pps of GDP)	0	0	0	0
Policy-related impact (pps of GDP)	0	0	0	0
Actual public pension expenditure (%GDP)	7.1	7.7	7.4	7.2

Source: European Commission, EPC.

Table 19 shows the impact of the changes in the projections compared to the 2021 round. The changes due to the assumptions include the differences in macro, labour force and demographic assumptions. The changes in the coverage or in the modelling includes improvements in the modelling of the pension capital accumulated before the base year.

TABLE 19 – DISAGGREGATION OF THE DIFFERENCE BETWEEN THE 2021 AND THE NEW PUBLIC PENSION PROJECTIONS (%GDP)

	2022	2030	2040	2050	2060	2070
Ageing Report 2021 projections	7.6	6.9	6.6	6.3	6.2	5.9
Change in assumptions (pps of GDP)	-0.5	0.0	0.1	0.2	0.1	-0.4
Improvement in the coverage or in the modelling (pps of GDP)	0.0	-0.1	-0.2	-0.3	-0.3	-0.2
Change in the interpretation of constant policy (pps of GDP)						
Policy-related changes (pps of GDP)	0.0	0.1	0.1	0.1	0.1	0.1
New projections	7.2	6.9	6.5	6.3	6.1	5.4

Source: European Commission, EPC.

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

4.1. Institutional context in which the projections are made

The Ministry of Welfare of Latvia is responsible for pension projections in Latvia. The Latvian Social Insurance Budget/Pension Model was built by World Bank consultants and ministry experts more then 20 years ago.

4.2. Data used to run the model

Initial data are prepared by the State Social Insurance Agency and Central Statistical Bureau, like labour force and wage profiles, contributors, contributions, pensioners and pension profiles, etc.

4.3. Reforms incorporated in the model

- State social security benefit or minimum pension amounts taken into account.
- Transfers go only to NDC scheme since 2020, revenues increase, however, the model does not capture this.
- Guaranteed part of pensions, but we are not convinced that the model performs adequately-we do not observe full impact on expenditure.

4.4. General description of the model(s)

The model is a macro simulation model and generates long-term projections of expenditures and revenues of the total social insurance budget. The model rests on five pillars:

- A Demographic Model
- A Population Status and Labour-force Participation Model
- An Income Model
- Pension Model
- Benefit Models

The model is presently designed to produce projections for old age, disability, short-term sickness, work injury, unemployment, maternity, survivor, funeral benefits and other important outlays. The most elaborate modules are those that generate disability and old-age pension projections.

For a specified set of rules for the calculation of benefits, the user steers the projections by choosing parameters that determine scenarios for the development of the population, participation in the labour force, the unemployment rate, the average wage and the degree of participation in the formal economy.

4.5. Other features of the projection model

The projection model produces projections on an annual basis through the year 2070, although the projection period can be abridged and in some cases elongated.

There are four old-age pension modules. These produce projections of average benefits and costs for:

- The pre-reform defined-benefit system

- The defined-contribution, notional account pay-as-you-go (PAYG) system
- The defined-contribution funded (2nd Tier) funded system
- The defined-contribution funded (2nd Tier) funded system with refunding into the PAYG reserve

The disability model keeps track of the flow of new recipients and the total stock of beneficiaries. The model contains the following features:

- User specified age-gender recovering probabilities specific for the disabled
- User specified age-gender granting probabilities specific for the disabled
- User specified groups with the separate benefit rules
- User specified indexation of benefits

Disabled persons who have reached retirement age are granted the old-age pension instead of disability pension (disability pensioners, who reached retirement age before 1996 continue to receive disability pension – until the end of transition period)

The model presently calculates survivor pensioners until age 24, using initial data and factor to specify the average number of survivors per deceased.

Underlying assumptions agreed by the AWG that have been used in the model(s):

- demographical assumptions (fertility, mortality, migration);
- macroeconomic assumptions:
  - wage growth;
  - GDP growth
  - participation rates;
  - unemployment rates;
  - employment rates,
  - interest rates, etc.

- <u>Additional assumptions and methodology used to estimate:</u>
  - The number of pensioners, including estimates of the average number of newly retired pensioners
  - Average age of retirement of a birth cohort, for men and women separately (according to law, considering early retirement) has been used in the projections (all cohort of gender take retirement in the same year, except those who retired earlier)
  - Pension accrual
  - Pension capital for old-age pensions (NDC) has been calculated by age and gender in the model. Accumulated capital until year 2022 distributed by age and gender has been put in input data as base. Growth of the social insurance wage base is used for capital indexation until retirement.
  - Pension capital for old-age pensions (**FDC**) has been calculated by age and gender in the model.
  - Accumulated capital until year 2022 distributed by age and gender has been put in input data as base. AWG defined interest rate used for FDC capital indexation.
  - An actual data about participation in FDC pension scheme by age and genders as well as projected demographical cohorts by age and genders distributed by mandatory and voluntary cohorts (in accordance with legislation) with assumptions for projected participation rates in FDC are used for projections of FDC contributions, capital and pensions.

- The legislated FDC rates (for all projection period) are used for projection the FDC contributions and AWG defined interest rate is used in accumulation an FDC capital.
- For calculation of FDC pension at retirement the FDC capital at retirement is divided by projected life expectancy at retirement.
- A legislated retirement age is used for FDC and NDC.
- All subsidies for the individual, paid by the state budget or other social insurance budgets (in case of childcare, unemployment etc.) are taken into account.

- Total contribution rate to pension capital (NDC + FDC) = 20%.
  Contribution rate to the state funded pension scheme:

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
2%	2%	2%	2%	2%	2%	4%	8%	2%	2%	2%

  2% in 2012, 4% in 2013 and 2014, 5% in 2015, 6% as of 2016.

FDC pensions are indexed with the AWG-defined interest rate.

NDC and funded pension amounts depend on accumulated NDC and FDC capital, life expectancy at the retirement age and pension indexation.

For calculations of different types of pensions, the model makes calculations according to the law.

Number of years receiving a pension depends on estimation of life expectancy.

Methodological annex

Economy-wide average wage at retirement

In the projections, the economy-wide average wage at retirement in 2022 equals the average contribution wage for contributors (excluding transfers) at the age of 63. Thereafter, the average wage at retirement evolves in line with the average yearly gross wage (as provided by the Commission), i.e. constant at 57,2% of the average yearly gross wage.

TABLE A1 – ECONOMY-WIDE AVERAGE WAGE AT RETIREMENT (1000 EUR)

	2022	2030	2040	2050	2060	2070
Economy-wide average gross wage at retirement	11.6	18.2	29.0	43.6	63.5	88.9
Economy-wide average gross wage	20.2	31.8	50.6	76.1	110.9	155.5

Source: European Commission, EPC.

Pensioners vs pensions

Only the number of pensioners is used and produced in the pension projection model. The difference between the number of pensioners and the number of pensions depends only on the difference between

the number of survivor pensioners (for example - number of children) and the number of survivor pensions (for example one pension is paid for 3 children in family). For calculating the total number of survivor pensions, the coefficient is used.

Pension taxation

In the projections, tax revenues stay constant as a share of pension expenditure.

Disability pensioners

Minimum income level reform impacts the amounts of disability pensions.

Assumptions for granting of disability and recovering from disability are used for every sex and single age. So development of demography by single ages make a differences in rates by age groups. The base year included also pensioners living abroad.

Disabled persons who have reached the statutory retirement age are granted the old-age pension instead of disability pension. If the amount of old-age pension is lower than the disability pension amount, people continue to receive the higher - disability pension amount.

To provide more universal support for people with disabilities, the state social security benefit is granted to persons who are not entitled to state disability pensions, based on contributions made

TABLE A2 – DISABILITY RATES BY AGE GROUPS (%)

	2022	2030	2040	2050	2060	2070
Age group -54	4	4	5	4	5	5
Age group 55-59	14	15	15	16	17	17
Age group 60-64	18	14	14	15	16	17
Age group 65-69						
Age group 70-74						
Age group 75+						

Source: Ministry of Welfare of Latvia.

Survivors' pensions

Family members (under the age of 18) incapable of work who have been dependent on the deceased breadwinner are entitled to the survivor's pension.

Persons are also considered incapable of work, if at the time of the death of the breadwinner or later they are day department (full-time) students at secondary, vocational or tertiary educational establishment and are under the age of 24.

In the model, a simple approach-share of surviving among each age group is used, and developments come from demographic developments in each age group.

Non-earnings-related minimum pension

As of 2021 the minimum pensions are linked to median income developments (for example: using 2018 median for 2021, etc.). Therefore the minimum pension increases in line with wage growth.

Contributions

Implicit contribution rates are assumed to be constant over the projection horizon.

Alternative pension spending disaggregation

Table A3 is similar to Table 8 but provides a disaggregation of the change in pension expenditure based on the number of pensions as compared to the number of pensioners in Table 8.

Differences between the numbers of pensions and pensioners are due to survivors' pensions as there can be several children benefiting from orphan pensions.

TABLE A3 – FACTORS BEHIND THE CHANGE IN PUBLIC PENSION EXPENDITURE BETWEEN 2022 AND 2070 (PPS OF GDP) – PENSIONS

	2022-30	2030-40	2040-50	2050-60	2060-70	2022-70
Public pensions to GDP	-0.2	-0.4	-0.2	-0.2	-0.7	-1.7
Dependency ratio effect	1.2	1.1	1.1	1.1	-0.7	3.7
Coverage ratio effect*	-0.4	-0.3	-0.1	-0.2	0.1	-0.8
Coverage ratio old-age	0.0	-0.1	0.0	0.0	-0.1	-0.2
Coverage ratio early-age	-0.6	-0.5	0.9	0.6	-0.6	-0.3
Cohort effect	-1.0	-0.3	-1.5	-1.5	1.8	-2.5
Benefit ratio effect	-1.3	-1.2	-1.0	-0.9	-0.2	-4.6
Labour market effect	0.1	0.0	-0.1	-0.1	0.1	0.1
Employment ratio effect	0.0	0.0	0.0	-0.1	0.1	-0.1
Labour intensity effect	0.0	0.0	0.0	0.0	0.0	0.0
Career shift effect	0.1	0.0	0.0	0.0	0.1	0.1
Residual	0.2	-0.1	-0.1	-0.1	0.0	-0.1

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

Source: European Commission, EPC.