

ACCRUED-TO-DATE PENSION ENTITLEMENTS IN SOCIAL INSURANCE: FACT SHEET

Luxembourg

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1. Table 29 column A: Defined contribution schemes (funded, non-general government)

1. General description of the scheme and the calculation model	
<i>a. Coverage of the scheme</i>	
These schemes cover all voluntary defined contributions pension schemes resulting from negotiations between employers and employees/unions across all sectors.	
<i>b. Institutional set-up</i>	
<i>Data sources/suppliers</i>	Data is obtained from the companies' annual financial statements.
<i>Which institution is running/managing the calculations?</i>	National Institute of statistics and economic studies of the Grand Duchy of Luxembourg (STATEC)
2. Any other comments	
Values of private occupational schemes are retrieved from financial accounts (Tables 6 and 7) and sector accounts (Table 8).	

2. Table 29 column B: Defined benefit schemes and other non-defined contribution schemes (funded, non-general government)

1. General description of the scheme and the calculation model	
<i>a. Coverage of the scheme</i>	
These schemes cover defined benefit pension schemes for some deposit taking corporations, the national central bank and some non-financial corporations.	
<i>b. Institutional set-up</i>	
<i>Data sources/suppliers</i>	The financial supervisory authority (CSSF) for the deposit taking corporations, the annual report for the central bank (Banque centrale du Luxembourg/BCL) and annual financial statements for non-financial corporations.
<i>Which institution is running/managing the calculations?</i>	STATEC
<i>c. Major formulas: Benefit formula; Indexation of benefits</i>	
<i>Benefit formula</i>	Depending on data of deposit taking corporations, central bank and non-financial corporations.
<i>Indexation of benefits</i>	Depending on data of deposit taking corporations, central bank and non-financial corporations.
<i>d. Type and structure of the calculation model</i>	
The calculations are not based on a model by STATEC but rather information from the annual reports/financial reporting.	
2. Assumptions and methodologies applied	
<i>a. Discount rate</i>	
1.1% for deposit taking corporations 3.7% for the central bank Depending on the individual data for non-financial corporations	
<i>b. Wage growth</i>	
+2.5% based on the automatic wage indexation system	
<i>c. Valuation method: ABO/PBO</i>	

<i>Not available</i>
3. Data used to run the model
<i>a. Mortality tables</i>
Depending on deposit taking corporations and non-financial corporations. For the central bank the annual report indicates that the German mortality rate table DAV 2004R is used.
<i>b. Entitlement statistics; other relevant statistics</i>
<i>Not available</i>
4. Reforms incorporated in the model
Not relevant
5. Specific assumptions
<i>a. How are careers modelled?</i>
Not relevant
<i>b. How are survivor pensions calculated?</i>
Not relevant
<i>c. How is the retirement age modelled over time?</i>
Not relevant
<i>d. Other specific features of the model</i>
Not relevant
6. Any other comments
Values of private occupational schemes are retrieved from financial accounts (Tables 6 and 7) and sector accounts (Table 8).

3. Table 29 column D: Defined contribution schemes (funded, general government)

There are no funded defined contribution schemes managed by general government in Luxembourg.

4. Table 29 column E: Defined benefit schemes (funded, for general government employees, classified in financial corporations)

There are no funded defined benefit schemes for general government employees classified in financial corporations in Luxembourg.

5. Table 29 column F: Defined benefit schemes (funded, for general government employees, classified in general government)

There are no funded defined benefit schemes for general government employees classified in general government in Luxembourg.

6. Table 29 column G: Defined benefit schemes (unfunded, for general government employees, classified in general government)

1. General description of the scheme and the calculation model	
<i>a. Coverage of the scheme</i>	
<p>Column G covers special pension schemes for the public sector in Luxembourg or more precisely public pension schemes primarily for civil servants of central government, local government and social security funds administrations, for employees of the Luxembourgish National Railway Company (SNCFL) as well as for employees of some public corporations classified outside general government whose employees are subject to a special pension scheme differing from the general scheme. This amounts to less than 10% of the total workforce. All schemes covered in column G are mandatory.</p> <p>Since the public pension system has been reformed in 1999, there exist two distinct pension schemes for the public sector:</p> <ol style="list-style-type: none">i. On one hand, the original scheme, now known as the transitional special pension scheme, concerns civil servants and persons treated as such who were in post on 31 December 1998 or had been appointed by that date. Here, pension benefits are calculated based on the final salary earned by the civil servant.ii. On the other hand, the new special pension scheme essentially corresponds to the general pension scheme, diverging only in a few selected procedural and funding arrangements. It applies to civil servants who entered the public service after 31 December 1998. The new special pension scheme retains the status of a special scheme, but it is based on the same principles as the general scheme with the exception of the absence of an income ceiling for the assessment of contributions. <p>The supplementary table covers all types of pensions, including disability and survivors' pensions. Supplementary pensions for former local government workers resulting from a collective agreement are not covered by the table, as data for those schemes is missing. The forfait d'éducation also known as "Mammerent" is excluded as social assistance from the scope of Table 29.</p>	
<i>b. Institutional set-up</i>	
<i>Data sources/ suppliers</i>	<ul style="list-style-type: none">- Centre de gestion du personnel et de l'organisation de l'État (CGPO)- Caisse de prévoyance des fonctionnaires et employés communaux (CPFEC)- Institutions de la Sécurité sociale (ISS)- Société nationale des chemins de fer luxembourgeois (SNCFL)

Which institution is running/managing the calculations?	The IGSS in cooperation with STATEC.
c. Major formulas: Benefit formula; Indexation of benefits	
Benefit formula	<p>Only the pension formula of the new special pension scheme is shown. The transitional special pension scheme is being phased out and hence excluded from the projections in the sense that all new pensions are calculated with respect to the pension formula of the new special pension scheme.</p> <p>Pension = max(Minimum Pension, P1 + P2 + P3 + P4),</p> <p>Where $P1 = p1 * TCI$, (TCI = total contributory income) $P2 = (AGE + CY - p2_1) * p2_2 * TCI$, if $AGE + CY > p2_1$, (CY = contributory years) $P3 = \min(40, QY) / 40 * p3 * REF$, (REF = reference amount \approx social minimum wage, QY = contributory + credited non-contributory years) $P4 = \min(40, QY) / 40 * 0.025 * REF$ With annually changing parameters $p1$, $p2_1$, $p2_2$, and p_3</p>
Indexation of benefits	<p>Initial calculation: 100% consumer price index (CPI) + 100% real wages Pensions in payment: 100% CPI + 100% real wages as long as global contribution rate sufficient, 100% CPI + max. 50% real wages afterwards</p>
d. Type and structure of the calculation model	
<p>The national pension model used for providing actuarial estimates of future expenditure and contributions base of the general and special pension schemes in Luxemburg in line with the economic and demographic framework used in the AWG projections exercise is a standard deterministic cohort-based pension projection model. It is a fully customized version of the ILO generic pension modelling tool and it closely complies with local social insurance legislation in Luxembourg and captures national pension peculiarities.</p> <p>It is based on macro simulation techniques, whence the projections rely on grouped data. Under the model, each status of an insured person (active person, inactive person, and pensioner) is explicitly modelled, distinguishing new persons from initial stock, and associated values (average salary, average pension, etc.) are projected year by year.</p>	
2. Assumptions and methodologies applied	
a. Discount rate	
4% in the baseline scenario	
b. Wage growth	
0.9% real wage growth on average, in line with AWG assumptions (1.1% for the reference year 2018) 3.1% nominal wage growth on average, in line with AWG assumptions	
c. Valuation method: ABO/PBO	
PBO	
3. Data used to run the model	
a. Mortality tables	
AWG assumptions	
b. Entitlement statistics; other relevant statistics	
<p>Projections are based on individual register data available in the data warehouse at the IGSS. Based on the compulsory membership of people to the national social protection system, individual administrative data is available in common operational files of the Social security institutions in Luxembourg.</p> <p>Main administrative data relates to protected people monthly income declarations, which are at the basis of the computation of the contributions. Other important administrative data is related to monthly benefits paid out by the institutions. Both sources are essential to gather information on disposable income of protected people.</p>	
4. Reforms incorporated in the model	
The 2012 pension reform is fully incorporated in the model. In line with AWG assumptions, real wage indexation is reduced to 25% once the financial resources of the general pension scheme are insufficient. For further details please see the pension country fiche on AWG pension projections.	
5. Specific assumptions	
a. How are careers modelled?	

<p>The model is based on standard actuarial mathematics for social security schemes and on actuarially assumed transition probabilities (mortality rates, disability rates, retirement rates, etc.) which are used to map the transition of an insured person (active person, inactive person and pensioner) from a given year onto the next year's status.</p> <p>The development of the active insured population is linked to the evolution of total employed population and earnings assumptions, which, in turn, are explicitly linked to the assumptions on macroeconomic growth and the wage share of GDP.</p> <p>Exogenous assumptions on insurance periods spent outside of Luxembourg and on complementary insurance periods (childcare, education) are included.</p>
b. How are survivor pensions calculated?
In line with current legislation.
c. How is the retirement age modelled over time?
The legal retirement age is kept constant over time, in line with current legislation.
d. Other specific features of the model
Projections cover 48 projection years, which is equal to the length of the AWG projection period (51 projection years for the reference year 2018).
6. Any other comments
Shifts between the general scheme and special pension schemes are possible. Employees of central government (<i>employés de l'Etat</i>) fulfilling certain criteria (in terms of age or years of service) are moving for instance from the general scheme to the special pension scheme for civil servants.

7. Table 29 column H: Social security pension schemes (unfunded)

1. General description of the scheme and the calculation model	
a. Coverage of the scheme	
<p>The general pension scheme in Luxembourg is based on a system of compulsory insurance. All those who are covered by pension insurance in Luxembourg belong to the general pension scheme, apart from civil servants of central government, local government and social security funds administrations, the employees of the Luxembourgish National Railway Company (SNCF) and employees of some public corporations, which have their own statutory schemes (the special pension schemes for the public sector). People belonging to a pension scheme by virtue of working for an international body are not subject to a national scheme. It follows that the coverage of the general pension scheme is close to 90%.</p> <p>The supplementary table covers all types of pensions, including disability and survivors' pensions. The <i>forfait d'éducation</i> also known as "Mammerent" is excluded as social assistance from the scope of Table 29.</p>	
b. Institutional set-up	
<i>Data sources/ suppliers</i>	<ul style="list-style-type: none"> - Caisse nationale d'assurance pension (CNAP) - Centre commun de la sécurité sociale (CCSS)
<i>Which institution is running/managing the calculations?</i>	The Inspection générale de la sécurité sociale (IGSS) in cooperation with STATEC.
c. Major formulas: Benefit formula; Indexation of benefits	
<i>Benefit formula</i>	<p>Pension = max(MinPens, P1 + P2 + P3 + P4),</p> <p>Where</p> <p>$P1 = p1 * TCI$, (TCI = total contributory income)</p> <p>$P2 = (AGE + CY - p2_1) * p2_2 * TCI$, if $AGE + CY > p2_1$, (CY = contributory years)</p> <p>$P3 = \min(40, QY) / 40 * p3 * REF$, (REF = reference amount ≈ social minimum wage, QY = contributory + credited non-contributory years)</p> <p>$P4 = \min(40, QY) / 40 * 0.025 * REF$</p> <p>With annually changing parameters $p1$, $p2_1$, $p2_2$, and $p3$</p>
<i>Indexation of benefits</i>	Initial calculation: 100% consumer price index (CPI) + 100% real wages

	Pensions in payment: 100% CPI + 100% real wages as long as global contribution rate sufficient, 100% CPI + max. 50% real wages afterwards
<i>d. Type and structure of the calculation model</i>	
<p>The national pension model used for providing actuarial estimates of future expenditure and contributions base of the general and special pension schemes in Luxemburg in line with the economic and demographic framework used in the AWG projections exercise is a standard deterministic cohort-based pension projection model. It is a fully customized version of the ILO generic pension modelling tool and it closely complies with local social insurance legislation in Luxembourg and captures national pension peculiarities.</p> <p>It is based on macro simulation techniques, whence the projections rely on grouped data. Under the model, each status of an insured person (active person, inactive person, and pensioner) is explicitly modelled, distinguishing new persons from initial stock, and associated values (average salary, average pension, etc.) are projected year by year.</p>	
2. Assumptions and methodologies applied	
<i>a. Discount rate</i>	
4% in the baseline scenario	
<i>b. Wage growth</i>	
0.9% real wage growth on average, in line with AWG assumptions (1.1% for the reference year 2018)	
3.1% nominal wage growth on average, in line with AWG assumptions	
<i>c. Valuation method: ABO/PBO</i>	
PBO	
3. Data used to run the model	
<i>a. Mortality tables</i>	
AWG assumptions	
<i>b. Entitlement statistics; other relevant statistics</i>	
<p>Projections are based on individual register data available in the data warehouse at the IGSS. Based on the compulsory membership of people to the national social protection system, individual administrative data is available in common operational files of the Social security institutions in Luxembourg.</p> <p>Main administrative data relates to protected people monthly income declarations, which are at the basis of the computation of the contributions. Other important administrative data is related to monthly benefits paid out by the institutions. Both sources are essential to gather information on disposable income of protected people.</p>	
4. Reforms incorporated in the model	
<p>The 2012 pension reform is fully incorporated in the model. In line with AWG assumptions, real wage indexation is reduced to 25% once the financial resources of the general pension scheme are insufficient. For further details please see the pension country fiche on AWG pension projections.</p>	
5. Specific assumptions	
<i>a. How are careers modelled?</i>	
<p>The model is based on standard actuarial mathematics for social security schemes and on actuarially assumed transition probabilities (mortality rates, disability rates, retirement rates, etc.) which are used to map the transition of an insured person (active person, inactive person and pensioner) from a given year onto the next year's status.</p> <p>The development of the active insured population is linked to the evolution of total employed population and earnings assumptions, which, in turn, are explicitly linked to the assumptions on macroeconomic growth and the wage share of GDP.</p> <p>Exogenous assumptions on insurance periods spent outside of Luxembourg and on complementary insurance periods (childcare, education) are included.</p>	
<i>b. How are survivor pensions calculated?</i>	
In line with current legislation	
<i>c. How is the retirement age modelled over time?</i>	
The legal retirement age is kept constant over time, in line with current legislation.	
<i>d. Other specific features of the model</i>	
Projections cover 48 projection years, which is equal to the length of the AWG projection period (51 projection years for the reference year 2018).	
6. Any other comments	

Shifts between the general scheme and special pension schemes are possible. Employees of central government (*employés de l'Etat*) fulfilling certain criteria (in terms of age or years of service) are moving for instance from the general scheme to the special pension scheme for civil servants.

8. Table 29 column K: Entitlements of non-resident households

1. General description and the calculation model	
<i>a. Coverage of the scheme</i>	
The entitlements of non-resident households cover only the non-resident participation in the general pension scheme (column H). In special pension schemes (column G) pension relationships with the rest of the world are considered as zero in line with the AWG projections.	
<i>b. Institutional set-up</i>	
<i>Data sources/methods</i>	- Caisse nationale d'assurance pension (CNAP) - Centre commun de la sécurité sociale (CCSS)
<i>Which institution is running/managing the calculations?</i>	STATEC in cooperation with the Inspection générale de la sécurité sociale (IGSS).
2. Any other comments	
The entitlements of non-resident households in the general pension scheme (column H) are calculated for all rows based on direct information.	

9. Links to (national) publications providing further information on the pension schemes

- Pension country fiche on AWG pension projections:
https://ec.europa.eu/info/sites/default/files/economy-finance/lu_-_ar_2021_final_pension_fiche.pdf
- Comparison between the original scheme and the new special pension scheme of the public pension system:
<https://fonction-publique.public.lu/fr/carriere/fin-carriere/pension.html>
- Website of the National Pension Insurance Fund - Caisse nationale d'assurance pension (CNAP) competent for the general pension scheme Fund:
<http://www.cnap.lu/>
- Further information on the national pension system on the website of the Citizens Portal:
<http://www.guichet.public.lu/citoyens/en/travail-emploi/preretraite-retraite/index.html>