

EUROMOD

COUNTRY REPORT

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EUROMOD is the tax-benefit microsimulation model for the European Union (EU). It enables researchers and policy analysts to calculate, in a comparable manner, the effects of taxes and benefits on household incomes and work incentives for the population of each country and for the EU as a whole.

EUROMOD covers the 27 Member States and is yearly updated to cover the most recent changes in countries' policy systems. It uses input databases which are also updated on a yearly basis, coming mainly from the European Union Statistics on Income and Living Conditions (EU-SILC). The model yearly update is supported by the following Directorate-Generals of the European Commission: DG EMPL, DG ECFIN, DG TAXUD, DG REFORM, DG JRC, DG ESTAT.

Originally maintained, developed and managed by the Institute for Social and Economic Research (ISER), since 2021 these responsibilities are taken over by the Joint Research Centre (JRC) of the European Commission, in collaboration with Eurostat and 27 national teams from the EU countries.

The EUROMOD governance structure consists of a Steering Committee, allowing partner DGs to monitor the process of the EUROMOD update, and a Scientific Advisory Board to monitor and guide the scientific development of the model.

This report documents the work done in the most recent annual update for Portugal. This work was carried out by the EUROMOD core development team, based at the JRC in Seville, in collaboration with the national team.

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The results presented in this report are derived using EUROMOD version I6.0+. EUROMOD is continually being improved and the results presented here may not match those that would be obtained with earlier or later versions of EUROMOD.

For more information see <https://euromod-web.jrc.ec.europa.eu/>

The information contained in this document does not reflect the position or opinion of the European Commission.

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1. BASIC INFORMATION

1.1 Basic information regarding the tax-benefit system

- The Portuguese tax-benefit system is a **single national system**. However, the autonomous regions (Azores and Madeira) have lower income tax rates.
- **Fiscal year** matches the calendar year (*i.e.*, January 1st to December 31st). Changes to the tax system generally take place in January, whereas changes in benefits can occur throughout the year.
- Since 2016, the **legal retirement age** started to vary according to the evolution of life expectancy at the age of 65, during the 2nd and 3rd years prior to the date of the pension. It is given the option of retiring later with a pension bonus to workers that are already in the legal retirement age or have already exceeded it.
- For tax purposes, **dependent children** are children with 18 years old or less, or those under 25 years old that have a monthly income below the national minimum wage and attend – or successfully completed – 11th or 12th school year during the relevant fiscal year.
- For benefits and tax credit purposes, **single parents** are parents of resident dependent children who are not cohabiting with a partner of the opposite sex. For tax purposes, single parents are parents of resident dependent children who are not married.
- To compute the **income tax base**, the tax rate is applied to the half of the aggregate income, and then the resulting tax liability is multiplied by two to obtain couple's total tax liability. Some income components, like capital income, are taxed at source and may be left out of the final tax calculations.
- Taxpayers need to fill an **annual tax return**, since some differences between the withholdings at source and the exact tax liability can exist.
- The **means-tested component** relies on different time scales to assess income: entitlement to a means-tested benefit can depend on the income of the previous year, the previous month or even the current income, depending on the specific benefit.
- Most benefits and pensions are indexed to the **Social Support Index (SSI)**, which is updated every year according to the real GDP growth and CPI variation. In 2023, SSI is €480.43.

1.2 Social benefits

National minimum wage (*'retribuição mínima mensal garantida'*): although not truly a social benefit, minimum wage guarantees, by law, a minimum remuneration to full-time workers. In 2023, the amount was €760.

Unemployment benefits (*'subsídio de desemprego'*): insurance/contributory unemployment benefit and assistance/social/non-contributory unemployment benefit are the two main policies that provide financial compensation to the unemployed. The assistance benefit acts as an extension of the first one or as the only benefit for shorter warranty periods (both modalities are means-tested and restricted to participants in the employees' social insurance scheme). The insurance benefit is related to earnings. A new benefit for long-term unemployed was implemented in 2016.

Old age contributory pension (*'pensão de velhice'*): pension to all the elderly (people at and over the legal age of retirement) that contributed to the compulsory social insurance scheme (both employees and self-employed workers). The amount is a function of the average monthly earnings adjusted over the person's entire insurance life, up to a maximum of 40 years.

Minimum pension (*'pensão mínima'*): new pensioners entitled to an old age or disability pension who have contributed to the compulsory social insurance scheme are entitled to a minimum pension, of

different amounts according to the career length. In the case of old age pensions, this safety net is only provided for those who retire at the legal age of retirement or later.

Old age social pension (*‘pensão social de velhice’*): non-contributory means-tested pension that provides a minimum pension to low-income elderly individuals at the legal age of retirement.

Survivors’ pension (*‘pensão de sobrevivência’*): granted to the surviving spouse (with at least 35 years old) of a deceased insured person, or to the divorced surviving spouse if the latter was receiving alimony payments. It can also be granted to children until they have 18 years old (25 or 27 if they are studying – higher education) or, when there are no surviving children or spouses, to the dependent parents. There is also a non-earnings-related survivors’ pension (*‘pensão de viuvez’* for widows and *‘pensão de orfandade’* for orphans).

Disability benefit/pension (*‘pensão de invalidez’*): any worker under the legal retirement age who becomes unable to earn more than one third of his standard wage due to illness or a work-related accident not covered by health and safety legislation is entitled to this benefit.

Social benefit for the inclusion (*‘prestação social para a inclusão’*): benefit created in October 2017 for disabled and handicapped people. Replaced the non-earnings-related disability benefit (for pensioners who were not able to fulfil the minimum career for the main benefit) and *‘subsídio mensal vitalício’* (another handicapped/disability related benefit). Covers recipients with at least a 60% of disability. Since October 2018, it includes a supplement (means-tested) for poor handicapped people, and since 2019 includes a bonus to support certain expenses.

Sickness cash benefit (*‘subsídio de doença’*): available to all insured employees as part of the compulsory social insurance scheme. Benefits are earnings-related.

Solidarity supplement for the elderly (*‘complemento solidário para idosos’*): non-contributory means-tested benefit to help pensioners who have reached the legal age of retirement and live on low incomes. It considers a wide range of income sources which are not usually considered in this kind of schemes, like the monetary income of the recipients’ descendants (even when they do not live with their parents), or residence at an old age care institution funded by the Social Security.

Social integration income (*‘rendimento social de inserção’*): cash benefit granted together with an integration contract. Aims to ensure that individuals and their family members have sufficient resources to cover their basic needs, while promoting their gradual social and professional integration.

Child benefit (*‘abono de família para crianças e jovens’*): social policy targeted to families with children and young people, as a compensation for their expenditure on educating. Belongs to the same group as funeral expenses allowances or special benefits paid to disabled and dependent people, essentially children. Even though it is means-tested, child benefit has a more universal nature than the other policies that rely on income testing.

Prenatal family allowance (*‘abono de família pré-natal’*): allowance assigned for 6 months to pregnant women starting from the 13th week of gestation, to encourage motherhood by compensating the costs increase during this period.

Parental allowance (*‘subsídio parental’*): allowance paid to the mother and/or father to replace the ‘lost’ work income during the period of childbirth leave. Parents need to have a record of remunerations in Social Security. This allowance comprises several modalities (which have different concession periods): initial parental allowance, mother’s initial parental allowance, parent’s original parental allowance, and initial parental allowance of one parent in the event of the impossibility of the other. The daily amount of the allowance is calculated by applying a percentage to the value of the beneficiary’s reference remuneration. It is available an extended parental allowance.

Parental social allowance (*‘subsídio social parental’*): alongside the parental allowance, this is the main policy that provides financial compensation to the parents of a born child. This allowance is paid to the parents who are not qualified for the parental allowance.

Besides the ones previously mentioned, there are other less important benefits (or specific bonus or complements to the main benefits) in the Portuguese Social Security system, which provide protection in areas like disability, death, or social inclusion. Especially during 2022 and 2023, other temporary and extraordinary benefits were also introduced, to compensate for the increase in prices and consequent cost of living.

1.3 Social contributions

Employee and employer Social Security contributions (*‘contribuições do trabalhador por conta de outrem e da entidade patronal’*): contributions are shared between employees (23.75%) and employers (11%). There are several different regimes reflecting specific occupations such as non-profit organizations, rural workers, football players, clergy, domestic services, young people in their first job, or disabled people.

Self-employed Social Security contributions (*‘contribuições dos trabalhadores independentes’*): since 2019, self-employed workers pay a flat rate of 21.4% over the actual income.

Civil servants’ contributions: workers that entered the Civil Service before 2006 belong to a separate Social Security scheme. From January 1st of 2006, new civil servants (and their employer institutions) contribute to the regular Social Security scheme and follow the general regime rules.

1.4 Taxes

Personal income tax (*‘Imposto sobre o Rendimento das Pessoas Singulares’, IRS*): paid by residents in Portugal and by non-residents receiving income in Portugal. If the resident is part of a family unit composed by spouse and dependents, the tax is applied to all the family members. Capital income is taxed at source (withholdings) and may be left out of the final tax calculations, meaning that a different tax rate can be applied. Labour income is also taxed at source, but it is re-evaluated at the annual tax calculations stage.

Corporate income tax (*‘Imposto sobre o Rendimento das Pessoas Coletivas’, IRC*): paid by companies on their profits at a flat rate of 21%. There is also a local government levy (*‘Derrama’*).

Property transfer municipal tax (*‘Imposto Municipal sobre as Transmissões Onerosas de Imóveis’, IMT*): local government tax on real estate transactions.

Property municipal tax (*‘Imposto Municipal sobre Imóveis’, IMI*): local government tax on rural and urban properties. In 2017, a new extension (*AIMI*) was created for highly valued real estates, which provides funding for the Social Security Financial Stabilisation Fund.

Value Added Tax (*‘Imposto sobre o Valor Acrescentado’, IVA*): general rate of 23%. Lower rates apply to specific classes of goods and in the autonomous regions of Azores and Madeira.

Special taxes on consumption include **alcohol duty/tax** (*‘Imposto sobre o Alcool e as Bebidas Alcoólicas’, IABA*), **fuel duty/tax** (*‘Imposto sobre Produtos Petrolíferos e Energéticos’, ISP*) and **tobacco duty/tax** (*‘Imposto sobre o Tabaco’, IT*).

Taxes on vehicles include the sales tax on new cars (*‘Imposto Sobre Veículos’, ISV*) and the annual **vehicles tax** (*‘Imposto Único de Circulação’, IUC*).

Besides the ones previously mentioned, there are other less important taxes in the Portuguese tax system.

1.5 COVID-19 temporary measures

The COVID-19 outbreak, classified as a Pandemic by the World Health Organization on March 2020, also spread to Portugal, where State of Emergency was declared on March 18th, 2020. This outbreak has

a very significant social and economic impact, generating a high degree of uncertainty for the households, companies, and entities. Governments had to quickly respond during the crisis, and were called to support those who most needed, to help them get through the main challenges that people are facing now and that will be foreseen in the mid- and long-term.

The measures implemented to mitigate COVID-19 economic and social effects were constantly under revision and subject to change, according to the evolution of the pandemic in the country. As of the first quarter of 2022, the main measures to support the COVID-19 effects ceased, but some of the main ones that were in force during 2020-21, aimed at households, workers, and companies, were the following:

- Treasury support with **credit lines**, preferably aimed at SME and companies within the most affected sectors (tourism, accommodation), to foster economic recovery. Also, the option of credit default to companies regardless of its size.
- **Credit default** also for the households (moratorium that suspends the payment of instalments), as well as deferral of housing rent payment.
- Extraordinary **extension of unemployment benefits** and all benefits of the social security system that guarantee subsistence minimums whose concession period or renewal period ended before the prevention measures ceased.
- If an employee could not work because he needed to **assist his child or grandchild**, he was entitled to the respective daily allowance (100% of the reference remuneration in case of child assistance, and 65% for grandchild).
- It was granted the **deferral of some taxes and contributions**. For instance, there was the postponement and extension of the deadlines regarding corporate income tax compliance and the fractional delivery of PIT and VAT withholdings paid through a 3- or 6-month instalment plan (also applied to self-employed).
- Some workers entered in a **simplified layoff scheme**. Whether there was a reduction in the normal working time or suspension of the contract, workers were entitled to 100% of their gross wage. This compensation could not be less than 1 x NMW or more than 3 x NMW.
- **Employers with layoff workers** were entitled to a Social Security support in the amount of 70% of 2/3 of the normal gross wage of each worker covered, up to a limit of 3 x NMW per worker, to support the payment of wages. It was also granted exemption from Social Security Contributions for employers for the duration of the support.
- It was also provided special financial support for **self-employed** with significant reduction of their economic activity (> 40%) and it was allowed deferral of social contributions. Compensation ranged between 1 x SSI and 1 x NMW. Self-employed that contributed with the minimum level of contribution (€20) were granted an income support of €219.41. Self-employed workers were eligible to income support if they contributed three consecutive months prior to the request, or six months with gaps in the last twelve months.
- Finally, it was created an **extraordinary new social benefit (means-tested)** to support the income of dependent workers who had become unemployed and did not meet the criteria to access the unemployment benefits or whose allowance had already ended (or ended during 2021), as well as to support self-employed workers with significant reductions in their economic activity (more than 40%, compared to 2019). The benefit amount ranged between €50 and €501.16 for the majority (in case of micro and small enterprises' managers, the upper limit is 3 x NMW). The benefit had to be requested monthly and was granted up to a maximum of 6 months to one year (until 31st of December). The monthly income per equivalent adult of the household had to be less than or equal to €501.16. Workers who were receiving the assistance unemployment benefit received a supplement corresponding to the difference for this extraordinary income support benefit.

2. SIMULATION OF TAXES, SOCIAL INSURANCE CONTRIBUTIONS AND BENEFITS IN EUROMOD

2.1 Scope of simulation

Not all the taxes and benefits mentioned in the previous section are simulated in EUROMOD. Some are beyond its scope entirely and are neither included in the EUROMOD database nor in its output income variables. Others are not possible to simulate accurately with the available data. They are included in the database and may be chosen as components of output variables, but the rules governing them may not be changed by the model. Table 2.1 and Table 2.2 classify each of the main tax-benefit instruments (and some minor ones introduced above) into one of these three groups and provide a brief explanation as to why the instrument is not fully simulated if this is the case. In the following tables we present information on EUROMOD using the most recent dataset of combined EU-SILC and national SILC data. Information on earlier input datasets for the Portuguese model can be found in earlier country reports.

Table 2.1 Simulation of benefits in EUROMOD [2020-2023]

Benefit	Variable	2020-2021	2022	2023	Comments
Survivors' pension	psu	I	I	I	No data on the loss of family members.
Disability benefit	pdi	I	I	I	No data on disability incidence.
Sickness cash benefit	bhl	I	I	I	No data on sick leave incidence
Other family benefits	bfa	I	I	I	Composed of several benefits impossible to split and simulate.
Other social assistance benefits	bsaot	I	I	I	
Education benefit	bed	I	I	I	
Housing benefit	bho	I	I	I	
Child benefit	bch_s	S	S	S	
Prenatal family allowance	bmapr_s	S	S	S	However, the simulation is switched off in the baseline, i.e., non-simulated components (<i>bfa</i>) are used.
Parental allowance	bplct_s	S	S	S	
Parental social allowance	bplnc_s	S	S	S	
Family income support 2022	bfaxp_s	-	S	-	
Extraordinary supplement for vulnerable families	bfaxp01_s	-	-	S	
Housing benefit	bhotn	-	-	S	
Old age contributory pension	poact_s	PS	PS	PS	No data on contributory career (years, number of contributions). Simulation of the minimum pension only.
Old age social pension	poanc_s	PS	PS	PS	No data on contributory career (years, number of contributions). Split of the original microdata aggregated variable related to old age pensions only.
Solidarity supplement for the elderly	bsaoa_s	PS	PS	PS	No data on the descendants of beneficiaries that do not live in the same household. No data on residence in Social Security funded institutions. Difficulty in dealing with non-take up issue.
Social integration income	bsa00_s	PS	PS	PS	Difficulty in matching the simulated family unit with the actual one. Difficulty in dealing with non-take up issue.
Unemployment insurance	bunct_s	PS	PS	PS	No data on the reason for becoming unemployed. No data on the contribution history of unemployed individuals, nor on the previous earnings before unemployment. Split of the original aggregated variable only. Benefit recipients are imputed using information of the reported receipt of the respective benefit in SILC data (<i>i.e.</i> , simulations are conditional on the report of the benefit receipt in the microdata).
Unemployment assistance	bunnc_s	PS	PS	PS	
Wage compensation scheme COVID-19	bwkmcee_s	S	-	-	This benefit can only produce results if the model is run in combination with the LMA add-on.
Self-employed compensation scheme COVID-19	bwkmcse_s	PS	-	-	General rules assumed. Significantly influenced by individual choices. This benefit can only produce results if the model is run in combination with the LMA add-on.

Note: “**I**” included in the micro-data but not simulated; “**PS**” partially simulated as some of its applicable rules are not simulated; “**S**” simulated, although some minor or very specific rules may not be simulated.

Table 2.2 Simulation of taxes and social insurance contributions in EUROMOD [2020-2023]

Tax/SIC	Variable	2020-2023	Comments
Personal income tax	tin_s	PS	Influenced by individual choices. No data available on some of the tax allowances (particularly health, one of the most important).
Property transfers municipal tax		E	
Property municipal tax		E	No data on wealth
Value added tax		E	
Employee social insurance contribution	tscee_s	S	General rules assumed.
Employer social insurance contribution	tscer_s	S	General rules assumed.
Self-employed social insurance contribution	tscse_s	PS	General rules assumed. Significantly influenced by individual choices.

Notes: “E” *excluded* from the model’s scope, as it is neither included in the microdata nor simulated by EUROMOD; “PS” *partially simulated* as some of its applicable rules are not simulated; “S” *simulated*, although some minor or very specific rules may not be simulated.

2.2 Main policy changes

2.2.1 In 2020

National minimum wage: NMW updated to €635.

Social Support Index: SSI updated to €438.81.

Old age contributory pension:

- Increase in the amounts of the minimum pension.
- Change in the remaining minimum amounts (regular annual update in pensions): pensions $\leq 2 \times$ SSI are updated by 0.7%; and pensions $> 2 \times$ SSI and $\leq 6 \times$ SSI are updated by 0.24%.
- Extraordinary update in pensions: in May, fourth extraordinary increase for pensions earned by people who have a total pension income up to $1.5 \times$ SSI, from €6 to €10 depending on specific criteria.

Old age social pension: change in the base amount to €211.79 and in the extraordinary solidarity supplement to €18.44 and €36.86 (depending on age).

Solidarity supplement for the elderly: change in the ‘family solidarity’. Children/descendants’ income in the second- and third-income bracket cease to be considered in the recipient’s assessed income.

Child benefit: elimination of the lower age bracket. The age bracket up to 12 months ceases to exist and now children aged up to 36 months will be entitled to the same level of protection that was provided for children in their first year of life, within each income bracket.

Prenatal family allowance: introduction of a 4th income bracket, a new upper income bracket with the upper bound of $2.5 \times 14 \times$ SSI.

Personal income tax:

- Income brackets limits updated by 0.3%, keeping the applicable marginal rates unchanged.
- Tax credits regarding taxpayers and their dependent children: until 2019, dependent children are entitled to an automatic tax credit of €600 (€726 if the child is under 3 years old). Since 2020, each child older than 3 years old continues to enable an automatic tax credit of €600 (and of €726 if the child is under 3 years old), but for families with two or more children, the tax credit increases from

€726 to €900 for the second and subsequent children (if they are aged up to 3 years old), regardless of the age of the first child. That is, the increase is now of €300 (instead of €126), starting from the second child when there are two or more dependents who do not exceed 3 years old.

- Partial exemption for young people between 18 and 26 years old, who earn dependent income, the first three years of work, according to the following amounts per year of work:
 - 1st year: 30%, with a limit of 7.5 x SSI.
 - 2nd year: 20%, with a limit of 5 x SSI.
 - 3rd year: 10%, with a limit of 2.5 x SSI.
- New exemption for dependent children who are still studying, up to 5 x SSI.

COVID-19 temporary measures:

- Wage compensation scheme COVID-19: workers that entered in the simplified layoff scheme were entitled to receive a minimum amount equal to 2/3 of their gross salary.
- Self-employed compensation scheme COVID-19: self-employed with significant reduction of their economic activity were entitled to receive special financial support, worth 1/3 of the median compensation. Self-employed that only contributed with the minimum level of contribution (€20) are granted an income support of €219.41.

2.2.2 In 2021

National minimum wage: NMW updated to €665.

Unemployment benefit – insurance: the lower bound is updated to 1.15 x SSI if the reference remuneration corresponds, at least, to the NMW.

Pensions: change in the legal retirement age to 66 years and 6 months.

Old age contributory pension: in January, fifth extraordinary increase for pensions earned by people who have a total pension income up to 1.5 x SSI of €10.

COVID-19 temporary measures:

- Wage compensation scheme COVID-19: workers that entered in the simplified layoff scheme were now entitled to receive a minimum amount equal to 100% of gross wages (previously it was 2/3).
- Net income guarantee: the PIT net income guarantee had an extraordinary increase of €100, but only temporary.

2.2.3 In 2022

National minimum wage: NMW updated to €705.

Social Support Index: SSI updated to €443.20.

Pensions:

- Change in the legal retirement age to 66 years and 7 months.
- Exceptional supplement for pensioners: disability, old age and survival pensioners (with pensions ≤ 12 x SSI) are entitled, in October 2022, to an additional amount of pensions. The value corresponds to 50% of the total amount earned in October 2022.

Old age contributory pension:

- Increase in the amounts of the minimum pension.
- Change in the remaining minimum amounts (regular annual update in pensions): pensions ≤ 2 x SSI are updated by 1.0%; pensions > 2 x SSI and ≤ 6 x SSI are updated by 0.49%; and pensions > 6 x SSI and ≤ 12 x SSI are updated by 0.24%.

- Extraordinary update in pensions: in January, sixth extraordinary increase for pensions earned by people who have a total pension income up to 2.5 x SSI up to €10. The amount of the increase equals the difference between €10 and the amount received as part of the regular update of pensions.

Old age social pension: change in the base amount to €213.91 and in the extraordinary solidarity supplement to €18.62 and €37.23 (depending on age).

Child benefit:

- Update in the amounts of the 1st and 2nd income brackets for children in the age brackets above 36 months.
- Complement for lower income families: new supplement (*'Child Guarantee'*) that guarantees the payment of a total amount of €70 (including the child benefit amount) for children under the age of 18, recipients of the child benefit and belonging to households that are in extreme poverty.

Personal Income Tax:

- Income brackets were segmented (and limits updated), creating two additional intermediate ones.
- Tax credits regarding taxpayers and their dependent children: families with two or more children between 3 and 6 years old will have a tax credit increase from €600 to €750, starting from the second child and regardless of the age of the first child. Each child older than 3 years old continues to enable an automatic tax credit of €600 (and of €726 if the child is under 3 years old); and for families with two or more children aged up to 3 years old, the tax credit is €900 for the second and subsequent children, regardless of the age of the first child.
- Partial exemption for young people: young people between 18 and 26 years old (or 30 years old, if completed a PhD programme), who earn dependent or independent income (previously it did not include self-employed), will benefit from a partial exemption of PIT in the first five years of work (previously was three), according to the following amounts per year of work (now without limit):
 - 1st and 2nd years: 30%,
 - 3rd and 4th year: 20%,
 - 5th year: 10%.

COVID-19 temporary measures: the main measures to support the COVID-19 effects ceased in the first quarter of 2022.

Family income support: extraordinary support of €125 per adult and €50 per child and young people, to compensate for the increase in prices. The *'Families First'* program assigns this support to residents with an income up to €2,700 per month and who benefit from social benefits. Those receiving an exceptional supplement for pensioners of less than €125 will receive the difference.

2.2.4 In 2023

National minimum wage: NMW updated to €760.

Public Servant wages: the following update by bands of public servants salaries is applied:

- All workers earning up to 761.58 euros increase their wage to 761.58 euros;
- All wages between 709,48 euros and 2612.03 euros will increase in 52.11 euros;
- Wages above 2612.03 increase 2%.

Additionally, civil servants in Portugal received a 1% salary increase.

Social Support Index: SSI updated to €480.43.

Pensions: change in the legal retirement age to 66 years and 4 months.

Old age contributory pension:

- Increase in the amounts of the minimum pension.
- Change in the remaining minimum amounts (regular annual update in pensions). From January to June, pensions are updated (respecting to December 2022) by 4.83% for pensions $\leq 2 \times$ SSI; 4.49% for pensions $> 2 \times$ SSI and $\leq 6 \times$ SSI; and 3.89% for pensions $> 6 \times$ SSI and $\leq 12 \times$ SSI.
From July to December, pensions are updated (respecting to December 2022) by 8.4% for pensions $\leq 2 \times$ SSI; 8.06% for pensions $> 2 \times$ SSI and $\leq 6 \times$ SSI; and 7.46% for pensions $> 6 \times$ SSI and $\leq 12 \times$ SSI
- Extraordinary update in pensions: extra payment equivalent to half pension for every pension (already paid in October 2022).

Old age social pension: change in the base amount to €224.24 and in the extraordinary solidarity supplement to €19.53 and €39.03 (depending on age).

Solidarity supplement for the elderly: increase in the reference value to €5,858.63/year.

Social integration income: increase in the reference amount to €209.11.

Child benefit:

- Update of the amounts (including the complement for lower income families, the supplement for large families and the bonus for lone parent families).
- Extraordinary support: to mitigate the effects of inflation, in 2023 there is an extraordinary support of €15 per month for each child receiving the child benefit (for all income brackets).
- Complement for lower income families: the ‘*Child Guarantee*’ supplement now intends to guarantee the payment of a total amount of €100 (including the child benefit amount) for children under the age of 18, recipients of the child benefit and belonging to households that are in extreme poverty.

Personal income tax:

- Income brackets limits are updated by 5.1% and the applicable marginal rate of the 2nd income bracket is reduced from 23% to 21%.
- Tax credits regarding taxpayers and their dependent children: for families with two or more children, the tax credit is €900 for the second and subsequent children now aged up to 6 years old (previously it was 3 years old), regardless of the age of the first child.
- Partial exemption for young people reinforced according to the following amounts per year of work (with upper limits again):
 - 1st year: 50%, with a limit of 12.5 x SSI.
 - 2nd year: 40%, with a limit of 10 x SSI.
 - 3rd and 4th year: 30%, with a limit of 7.5 x SSI.
 - 5th year: 20%, with a limit of 5 x SSI.
- Structural changes to the net income guarantee (“mínimo de existência”).

Extraordinary supplement for vulnerable families: extraordinary support for the most vulnerable families of €30 per month per household, paid three times along the year, to compensate for the increase in prices. The definition of vulnerable families is of those that benefit from the social energy tariff or minimum social benefits. In addition, families with children and young people up to the fourth income bracket of the child benefit also receive an extraordinary supplement of €15 per month for each child, also paid on a quarterly basis.

Housing benefit: extraordinary and temporary rental support and interest bonus for families in the context of housing.

- The rental support is aimed at tenants with a burden rate exceeding 35% and income up to the maximum limit of the sixth PIT income bracket. The support translates to a monthly amount up to

€200 (and corresponds to the difference between the value of the rent and the amount that would be paid if the effort rate was 35 % of the average monthly value of income).

- As for the interest bonus, the support translates to a yearly bonus up to €720.65. The bonus shall cover the difference between the present value of the indexer and the value of the indexer at the start of the loan plus 3 p.p., in the case of an effort rate of 50% (or more, depending on the income bracket). It cannot be implemented in EUROMOD due to a lack of data on several elements such as spread, contract date, and loan maturity date.

2.3 Order of simulations and interdependence

The following table shows the benefits and taxes simulated by EUROMOD for the years of 2020-2023. As there were only a few structural changes in the Portuguese tax-benefit system during this period (excluding, naturally, the COVID-19 temporary measures), the order by which the policies are simulated remains mainly unchanged.

Essentially, the simulation order results from policies' interdependence, as the income simulated by some policies is then taken as an input by others. For example, the minimum wage and minimum pension policies (as well as the wage compensation scheme for employees related with the COVID-19¹) are simulated first, as their outcomes are employment and pension's income, which will be used by subsequent policies.

The simulation of social contributions comes next, as employment and COVID-related compensation schemes are subject to social contributions. Importantly, the simulation of the social contributions of the self-employed is repeated, as, first, the contributory base of self-employed is used as input to determine the final amount of the COVID-19 compensation scheme and, second, social contributions are paid on the resulting compensation for self-employed.

Unemployment benefits should be simulated next, as all inputs required are now available (either from the original data or simulated) and its output (unemployment benefit income) will be used after.

Then parental leave benefits are simulated² as their income tests include unemployment benefits and pensions.

All necessary inputs are now available to simulate the personal income tax and the tax on capital income.

The minimum means-tested schemes and social integration income comes next, as they are part of the assessed income to determine child benefit eligibility. Finally, after simulated the child benefits, the remaining temporary and extraordinary benefits are also simulated.

¹ COVID-19 monetary compensation schemes can only produce results if the model is run in combination with the LMA add-on. For more information about the modelling of labour market transitions, please consult the “*Simulating labour market transitions in EUROMOD*” document.

² Even though their simulation is switched off in the baseline. See section 2.3 and the corresponding policies' descriptions for more information.

Table 2.3 EUROMOD spine: order of simulation [2020-2023]

Policy	2020-21	2022	2023	
SetDefault_pt	on	on	on	DEF: DEFAULT VALUES FOR VARIABLES
uprate_pt	on	on	on	DEF: UPDATING FACTORS
Uprate_bands_pt	on	on	on	DEF: UPDATING IN BANDS: PENSIONS
Uprate_yempb_pt	n/a	n/a	on	DEF_ UPDATING IN BANDS: CIVIL SERVANTS WAGES 2023
ConstDef_pt	on	on	on	DEF: CONSTANTS
ilsdef_pt	on	on	on	DEF: STANDARDISED INCOME LISTS
ilsUDBdef_pt	on	on	on	DEF: UDB-RELATED STANDARDISED INCOME LISTS
lldef_pt	on	on	on	DEF: NON-STANDARD INCOME CONCEPTS
random_pt	on	on	on	DEF: Random assignment for bsaoa_s
TransLMA_pt	off	off	off	DEF: Modelling labour market transitions
tundef_pt	on	on	on	DEF: ASSESSMENT UNITS
InitVars_pt	on	on	on	DEF: Initialise variables
pxp00_pt	a n/	on	n/a	BEN: Pensions: 2022 Extraordinary (10 euros) increase in pensions
pxp_pt	n/a	on	n/a	BEN: Cost of Living: Extraordinary Pension Supplement
yem_pt	switch	switch	switch	INC: Minimum wage (salario mínimo)
yempb_pt	off	off	off	INC: Public wages cuts
poacm_pt	off	off	off	BEN: Minimum pension (Pensões mínimas)
pcuts_pt	n/a	n/a	n/a	INC: Pensions cuts and solidarity contributions
neg_pt	on	on	on	DEF: recode negative self-employment income to zero
yemcomp_pt	on	off	off	BEN: Wage compensation scheme Covid-19
tscee_pt	on	on	on	SIC: Employee social insurance contributions
tscer_pt	on	on	on	SIC: Employer social insurance contribution
tscse_pt	on	on	on	SIC: Self-employed social insurance contribution
ysecomp_pt	on	off	off	BEN: Self-employment income compensation scheme Covid-19
tscse_pt	on	on	on	SIC: Self-employed social insurance contribution (repetition of policy with order 20)
bunct_pt	on	on	on	BEN: Unemployment insurance (Subsídio de desemprego) PART- SIMULATED
bunnc_pt	on	on	on	BEN: Unemployment assistance (subsídio social de desemprego) PARTILLY SIMULATED
buncm_pt	on	on	on	BEN: Unemployment benefit bonus
poanc_pt	on	on	on	BEN: Social Pension (Pensão social de velhice)
bmapr_pt	switch	switch	switch	BEN: Prenatal family allowance (Abono de família pré-natal)
bplct_pt	switch	switch	switch	BEN: Parental allowance (Subsídio parental)
bplnc_pt	switch	switch	switch	BEN: Parental social allowance (Subsídio social parental)
tin00_pt	on	on	on	TAX: Progressive personal income tax
tiniy_pt	on	on	on	TAX: Income tax on capital income
bsaoa_pt	on	on	on	BEN: Solidarity supplement for older persons (Complemento Solidário para Idosos - CSI)
bsa00_pt	on	on	on	BEN: Social insertion income (Rendimento social de inserção ou mínimo garantido)

Policy	2020-21	2022	2023	
bfxp_pt	n/a	on	n/a	BEN: Cost of Living: Family income support 2022 (Apoio excepcional aos rendimentos e apoio excepcional a crianças e jovens)
bch_pt	on	on	on	BEN: Family benefit (Abono de família para crianças e jovens)
bfxp01_pt	n/a	n/a	on	BEN: COST-OF-LIVING: Extraordinary Supplement for Vulnerable Families 2023 (Apoio extraordinário a famílias mais vulneráveis)
bhotn_pt	n/a	n/a	on	BEN: HOUSING BENEFIT: Rental support (Apoio extraordinário à renda)
tco_pt	off	off	off	TAX: Commodities
spp_pt	off	off	off	TAX/BEN: Special Price Policies
output_std_pt	on	on	on	DEF: STANDARD OUTPUT INDIVIDUAL LEVEL
parben_output_std_pt	switch	switch	switch	DEF: STANDARD OUTPUT INDIVIDUAL LEVEL
output_std_hh_pt	off	off	off	DEF: STANDARD OUTPUT HOUSEHOLD LEVEL

2.4 Policy extensions

There are four extensions included in the Portuguese model:

- **Uprating by Average Adjustment (UAA)**, allowing the user to choose between uprating (non-simulated) public pensions based on the growth in average amounts (if extension is on) or by using statutory indexation rules (if extension is off). The default for the baselines is off.
- **Minimum Wage Adjustment (MWA)**, allowing the user to switch on/off the minimum wage simulation. The default for the baselines is off.
- **Full Year Adjustments (FYA)**. While EUROMOD usually simulates policies as of June 30th of the respective year, it is also possible to simulate within-year policy changes. It is now switched off in the baseline scenario.
- **Parental Benefits Extension (PBE)**, allowing the user to choose between the observed (non-simulated) parental leave benefits (extension off) or the simulated ones (extension on). The default for the baselines is off.

Apart from the abovementioned extensions, there are two policies that are **turned off** in the baseline:

- **‘Minimum pensions’** (*poacm_pt*). This policy is switched off in the baseline due to its underestimating effect on elderly poverty.
- **‘Labour market transitions’** (*TransLMA_pt*). This policy defines the individuals that are selected to undergo transitions to monetary compensation schemes and/or unemployment. The transitions are only enabled if used together with the Labour Market Adjustments (LMA) add-on (i.e., the LMA add-on switches on this policy automatically). The transitions are based on a random allocation of individuals and they might be triggered by feeding the parameters of this policy with official or hypothetical information³. This policy, in combination with the LMA add-on, enables the simulation of the wage compensation scheme (*yemcomp_pt*) and the self-employment compensation scheme (*ysecomp_pt*).

³ For more information about the modelling of labour market transitions, please consult the “*Simulating labour market transitions in EUROMOD*” document.

2.5 Benefits

2.5.1 Unemployment benefit – insurance (*bunct_pt*)

- **Definition**

The unit of analysis is the individual. There are no benefit units (*i.e.*, the units are single), and no income test.

- **Eligibility conditions**

- Have been fired (exclusively by decision of the employer) after working for at least 360 days over the previous 24 months (insurance period). It excludes self-employment.
- Actively looking for work.

- **Benefit amount**

- Reference remuneration: wages' average of the first 12 of the 14 months before the firing date.
- Amount: 65% of the reference remuneration. Lower bound: 1 x SSI (unless the net reference remuneration is lower than the SSI) in 2020 or 1.15 x SSI (if the reference remuneration corresponds, at least, to the NMW) in 2021-23. Upper bound: 2.5 x SSI.
- Bonus of 10% for couples with children if both partners claim insurance unemployment benefit. The increase is attributed to each of the beneficiaries and if one of them no longer receives the insurance unemployment benefit and starts receiving the assistance unemployment benefit or, remaining unemployed, does not receive any benefit for it, the other beneficiary continues to receive the bonus.

- **Unemployment benefit for chairmen and self-employed**

Chairmen and self-employed may also be entitled to an unemployment benefit, under specific rules. (NOT SIMULATED)

- **EUROMOD modelling**

The unemployment benefits cannot be fully simulated in EUROMOD, as there is no information on the reason why people became unemployed (voluntary or compulsory), nor on the duration of the most recent jobs. These constraints apply to the main unemployment benefit – called contributory or insurance unemployment benefit – and to the social unemployment benefit (see next section), also referred to as non-contributory benefit (although there was some limited contribution) or assistance unemployment benefit.

Nonetheless, a split of the original variable in the database (*bun*) can be simulated by observing some of the occurrences more easily associated with the latter kind of benefit (see next section for a more detailed description of the splitting process).

Table 2.4 Characteristics of the insurance unemployment benefit (*bunct_pt*)

		2020	2021-2023	
Eligibility	Contribution period	1 year out of the last 2	No changes	
	Other conditions	Have been fired & listed on the unemployment register (actively looking for work)	No changes	
	Eligibility of self-employed (NOT SIMULATED)	Yes (under specific rules)	No changes	
Payment	Contribution base	Wages' average of the first 12 of the 14 months before the firing date	No changes	
	Basic amount	65% of the contribution base	No changes	
	Additional amount	10% bonus for couples with children if both partners claim insurance unemployment benefit	No changes	
	Floor	SSI	Or 1.15xSSI	
	Ceiling	2.5 x SSI	No changes	
Duration in months	Up to 29 years old	Up to 14 months	5 months	No changes
		15-23 months	7 months	No changes
		24+ months	11 months	No changes
		Bonus	30 days for every 5 years employed	No changes
	30-39 years old	Up to 14 months	6 months	No changes
		15-23 months	11 months	No changes
		24+ months	14 months	No changes
		Bonus	30 days for every 5 years employed	No changes
	40-49 years old	Up to 14 months	7 months	No changes
		15-23 months	12 months	No changes
		24+ months	18 months	No changes
		Bonus	45 days for every 5 years employed	No changes
	50+ years old	Up to 14 months	9 months	No changes
		15-23 months	16 months	No changes
		24+ months	18 months	No changes
Bonus		60 days for every 5 years employed	No changes	
Subject to	Taxes	No	No changes	
	SIC	No	No changes	

2.5.2 Unemployment benefit – assistance (*bunnc_pt*)

- **Definition**

Either this benefit is granted as an initial benefit to claimants who have not worked long enough to claim the main unemployment benefit, or as an extension to those who cease to be entitled to the main unemployment benefit (as long as they meet the additional conditions listed below).

Unlike the main benefit, the social benefit considers both individual and family units. Family units are defined as:

- The individual;
- His/her partner;
- Any dependent children (those below 18 years old).

- **Eligibility conditions**

- For the ‘initial benefit modality’: Have been fired (exclusively by decision of the employer) after working for at least 180 days over the previous 12 months (insurance period). It excludes self-employment.
- For the ‘extended modality’: Having ended the main unemployment benefit.
- For the long-term unemployed: Previous recipients of the means-tested social unemployment benefit who are still unemployed six months after the end of the benefit and still fulfil the remaining conditions.
- Actively looking for work.

- **Income test**

The family unit equivalent income must be less than 80% of the SSI. The equivalent income is defined by total income after applying the following equivalence scale:

- Recipient – 1
- Every other adult (18+) – 0.7
- Every under-18 – 0.5

There are specific rules regarding investment income (NOT SIMULATED): family’s total financial assets amount must be lower than 240 x SSI.

Table 2.5 Unemployment benefit – assistance (*bunnc_pt*): assessed income

Variable	Label
yem	INCOME: Employment
yse	INCOME: Self-employment
poact_s	BENEFIT/PENSION: Old age: contributory
poanc_s	BENEFIT/PENSION: Old age: non-contributory (simulated)
psu	BENEFIT/PENSION: Survivors
pdi	BENEFIT/PENSION: Disability
bed	BENEFIT/PENSION: Education
ypp	INCOME: Private pension
ypr	INCOME: Property
ypt	INCOME: Private transfers received
yyi	INCOME: Investment
bho	BENEFIT/PENSION: Housing (new from August 2010) ⁽¹⁾

⁽¹⁾ For non-monetary housing benefits (benefits in kind), the maximum amount of rent subsidy is considered, in progressive terms along the duration of the unemployment benefit. (NOT SIMULATED)

- ***Benefit amount***

- Amount: 80% of the SSI for individuals in a single benefit unit and 100% of the SSI if the benefit unit size is larger than one.
- Bonus of 10% x NMW per child in the household.
- Amount of the long-term unemployed benefit: 80% of the previous one.

- ***Benefit's length***

‘Initial modality’: Same as for the insurance unemployment benefit.

‘Extended modality’: if age at the end of the insurance benefit is below 40 years old, the length is half of that benefit’s length. Otherwise, it is the same as the ‘initial modality’.

- ***EUROMOD modelling***

As mentioned above, the unemployment benefits cannot be fully simulated, but it is possible to simulate a split of the original unemployment benefit variable (*bun*) into assistance/social and insurance/contributory related variables (*bunnc_s* and *bunct_s*, respectively).

The original splitting of the unemployment benefit variable (*bun*) into two variables, namely the ones respecting to the contributory unemployment benefit (*bunct*) and the non-contributory unemployment benefit (*bunnc*), was made through the EU-SILC variables py092g and py091g, respectively.

5Table 2.6 Characteristics of the assistance unemployment benefit (*bunnc_pt*)

		2020-2023
Eligibility	Contribution period	180 days over the last year (<i>“initial modality”</i>) OR having ended the main unemployment benefit (<i>“extended modality”</i>)
	Other conditions	Family unit equivalent income < 80% of the SSI & actively looking for work)
	Eligibility of self-employed	No
Payment	Contribution base	n/a
	Basic amount	80% of the SSI for single benefit units OR 100% of the SSI for larger benefit units
	Additional amount	Bonus of 10% x NMW per child in the household.
	Floor	No
	Ceiling	No
Duration in months	Standard	<i>Initial modality</i> : same as for the insurance unemployment benefit
	Special cases	<i>Extended modality</i> : if < 40 years old, the length is half of that benefit’s length. Otherwise, it is the same as the “initial modality”
Subject to	Taxes	No
	SIC	No

2.5.3 Minimum pension (*poacm_pt*)

- **Definition**

The unit of analysis is the individual.

- **Eligibility conditions**

Minimum pensions are guaranteed to individuals with past contributions that retire at legal age or later and have a statutory pension amount lower than the minimum that the pensioner is entitled.

- **Benefit amount**

Minimum pensions are composed by two parts: the statutory pension and the ‘social supplement’ (difference between the statutory and the minimum amount). The former is financed by the Social Security budget, while the latter is financed by the state budget. The minimum value is fixed each year and varies with the pensioners’ working career length. In the simulation, the variable *liwwh* (work history, in months) is used as a proxy to the working career length. Thus, every old age contributory pension (*poact*) in the database is ‘corrected’ accordingly to the following grid:

Table 2.7 Old age contributory pension: minimum amounts [2020-2023] (monthly, in €)

Career length	2020-2021	2022	2023
Less than 15 years	275.30	278.05	291.48
15 to 20 years	288.79	291.68	305.77
21 to 30 years	318.67	321.86	337.41
More than 30 years	398.34	402.32	421.75

- **EUROMOD modelling**

The simulation of the old age contributory pensions is not achievable using the available microdata, due to the lack of information on several attributes. However, it is possible to simulate the non-contributory pensions and, with some degree of simplification, the level of minimum pensions. Furthermore, this methodology offers the possibility of ‘correcting’ the original data regarding the low declared old age pension income.

This policy is switched off (*i.e.*, not executed) in the baseline, due to its underestimating effect on elderly poverty.

2.5.4 Old age social pension (*poanc_pt*)

- **Definition**

The recipient is the individual, although if living with a partner, the income of the couple is considered in the income test.

- **Eligibility conditions**

Minimum age: 66 years and 5 months in 2020, 66 years and 6 months in 2021, 66 years and 7 months in 2022, and 66 years and 5 months in 2023.

- **Income test**

- Single recipient: monthly gross income up to 40% of the SSI.
- Couple: monthly gross income up to 60% of the SSI.

The framework of the old age social pension is unclear regarding which types of income should be included in the means-test evaluation, but they should include, at least:

Table 2.8 Old age social pension (*poanc_pt*) assessed income

Variable	Label
yem	INCOME: Employment
yse	INCOME: Self-employment
bun	BENEFIT/PENSION: Unemployment
poact_s	BENEFIT/PENSION: Old age: contributory
psu	BENEFIT/PENSION: Survivors
pdi	BENEFIT/PENSION: Disability
bed	BENEFIT/PENSION: Education
ypp	INCOME: Private pension
ypr	INCOME: Property
bsaot	Other social assistance benefits
bho	BENEFIT/PENSION: Housing
yyi	INCOME: Investment
yot	INCOME: Other

Important rule to consider while simulating the old age social pension (especially when testing couples): although the social pension itself (of the partner, in this case) amounts to the total couple income, it should be considered only its base value. So, for example, Extraordinary Solidarity Supplement should not be included.

- **Benefit amount**

The monthly amount of the old age social pension is €224.24 in 2023. Notwithstanding, besides that amount, every recipient receives an Extraordinary Solidarity Supplement (*Complemento Extraordinário de Solidariedade*), that differs according to their age (€19.52 for those aged up to 70 years old, and €39.03 for those with more than 70 years old).

Table 2.9 Old age social pension (*poanc_pt*) amounts [2020-2023] (monthly, in €)

	2020-2021		2020-2022		2023	
	65-69	70+	65-69	70+	65-69	70+
Old age social pension base amount	211.79		213.91		224.24	
Extraordinary solidarity supplement	18.44	36.86	18.62	37.23	19.52	39.03
Sum	230.23	248.65	232.53	251.14	243.76	263.27

These amounts are paid monthly and there is a 13th (in July) and 14th (in December) extra payment in the same amounts.

- ***EUROMOD modelling***

The original EU-SILC py102g, py103g and py104g variables are used to split old age benefits into old age contributory pension (*poact*) and old age social pension (*poanc*). The values of this initial splitting are checked to assure that the value of *poanc* cannot be higher than the maximum value of the old age social pension.

This disaggregation should be done according to the policy rules described before and if the original value of the variable *poa* is within the band [-3.5%, +3.5%] of the individual income.

2.5.5 Solidarity supplement for the elderly (*bsaoa_pt*)

• **Definition**

The recipient is the individual, although if living with a partner, the income of the couple is observed. Their children/descendants' income is also indirectly observed. Thus, the family unit is the individual, if living alone, or the couple otherwise.

Equivalence scale for the recipient's 'family unit': 1 for the single recipient and 1.75 for the couple. This benefit also considers a second family unit: the household of the recipient's children.

• **Eligibility conditions**

Minimum age: 66 years and 5 months in 2020, 66 years and 6 months in 2021, 66 years and 7 months in 2022, and 66 years and 5 months in 2023.

Since 2018, to compensate the penalties in early pensions since 2014, an exception to the minimum age is granted in cases where the pensioner had an early pension starting since January 2014 (NOT SIMULATED). Additionally, from October 2018, invalidity pensioners who are not recipients of the new benefit for handicapped people ('*Prestação Social para a Inclusão*'), may also be entitled to the solidarity supplement.

• **Income test**

- Single recipient: annual gross income up to the reference amount.
- Couple: annual gross income up to 1.75 x reference amount. However, the single recipient means-test must also be met.

Table 2.10 Solidarity supplement for the elderly (*bsaoa_pt*): reference value (RV) [2020-2023] (annual, in €)

	2020-2022	2023
Single	5,258.63	5,858.63
Couple (1.75 x Single)	9,202.60	10,252.60

The income of both elements of the family unit (Y_1 and Y_2 in the formula in Table 2.13 below) include a wide range of income variables in EUROMOD, as listed below (although some types of income are impossible or difficult to simulate).

Table 2.11 Solidarity supplement for the elderly (*bsaoa_pt*): assessed income

Variable	Label
Yem	INCOME: Employment
Yse	INCOME: Self-employment (only 65% of the amount)
bunct_s	BENEFIT/PENSION: Unemployment: insurance
bunnc_s	BENEFIT/PENSION: Unemployment: assistance
poact_s	BENEFIT/PENSION: Old age: contributory
poanc_s	BENEFIT/PENSION: Old age: non-contributory (simulated)
Psu	BENEFIT/PENSION: Survivors
Pdi	BENEFIT/PENSION: Disability
Bed	BENEFIT/PENSION: Education
Ypp	INCOME: Private pension
Ypr	INCOME: Property
bsaot	Other social assistance benefits
bho	BENEFIT/PENSION: Housing
yy	INCOME: Investment
yot	INCOME: Other
ypt	INCOME: Private transfers
-	Family solidarity (not fully simulated – see below)
-	Institution attendance: annual subsidy paid by Social Security to social institutions. Impossible to simulate.
-	Income imputation from wealth: 5% of the value of financial assets (when this value is higher than the investment income declared) and 5% of real estate (when this value is higher than the property income declared). Impossible to simulate.

‘Family Solidarity’

As mentioned above, this benefit also considers the income of the recipients’ children/descendants. They are evaluated within their own households and comprise their own partners and any dependent children. However, it is only possible to simulate the Family Solidarity component when both the recipient and descendants live in the same household.

The types of income of the recipients’ descendants that are evaluated are:

Table 2.12 Solidarity supplement for the elderly (*bsaoa_pt*): assessed income (Family Solidarity)

Variable	Label
yem	INCOME: Employment
yse	INCOME: Self-employment
poa	BENEFIT/PENSION: Old age
psu	BENEFIT/PENSION: Survivors
pdi	BENEFIT/PENSION: Disability
bed	BENEFIT/PENSION: Education
ypp	INCOME: Private pension
ypt	INCOME: Private transfers
ypr	INCOME: Property
bsaot	Other social assistance benefits
bho	BENEFIT/PENSION: Housing

Then, the household’s total income is equalised through an ‘OECD modified’ resembling scale of equivalence (1 for the first adult, 0.5 for other adults with more than 18 years old, and 0.3 for every child aged 0-17). The computed equivalent income is then used to position the descendant on a scale.

If the income level of each recipients’ descendants is high enough – if it is included in the 4th rank (above 5 x reference value) –, the parent/recipient is automatically excluded from the Solidarity Supplement for the elderly. If the income of the recipients’ children/descendants is included up to the 3rd rank (< 5 x reference value), the FS is 0%.

One important remark: the FS only happens when a parent is a recipient. For example, if an elderly couple have a daughter together, but only the wife is a recipient, then she will only “generate” the FS to her mother.

• **Benefit amount**

The amount paid is the difference between the reference value (€5,858.63 in 2023) and the annual income of the recipient. Calculations are simple when the recipient lives alone, but complicated when living in couples:

- When there is only one recipient in the couple, the amount paid is the minimum of two values: the difference between the reference value and the actual individual income of the recipient (or half of the actual income of the couple), and the difference between the ‘total equivalent reference value’ (€5,858.63 x 1.75 in 2023) and the couple's total income.
- When both are recipients, the amount paid is given by the difference between the ‘total equivalent reference value’ and the couple's total income. This amount is then divided between the two recipients according to specific rules.

Table 2.13 Calculation of the solidarity supplement for the elderly (*bsaoa_pt*)

Single recipient:	$amount = RV - Y_1$
Couple, one recipient:	$amount = \min \left\{ \begin{array}{l} RV - Y_1 \\ RV \times 1.75 - Y_1 - Y_2 \end{array} \right.$
Couple, two recipients:	$amount = RV \times 1.75 - Y_1 - Y_2$

Note: Y_1 is the total individual income of the sole recipient or of the first recipient in a couple where both are recipients, while Y_2 is the total individual income of the partner or second recipient in the couple. RV is the reference value. Y_1 and Y_2 include the FS, but only in the case of the recipients.

The solidarity supplement for the elderly is paid monthly, twelve times a year.

• **EUROMOD modelling**

The EU-SILC hy060g variable (*social exclusion not elsewhere classified*) contains information about several benefits: solidarity supplement for the elderly, social integration income and others.

In EU-SILC UDB hy061g, hy062g and hy064g are missing and have the flag=-2. This implies that hy060g = hy063g and all the hy060g amount is non-contributive and means-tested. The option is to split *bsa* into *bsaoa* and *bsa00* and make *bsaot*=0 for all cases.

The solidarity supplement for the elderly is the first variable to get from the split, considering the rules of this policy. Basically, for households with a positive amount of this variable (*bsa* > 0) and with at least one person within the legal retirement age or more, the expected amount of solidarity supplement for the elderly is calculated. If the original value (*bsa*) is greater or equal to that expected amount, then the solidarity supplement is equal to that amount, otherwise it is equal to the original value of *bsa*.

Given the impossibility of simulating all means-tested conditions of the non-resident descendants, the simulation overestimates the number of recipients and the benefit amounts. Thus, the number of recipients was calibrated (*random_pt* policy) to guarantee consistency with official statistics.

2.5.6 Social integration income (*bsa00_pt*)

• **Definition**

The unit of analysis is the family. This unit comprises:

- The head of the family;
- His/her partner;
- All his/her under-18 relatives;
- Other direct descendants of the head aged 18+ that are his dependents. Dependency is defined by having an income level up to 70% of the social pension.

Equivalence scale for income evaluation: 1 for the first adult (aged 18+); 0.7 for each additional adult; 0.5 for each child.

• **Eligibility conditions**

Individuals of all ages. However, the head of the family must be an adult (aged 18 or older).

• **Income test**

The family’s total income must be lower than their ‘Social Integration Income (SII) value’, which is equal to the scale of equivalence multiplied by the SII reference amount (€209.11 in 2023).

There is also a specific test on financial assets, which must be less than 60 x SSI (NOT SIMULATED).

Table 2.14 Social integration income (*bsa00_pt*): assessed income

Variable	Label
yem	INCOME: Employment (only 80% of the amount)
yse	INCOME: Self-employment (only 80% of the amount)
bunct_s	BENEFIT/PENSION: Unemployment: insurance
bunnc_s	BENEFIT/PENSION: Unemployment: assistance
poact_s	BENEFIT/PENSION: Old age: contributory
poanc_s	BENEFIT/PENSION: Old age: non-contributory (simulated)
psu	BENEFIT/PENSION: Survivors
pdi	BENEFIT/PENSION: Disability
bed	BENEFIT/PENSION: Education
ypp	INCOME: Private pension
ypt	INCOME: Private transfers
ypr	INCOME: Property
yy	INCOME: Investment
yot	INCOME: Other

• **Benefit amount**

The amount paid results from the difference between the ‘SII value’ and the family’s total income. The SII is paid in a monthly basis, twelve times a year.

Other modifications (beyond the equivalence scale and threshold) not documented here, can affect the benefits claiming, renewal and administrative processes, and may have a negative impact on the number of recipients, such as:

- New rules for new claims and renewals of the SII may increase the bureaucratic process and create additional difficulties to families, leading to an increase in non-take-up and exit issues.
 - Increased emphasis in inspection checks to combat fraudulent claims.
 - Individuals must now follow stricter rules concerning their integration programs. If an individual fails to attend a Social Security services meeting without reasonable motive, the benefit is cancelled.
 - Individuals who live in institutions funded by the state (including jail) are no longer eligible.
-
- ***EUROMOD modelling***

SII is just one of the possible benefits included in the original variable *hy060g*. Previously, solidarity supplement for the elderly has been extracted by estimation from *hy060g*. The difference between *bsa* and *bsaoa* is attributed to *bsa00*.

The simulation of the social integration income (*bsa00_s*) is adjusted in a way such that individuals who were eligible for the solidarity supplement for the elderly (*bsaoa_s*) but did not take it up because of the calibration procedure, are automatically excluded from receiving *bsa00_s*.

2.5.7 Child benefit (*bch_pt*)

• **Definition**

The unit of analysis is the family. The recipients are the children. The number of recipients is the only data needed for the equivalence scale calculations, although the family income is also observed.

It assumes a wider concept of benefit unit than the one that is generally used. The *de facto benefit* unit is a tax unit including the recipient child (or children), siblings, parents, tutors, and stepparents.

Equivalence scale for income evaluation: 1 for each recipient plus one (e.g., the income of a family with 2 recipient children is divided by 3).

• **Eligibility conditions**

Children up to 16 years old. It can be extended to individuals up to 24 years under certain conditions:

- Aged between 16 and 18: if attending primary education (1st to 6th grade) or higher.
- Aged between 18 and 21: if attending secondary education (7th to 12th grade) or higher.
- Aged between 21 and 24: if attending higher/superior education.
- Also until 24 years old: if disabled children and receiving disability allowance (not simulated), and children not working.

• **Income test**

The annual ‘reference income’ cannot exceed 2.5 x 14 x SSI. It results from the total annual family unit income divided by the total number of recipients plus one. According to the ‘reference income’, families are ranked along four income brackets:

Table 2.15 Child benefit (*bch_pt*) income brackets [2020-2023]

Income bracket	Income bracket upper bounds ⁽¹⁾		In 2023
	2020-2021	2022-2023	
1 st	0.5 x 14 x SSI		€3,363.01
2 nd	1.0 x 14 x SSI		€6,726.02
3 rd	1.5 x 14 x SSI	1.7 x 14 x SSI	€11,434.23
4 th	2.5 x 14 x SSI		€16,815.05

⁽¹⁾ The SSI is not necessarily the amount of SSI in the year that the benefit is paid, but rather the amount that was in force in the income reference year. For example, in 2023 the income assessed will probably date to 2022 or even 2021, so it should be assessed by the SII amount of that corresponding year.

Table 2.16 Child benefit (*bch_pt*): assessed income

Variable	Label
Yem	INCOME: Employment
yse	INCOME: Self-employment (70% of earnings, 20% of sales)
bunct_s	BENEFIT/PENSION: Unemployment: insurance
bunnc_s	BENEFIT/PENSION: Unemployment: assistance
poact_s	BENEFIT/PENSION: Old age: contributory
poanc_s	BENEFIT/PENSION: Old age: non-contributory (simulated)
bsaoa_s	BENEFIT/PENSION: Solidarity supplement for the elderly
bsa00_s	BENEFIT/PENSION: Social integration income
psu	BENEFIT/PENSION: Survivors
pdi	BENEFIT/PENSION: Disability
bed	BENEFIT/PENSION: Education
ypp	INCOME: Private pension
ypr	INCOME: Property
yy	INCOME: Investment
yot	INCOME: Other

- **Benefit amount**

The amount paid every month depends on the child’s age and on the income bracket of the child’s family.

Table 2.17 Child benefit (*bch_pt*) amounts [2020 and 2021] (monthly, in €)

Income bracket	<=36 months	>36 and <=72 months	>72 months
1 st	149.85	49.95	37.46
2 nd	123.69	41.23	30.93
3 rd	97.31	32.44	28.00
4 th	58.39	19.46	-

Table 2.18 Child benefit (*bch_pt*) amounts [2022] (monthly, in €)

Income bracket	From January to June			From July to December		
	<=36 months	>36 and <=72 months	>72 months	<=36 months	>36 and <=72 months	>72 months
1 st	149.85	49.95	37.46	149.85	50.00	41.00
2 nd	123.69	41.23	30.93	123.69	50.00	41.00
3 rd	97.31	32.44	28.00	97.31	32.44	28.00
4 th	58.39	19.46	-	58.39	19.46	-

Note: in EUROMOD it is used the average amounts referring to the two semesters.

Table 2.19 Child benefit (*bch_pt*) amounts [2023] (monthly, in €)

Income bracket	<=36 months	>36 and <=72 months	>72 months
1 st	161.03	50.00	50.00
2 nd	132.92	50.00	50.00
3 rd	104.57	34.86	30.09
4 th	62.75	20.91	-

Extraordinary support: in 2023, to mitigate the effects of inflation, there is an extraordinary support of €15 euros per month for each child receiving the child benefit (for all income brackets). The support will be paid quarterly, in instalments of €45, making a total of €180.

Complement for lower income families: since July 2022, a new supplement is in place, the Child Guarantee (*'Garantia para a Infância'*), aimed at children under the age of 18, recipients of the child benefit and belonging to households that are in extreme poverty (*i.e.*, placed in the 1st income bracket). This support consists of a benefit that complements the child benefit in order to guarantee the payment of a total amount (including the child benefit amount) of €70 in 2022 and of €100 in 2023.

Supplement for large families: between 2020 and 2022, every child up to 36 months entitled to the benefit with one other sibling, received an additional amount equal to what a child aged 36+ receive in the same income bracket, and if the child had two or more other siblings, the additional amount was equal to two times what a child aged 36+ receive in the same income bracket. As of 2023, the following supplements apply:

Table 2.20 Child benefit (*bch_pt*): supplement for large families [2023] (monthly, in €)

Income bracket	2 children	2+ children
1 st	40.25	80.51
2 nd	33.24	66.47
3 rd	30.09	60.18
4 th	15.69	31.38

Bonus for lone parent families: 35% increase in the above amounts between 2020 and 2022. For 2023, the increase is of 50% for the 1st income bracket and 42.5% for the 2nd, 3rd and 4th income brackets.

Number of payments: the child benefit is paid in a monthly basis, twelve times a year. There is an extra payment (of the same amount) in September, for children that fulfil the following conditions:

- The child's heir family is in the 1st income bracket.
- The child is between 6 and 16 years old (age attained during the civil year);
- The child attends school.

Education allowance: twice the amount of the benefit that the child is receiving. Conditions that must be fully observed:

- The family income bracket is the 1st or the 2nd.
- The child is attending the 10-12th grade.
- The child's age is less than 18 years (can be 18 if that age is attained during the school year).
- The child has school success. (NOT SIMULATED)

- ***EUROMOD modelling***

The EU-SILC variable hy050g (family/children related allowances) contains information regarding two benefits: child benefit (*bch*) and other family/children related allowances (*bfa*). The identification of the *bch* variable was done using the information of the EU-SILC variable hy053g (family/children-related allowances non-contributory and means-tested). The remains components of the variable hy050g were affected to *bfa*.

2.5.8 Prenatal family allowance (*bmapr_pt*)

• **Brief description**

A pregnant woman receives the benefit. It is an allowance attributed to the pregnant woman from the 13th week of gestation, which aims to encourage motherhood by compensating for the increased costs during the period of pregnancy. The applicant cannot have a reference income higher than 1.7 x SSI x 14.

• **Definition**

The unit of analysis is the family.

• **Eligibility conditions**

- Have reached the 13th week of gestation.
- Be resident in Portugal or equivalent to a resident.
- Have the reference income equal to or less than the value established for the third income bracket (equal to or less than 1.7 x SSI x 14).
- Do not have financial capital more than 240 x SSI.

• **Income test**

The income brackets are established in the basis of the SSI.

The reference income is calculated by summing the total income of each family member divided by the number of children and young people entitled to the family allowance in that same household plus one and the number of unborn children.

Table 2.21 Prenatal family allowance (*bmapr_pt*) income brackets [2020-2023]

Income bracket	Income bracket upper bounds	In 2023
1 st	0.5 x 14 x SSI	€3,363.01
2 nd	1.0 x 14 x SSI	€6,726.02
3 rd	1.7 x 14 x SSI	€11,434.22
4 th	2.5 x 14 x SSI	€16,815.05

Table 2.22 Prenatal family allowance (*bmapr_pt*): assessed income

Variable	Label
yem	INCOME: Employment
yse	INCOME: Self-employment
bunct_s	BENEFIT/PENSION: Unemployment: insurance
bunnc_s	BENEFIT/PENSION: Unemployment: assistance
poact_s	BENEFIT/PENSION: Old age: contributory
poanc_s	BENEFIT/PENSION: Old age: non-contributory
psu	BENEFIT/PENSION: Survivors
bsaoa_s	BENEFIT/PENSION: Solidarity supplement for the elderly
bsa00_s	BENEFIT/PENSION: Social integration income
bsaot	BENEFIT/PENSION: Other social assistance benefits
bho	BENEFIT/PENSION: Housing benefits
bed	BENEFIT/PENSION: Education
ypp	INCOME: Private pension
ypt	INCOME: Private transfers
ypr	INCOME: Property
yy	INCOME: Investment
yot	INCOME: Other

• ***Benefit amount***

The prenatal family allowance is assigned for 6 months, from the month following that in which the 13th week of pregnancy is reached.

If the period of pregnancy is:

- Over 40 weeks, it is attributed for 6 months or until the month of birth, inclusive.
- Less than 40 weeks, it is attributed for 6 months, and can be accumulated with the child benefit after birth.

If an interruption of pregnancy occurs, it is attributed until the month of termination of pregnancy.

The amount of prenatal family allowance is variable based on the reference income of the household and corresponds to the amount of child benefit in the first year of life. It is increased by 35% in single parenting situations.

Table 2.23 Prenatal family allowance (*bmapr_pt*) amounts [2020-2023] (monthly, in €)*

Income bracket	2020-2022	2023
1 st	149.85	161.03
2 nd	123.69	132.92
3 rd	97.31	104.57
4 th	58.39	62.75

* The amounts in case of twins are doubled (tripled if triplets).

• ***Subject to taxes/SIC***

Not taxable. Not subject to SICs.

- *EUROMOD modelling*

In the next EUROMOD Public Release this benefit will only be simulated from 2015 to 2023. The simulation is, however, switched off as part of the baselines, i.e., non-simulated components (*bfa*) are being used.

The benefit can only be simulated for those women who already gave birth and therefore could be eligible for the allowance for up to 6 months before the childbirth during each policy year. The duration of this allowance depends on the month of birth of the child.

2.5.9 Parental allowance (*bplct_pt*)

- **Brief description**

This benefit is intended for citizens' beneficiaries of the Social Security system and is intended to replace the lost work income (of the mother and/or the father) during the period of childbirth leave. It is not compatible with work income and unemployment benefits (that will be suspended while receiving the parental allowance). There are different concession periods considering the different modalities that this allowance comprises.

- **Definition**

This benefit is intended for citizens:

- Beneficiaries of the Social Security system covered by the employees/self-employed/voluntary social insurance scheme;
- Beneficiaries in pre-retirement status who carry out an activity under any of the aforementioned schemes;
- Beneficiaries receiving unemployment benefits (insurance and assistance);
- Beneficiaries who receive a relative disability pension or survivor's pension and that are working and with records of remuneration in the Social Security.

This allowance comprises several modalities (which have different concession periods):

- **Initial parental allowance:** attributed for a period up to 120 or 150 consecutive days, according to the parents' option. This period can be extended by 30 days in cases of shared license or birth of twins (for each twin, in addition to the first).
- **Mother's exclusive initial parental allowance:** assigned to the mother for a period up to 72 days (30 days, at most, before childbirth and 42 mandatory days immediately after delivery). This period is included in period corresponding to the initial parental allowance.
- **Father's exclusive initial parental allowance:** assigned to the father for a period of 20 mandatory working days (of which 5 immediately after the birth and 15 within 6 weeks of the birth) and 5 optional working days (consecutive or not) which must be taken after the 20 mandatory days and within the period of the mother's maternity leave. This period is additional to the initial parental allowance.
- **Initial parental allowance of one parent in the event of impossibility of the other:** assigned to the father or mother in the event of physical or mental incapacity, or death of one of them, for the period of the initial parental allowance which the other parent lacked.

- **Eligibility conditions**

- Have a minimum period of contributions of at least 6 months.
- Enjoy the respective licenses, absences and unpaid waivers under the Labour Code or equivalent periods.
- Have Social Security contributions paid by the end of the third month immediately preceding the month in which the parents leave work for the birth child (if self-employed person or if covered by the voluntary social insurance scheme).

- **Income test**

This is not a means-tested benefit.

- **Benefit amount**

The daily amount of the allowance is calculated by applying a percentage to the amount of the beneficiary’s reference remuneration (RR), defined by:

- $RR = R/180$, where R is equal to the total of the salaries registered in Social Security in the first six calendar months immediately preceding the second month preceding the beginning of the incapacity for work; or
- $RR = R/(30 \times n)$ if there is no remuneration record in that six-month period because there has been a totalization of taxable periods, and where R is equal to the total remuneration recorded in Social Security since the beginning of the reference to the day before the impediment to work, and n is the number of months to which they report.

Table 2.24 Parental allowance (*bplct_pt*) amounts [2020-2023]

Periods of concession	Monthly amounts
120 days of leave	
150 days of shared leave (120 + 30)	
30 additional days for each twin (plus the first)	100% of RR
Days of father’s exclusive license	
180 days of shared leave (150 + 30)	83% of RR
150 days of leave	80% of RR

Minimum daily amount: the amount of the allowance cannot be less than 80% of 1/30 of the SSI, which corresponded to €12.81 in 2023, €11.82 in 2022, and €11.70 in 2021 and 2020.

- **Extended parental allowance**

Allowance paid to the mother or the father or both, alternatively aiming to replace the lost work income during the period of childbirth leave, provided that the leave is taken immediately after the end of the period of the parental allowance or the extended parental allowance of the other parent.

It is assigned for a period up to 3 months.

The daily amount of the allowance is calculated by applying 25% to the value of the beneficiary’s reference remuneration.

Minimum daily amount: the amount of the allowance cannot be less than 40% of 1/30 of the SSI, which corresponded to €6.41 in 2023, €5.91 in 2022, and €5.85 in 2021 and 2020.

- **Subject to taxes/SIC**

Not taxable. Not subject to SICs.

- **EUROMOD modelling**

In the next EUROMOD Public Release this benefit will only be simulated from 2015 to 2023. The simulation is, however, switched off as part of the baselines, i.e., non-simulated components (*bfa*) are being used.

We assume that the mother takes the whole duration of leave and chooses to take a shorter leave at higher replacement rate (120 days including 30 days before the childbirth, extended to 150 days in total in case of multiple births)⁴. For the partner we assume that they take the maximum duration (25 working

⁴ However, external statistics shows that it exists a clear preference on choosing 150 days (for the mothers, in the initial parent allowance). The same does not happen when one considers the initial parental social allowance.

days given the 6 working days week or 29 calendar days). We also assume that parents do not decide to make use of the extended parental allowance.

Besides, as the benefit amount depends on the previous earnings, we assume those to be equal to the imputed wage ($yivwg$) or the current wage, whichever is higher. The imputed wage is recorded in hourly terms; hence we assume a country-specific standard number of hours worked per week (40 hours) and we recalculate $yivwg$ in monthly terms ($yivwg*40*(52/12)$).

2.5.10 Parental social allowance (*bplnc_pt*)

- **Brief description**

This benefit is intended for citizens that are not covered by any compulsory social protection scheme or by the voluntary social insurance scheme. This allowance is paid to the father and/or mother who do not work and do not have Social Security contributions, or who do not qualify for parental allowance. It is not compatible with work income and unemployment benefits (that will be suspended while receiving the parental social allowance).

- **Definition**

This benefit is intended for citizens:

- Not beneficiaries of any compulsory social protection scheme or by the voluntary social insurance scheme;
- Beneficiaries receiving unemployment benefits (insurance and assistance).

This allowance comprises several modalities (which have different concession periods): initial parental social allowance, mother's exclusive initial parental social allowance, parent's exclusive initial parental social allowance, and initial parental social allowance of one parent in the event of the impossibility of the other. The concession periods are the ones equal to the contributory parental allowance.

- **Eligibility conditions**

- Be resident in Portugal or equivalent to a resident.
- Have a monthly income, per person, of the household, equal or less than 80% of the SSI.
- Do not have financial capital more than 240 x SSI.

- **Income test**

The reference income is the sum of all the monthly income of the household of the applicant divided by the elements of his household, considering the following weighting for each element of the household:

- Recipient: 1
- Every other adult (18+): 0.7
- Every under 18: 0.5

Table 2.25 Parental social allowance (*bplnc_pt*): assessed income

Variable	Label
yem	INCOME: Employment
yse	INCOME: Self-employment
bunct_s	BENEFIT/PENSION: Unemployment: insurance
bunnc_s	BENEFIT/PENSION: Unemployment: assistance
poact_s	BENEFIT/PENSION: Old age: contributory
poanc_s	BENEFIT/PENSION: Old age: non-contributory
psu	BENEFIT/PENSION: Survivors
bsaoa_s	BENEFIT/PENSION: Solidarity supplement for the elderly
bsa00_s	BENEFIT/PENSION: Social integration income
bsaot	BENEFIT/PENSION: Other social assistance benefits
bho	BENEFIT/PENSION: Housing benefits
bed	BENEFIT/PENSION: Education
ypp	INCOME: Private pension
ypt	INCOME: Private transfers
ypr	INCOME: Property
yy	INCOME: Investment
Yot	INCOME: Other

- **Benefit amount**

The amount of the allowance corresponds to a percentage of the SSI, as indicated below:

Table 2.26 Parental social allowance (*bplnc_pt*) amounts [2020-2023]

Periods of concession	Monthly amounts	In 2023
120 days of leave		
150 days of shared leave (120 + 30)	80% x SSI	€383.34
30 additional days for each twin (plus the first)		
10 days of father's exclusive license		
180 days of shared leave (150 + 30)	66% x SSI	€317.08
150 days of leave	64% x SSI	€307.48

- **Subject to taxes/SIC**

Not taxable. Not subject to SICs.

- **EUROMOD modelling**

In the next EUROMOD Public Release this benefit will only be simulated from 2015 to 2023. The simulation is, however, switched off as part of the baselines, i.e., non-simulated components (*bfa*) are being used.

The duration of this allowance is modelled for both parents the same way as for the contributory parental allowance.

2.5.11 Family income support (*bfaxp_pt*)

- ***Brief description***

This extraordinary benefit was introduced in 2022 and intended to partially compensate families for the increase in prices and cost of living faced during that year, within the ‘*Families First*’ program scope. It was a one-off payment done in October 2022.

- ***Definition***

The unit of analysis is the individual.

- ***Eligibility conditions***

This extraordinary income support is granted to residents with a gross income of up to €2,700 gross per month (€37,800 annually), equivalent to twice the average monthly earnings in Portugal.

Recipients of the measure are also beneficiaries of certain social benefits (such as unemployment benefit, sickness benefit, social insertion income or child benefit, among others) and scholarship holders who pay voluntary social insurance.

- ***Benefit amount***

Exceptional income support of €125 per adult and €50 per child or young people up to 24 years old (inclusive), or with no age limit in the case of dependents due to disability.

Those receiving an exceptional supplement for pensioners of less than €125 will received the difference.

2.5.12 Extraordinary supplement for vulnerable families (*bfxp01_pt*)

- ***Brief description***

This extraordinary supplement for vulnerable families was introduced in 2023 and intended to partially compensate families for the increase in prices and cost of living faced during that year.

- ***Definition***

The unit of analysis is the family.

- ***Eligibility conditions***

This support is granted to residents who are beneficiaries of the Social Electricity Tariff, in reference to the month of March 2023.

Families that are not beneficiaries of the Social Electricity Tariff, but in which at least one member of the household is a beneficiary of one of the minimum social benefits (such as unemployment benefit, sickness benefit or social insertion income, among others) or in which one of the children is entitled to the 1st or 2nd income bracket of the child family, are also entitled to this support.

- ***Benefit amount***

This extraordinary supplement for vulnerable families is of €30 per month per household, paid quarterly. The first payment, worth of €90, was paid in April and corresponded to the quarter of January, February and March (€30 per month). The first payment was made in April, retroactively to January, February and March; the second one in June; the third one in August; and the fourth and final payment will arrive in November.

In addition to this support, families with children and young people covered by the child benefit (up to the fourth income bracket) also receive an extraordinary supplement of €15 per month for each child, which is also paid on a quarterly basis.

- ***EUROMOD modelling***

EU-SILC does not include information on recipients of the Social Electricity Tariff. Therefore, in the model, families eligible for the benefit are those in which at least one household member receives one of the minimum social benefits.

2.5.13 Housing benefit (*bhotn_pt*)

- ***Brief description***

This housing benefit was introduced in 2023 and is an extraordinary and temporary support for families in the context of housing, encompassing two different measures: a rental support, to support for the payment of rent from a lease or sublease of first dwellings; and an interest bonus, to support for the payment of the provision of a credit agreement for own and permanent housing.

- ***Definition***

The unit of analysis is the individual.

- ***Eligibility conditions***

The rental support is aimed at resident tenants with a rent burden rate exceeding 35% and an income up to the maximum limit of the sixth PIT income bracket. This benefit, which is automatically assigned by the Social Security with no need to request it, is also intended for individuals who, although not obligated to submit an annual PIT declaration, have monthly work incomes declared to social security or are recipients of social benefits, up to a monthly amount corresponding to 1/14 of the maximum limit of the sixth bracket of the PIT.

The interest bonus presents the same eligibility conditions, and it comprises contracts concluded by 15 March 2023. The request has to be made by the beneficiary from the financial institution.

- ***Benefit amount***

As for the rental support, it translates to a monthly amount up to €200 (and corresponds to the difference between the value of the rent and the amount that would be paid if the effort rate was 35 % of the average monthly value of income). This income support is intended for a maximum period of five years.

As for the interest bonus, it translates to a yearly amount up to €720.65 (and corresponds to the difference between the present value of the indexer and the value of the indexer at the start of the loan plus 3 p.p., in the case of an effort rate of 50% (or more, depending on the income bracket)). In addition to this support, credit institutions are required to allow consumers to choose between variable, fixed or mixed interest rates.

- ***EUROMOD modelling***

The interest bonification cannot be implemented in EUROMOD due to a lack of data on several elements such as spread, contract date and loan maturity date.

2.6 Social insurance contributions

2.6.1 Employee social contributions (*tscee_pt*)

Generally, employees pay contributions on their gross employment income at an 11% flat rate. Civil servants that started working before 2006 contribute to a separate scheme with multiple rates, but their average rate is like the private sector general regime rate.

- **EUROMOD modelling**

There are several regimes, according to specific activities/situations (non-profit organizations, rural workers, football players, clergy, domestic services, young people in their first job, handicapped). Due to the lack of detailed information in the available data, EUROMOD can only simulate the general rule.

2.6.2 Employer social contributions (*tscer_pt*)

Employers pay contributions on their employees' gross income according to a flat rate of 23.75%.

- **EUROMOD modelling**

The policy can be fully/perfectly simulated in EUROMOD, without any particular data or modelling limitations.

2.6.3 Self-employed social contributions (*tscse_pt*)

Self-employed social contributions since 2019:

- **Contribution rates** (applied to the monthly average income): 21.4% (25.2% for rural workers).
- **Contribution base:** actual income, rather than a conventional income based on brackets. Still, not all the gross income is considered. Relevant income: 70% of services or 20% of sales, according to the nature of the business. In the income declaration, the self-employed has the option to change the total income used for the calculation of contributions, increasing, or lowering it by up to 25%.
 - Maximum base: 12 x SSI.
 - Minimum base: a base of incidence resulting in a contribution amount lower than €5 is considered null.
- **Quarterly reporting:** every quarter (end of January, April, July, October) the self-employed are obliged to communicate their income from the previous quarter. The quarterly income is then divided by three to get the monthly average income. Quarterly update: every quarter, contribution amounts are updated according to the updated monthly average income derived from the quarterly income declaration.
- **Minimum contribution:** €20/month.
- **Exemptions:** the self-employed workers are exempt of paying social contributions if they receive old age/disability pensions, and if they simultaneously have received as employees an income above 12 x SSI and a monthly average income from self-employment below 4 x SSI (the exceeding amount is relevant and is considered in the contribution base).
- **Self-employed 'employers' contribution:** if the self-employed individual works on a regular basis for one institution, i.e., more than 50% (or 80%) of the self-employment income is paid by this institution and the individual has no other source of employment income, then the institution must pay a contribution of 7% (or 10%, respectively) of the total amount paid for the services.

2.7 Direct taxes

2.7.1 Personal income tax (*tin00_pt*)

• **Tax unit**

Personal income tax (*‘Imposto sobre o Rendimento Singular’ – IRS*) is due by individuals residing in Portugal and by non-residents receiving income in Portugal. When the individual residing in Portugal is part of a family unit, the income tax applies to all its members. The basic tax unit is composed by the two partners and their dependent children who are defined as:

- Children, adopted children and stepchildren younger than 18 years old and not emancipated.
- Children, adopted children and stepchildren aged between 18 and 25 (adults), with a monthly income below the national minimum wage, who have attended school the 11th or 12th grade of schooling or have attended the compulsory military or civic service.
- Children, adopted children and stepchildren aged 18+ that have been declared unfit for work and have a monthly income below the national minimum wage (the model assumes that all disabled individuals are unfit to work);
- Minors (less than 18) living with a guardian and earning no income.

The age assessment’s date is December 31st.

Dependent parents do not belong to the tax unit. They constitute a different tax unit of their own, that is only accounted in the deductions phase. However, if they fulfil the conditions required to be considered dependent parents (*i.e.*, income below the minimum pension) they are exempt from tax obligations.

• **Taxable income**

Methods for income determination and tax collection may vary between different income sources. Nevertheless, the taxable income is always the total income resulting from the aggregation of gross incomes of different sources minus income specific deductions applied to each income category, and specific reductions/allowances.

Table 2.27 Personal income tax (*tin00_pt*): assessed income (before allowances deduction)

Variable	Label
yem	INCOME: Employment
yse	INCOME: Self-employment
poact_s	BENEFIT/PENSION: Old age: contributory
poanc_s	BENEFIT/PENSION: Old age: non-contributory
psu	BENEFIT/PENSION: Survivors
pdi	BENEFIT/PENSION: Disability
ypp	INCOME: Private pension
ypr	INCOME: Property
yi	INCOME: Investment (Although interest is subject to personal income tax, it is generally taxed at source, through the banking system, at a flat rate of 28%. Thus, in EUROMOD, it is simulated separately and not added to the families’ income)

• **Tax allowances**

Deductions are applied at the individual level, even on joint taxation. For instance, if both partners work, the deductions of the first income category (see next table) are applied separately to their individual

incomes, with zero as limit for the outcome for each of them. Hence, if only one of the partners received employment income, only one deduction is applied. The same rule applies to pensions.

Table 2.28 Personal income tax (*tin00_pt*) allowances [2020-2023]

Income category	Deductions
A – Employment income ^{(1) (2) (3)}	Deduction limit: €4,104 (or Social Security contributions, if higher), with the upper limit of the yearly employment income (if lower).
B – Business and professional income ^{(1) (2) (3)}	Simplified regime: taxable income is 15% of sales or 75% of liberal job earnings or 35% of other services provision earnings. For the simulation, we assume a 25% tax allowance on self-employment income (or $y_{se} \times 15\% - €4,104$, for amounts higher than €27,360).
E – Investment income	No deduction, but only 50% of the yearly gain is taxable. (NOT SIMULATED)
F – Rental income	Repairs and maintenance expenses effectively incurred, municipal tax and expenses with building administration. (NOT SIMULATED)
G – Net worth increases	50% of the net yearly gain is taxable. This rule does not apply to realized gains from the sale of financial assets, where a 10% special rate is applied. (NOT SIMULATED)
H – Pensions ⁽¹⁾	Deduction limit: €4,104 (or Social Security contributions, if higher), with the upper limit of the yearly pension (if lower).

⁽¹⁾ Specific considerations regarding income in A, B and H categories from disabled people (90% incapacity): only 85% of income from categories A and B, and 90% of income from category H, is considered as taxable (upper limit per income category: €2,500).

⁽²⁾ Since 2020, there is a partial deduction for young people between 18 and 26 years old, who earn dependent income, in the first three years of work, according to the following amounts per year of work: 1st year, 30% with a limit of 7.5 x SSI; 2nd year, 20% with a limit of 5 x SSI; and 3rd year, 10% with a limit of 2.5 x SSI.

Since 2022, this partial deduction is also applicable for young people aged up to 30 years old, if completed a PhD programme. Additionally, the deduction started to also consider those who earn independent income; the limits of deductions were abolish; and the exemption was extended to 5 years, according to the following amounts per year of work: 1st and 2nd years, 30%; 3rd year and 4th years, 20%; 5th year, 10%.

In 2023, there was an increase in the deductions (again with upper limits), according to the following amounts per year of work: 1st year, 50% with a limit of 12.5 x SSI; 2nd year, 40% with a limit of 10 x SSI; 3rd and 4th years, 30% with a limit of 7.5 x SSI; and 5th year, 20% with a limit of 5 x SSI.

⁽³⁾ Since 2020, there is a deduction for dependent students, who earn employment and self-employment income, up to 5 x SSI.

- **Tax base**

Personal Income Tax = Tax base * Rate – Tax credits,

Where **Tax base = Gross income – Income specific deductions – Reductions**

According to the splitting system, income from married couples is divided by 2 before applying the tax rate. In the case of married couples, the resulting tax is multiplied by two to obtain the tax liability (before tax credits).

- **Tax schedule**

The taxable income is subjected to tax rates according to income brackets. In Azores and Madeira, the marginal tax rates are lower than in the mainland⁵.

⁵ Since 2018 EU-SILC, the EUROMOD input data contains regional information at NUTS2 level, allowing to simulate the different existing tax schedules in Azores and Madeira.

Table 2.29 Personal income tax (*tin00_pt*) marginal rates [2020-2021]

Marginal Rate	Income bracket	Deduction
14.5%	Up to 7,112	0
23.0%	>7,112 – 10,732	604.54
28,5%	>10,732 – 20,322	1,194.80
35,0%	>20,322 – 25,075	2,515.63
37.0%	>25,075 – 36,967	3,017.27
45.0%	>36,967 – 80,882	5,974.54
48.0%	Above 80,882	8,401.21

Plus ‘**additional solidarity tax**’: income above €80,000 and below €250,000 is additionally taxed at 2.5%. Income above €250,000 is additionally taxed at 5%.

Table 2.30 Personal income tax (*tin00_pt*) marginal rates [2022]

Marginal Rate	Income bracket	Deduct
14.5%	Up to 7,116	0
23.0%	>7,116 – 10,736	604,86
26.5%	>10,736 – 15,216	980,63
28,5%	>15,216 – 19,696	1,284.99
35,0%	>19,696 – 25,076	2,565.21
37.0%	>25,076 – 36,757	3,066.79
43.5%	>36,757 – 48,033	5,455.84
45.0%	>48,033 – 75,009	6,176.56
48.0%	Above 75,009	8,426.51

Plus “**additional solidarity tax**”: income above 80,000 and below 250,000 is additionally taxed in 2.5%; income above 250,000 is additionally taxed in 5%.

Table 2.31 Personal income tax (*tin00_pt*) marginal rates [2023]

Marginal Rate	Income bracket	Deduct
14.5%	Up to 7,479	0
21.0%	>7,479 – 11,284	486,14
26.5%	>11,284 – 15,992	1,106.73
28,5%	>15,992 – 20,700	1,426.65
35,0%	>20,700 – 26,355	2,772.14
37.0%	>26,355 – 38,632	3,299.12
43.5%	>38,632 – 50,483	5,810.25
45.0%	>50,483 – 78,834	6,567.33
48.0%	Above 78,834	8,932.68

Plus “**additional solidarity tax**”: income above 80,000 and below 250,000 is additionally taxed in 2.5%; income above 250,000 is additionally taxed in 5%.

Table 2.32 Personal income tax (*tin00_pt*) marginal rates [2020-2022], Azores and Madeira

Income bracket	Madeira			Azores	
	2020	2021	2022	2020-2021	2022
Up to 7,112	11.60%	10.15%	10.15%	10.15%	10.15%
>7,112 – 10,732	20.70%	16.10%	16.10%	17.25%	16.10%
>10,732 – 20,322	26.50%	24.51%	22.80%	21,38%	19.95%
>20,322 – 25,075	33.75%	32.55%	29.75%	28,00%	24.50%
>25,075 – 36,967	35.87%	34.78%	33.67%	29.60%	25.90%
>36,967 – 80,882	44.95%	44.95%	43.65%	36.00%	31.50%
Above 80,882	48.00%	48.00%	47.52%	38.40%	33.60%

Plus 'additional solidarity tax': income above €80,000 and below €250,000 is additionally taxed at 2.5%. Income above €250,000 is additionally taxed at 5%.

Table 2.33 Personal income tax (*tin00_pt*) marginal rates [2023], Azores and Madeira

Income bracket	Madeira	Azores
Up to 7,479	10.15%	10.15%
>7,479 – 11,284	14.70%	14.70%
>11,284 – 15,992	18.55%	18.55%
>15,992 – 20,700	19.95%	19.95%
>20,700 – 26,355	29.75%	24.50%
>26,355 – 38,632	33.67%	25.90%
>38,632 – 50,483	42.20%	30.45%
>50,483 – 78,834	43.65%	31.50%
Above 78,834	47.52%	33.60%

Plus 'additional solidarity tax': income above €80,000 and below €250,000 is additionally taxed at 2.5%. Income above €250,000 is additionally taxed at 5%.

Table 2.34 Net income guarantee ('*mínimo de existência*') [2020-2023] (€/year)

	2020-2023
Reference Value: Tax rates cannot reduce net income below X euros if income originates mainly from employment and pensions	14 x 1.5 x SSI ⁽²⁾ (or 14 x NMW, if higher) ⁽³⁾
Households with 3 or 4 dependent children and a taxable income less or equal to X euros/year are exempt ⁽¹⁾	11,320
Households with 5+ dependent children and a taxable income less or equal to X euros/year are exempt ⁽¹⁾	15,560
Income Limit (L) ⁽⁴⁾	Reference Value- limit for household general expenses + $\frac{1st\ tax\ rate\ x\ 2.75}{2.75}$ + $\frac{1st\ income\ bracket}{2.75}$

⁽¹⁾ Or half the amount in couples choosing individual taxation.

⁽²⁾ In 2021 there was an extraordinary increase of €100 to the referred amount (14 x 1.5 x SSI + €100), but only temporary.

⁽³⁾ In the period covered, it is the case for 2022 and 2023.

⁽⁴⁾ Parameter employed to compute the taxpayers' deductions in the 2023 Reform.

Since 2019, self-employed start being covered by the PIT net income guarantee. This means that now these workers also have part of their income tax-free, similarly to what already happened in previous years with dependent employees. Net income guarantee should then also include self-employment income (*yse*).

In 2023, there have been some changes in how the Net Income Guarantee deduction is implemented. It now applies to taxable income to determine the tax base before the tax schedule is applied, instead of being adjusted after tax credits. Under this reform, the deduction is applicable when the total of all taxpayers' gross incomes is less than 2.2 times the SSI multiplied by the number of taxpayers. To calculate the deduction for taxpayers, there are three different scenarios:

- a) For those whose total gross income equal to or less than the reference value, the deduction is the positive difference between the reference value and specific deductions plus $\frac{\text{limit for household general expenses}}{\text{1st tax rate}}$,
- b) For those whose total gross income is higher than the reference value but equal to or less than L, the deduction is the positive difference between the reference value and $1.75 \times (\text{gross income} - \text{reference value})$, and specific deductions plus $\frac{\text{limit for household general expenses}}{\text{1st tax rate}}$,
- c) For those with total gross income higher than the income limit, L, the deduction is the positive difference between $L - \text{1st bracket limit} - 0.9 \times (\text{gross income} - L)$ and the sum of specific deductions.

- ***Tax credits***

Certain expenses related to health, education, old age-care, housing, insurance premiums, and disability can be deducted from the taxable income, reducing the total tax liability. Table below lists all personal tax credits and other deductions.

Besides the ones presented, there are also other tax credits associated with private retirement plans, stocks, shares savings plans, mortgage savings accounts, acquisition of computers, acquisition of renewable energy equipment, legal counselling fees, among others. (NOT SIMULATED)

Table 2.35 Personal income tax (*tin00_pt*) credits [2020-2023]

Tax credit group	Maximum limit
Dependent children	<ul style="list-style-type: none"> • 2020-2021: €600 (or €726 if aged <3) per dependent child. Increased amounts for families with 2+: €900 per child aged <3. • 2022: €600 (or €726 if aged <3) per dependent child. Increased amounts for families with 2+: €900 per child aged <3 and €750 per child aged between 3 and 6 • 2023: €600 (or €726 if aged <3) per dependent child. Increased amounts for families with 2+: €900 per child aged <6
Dependent parents / grandparents	€525 per dependent parent (€635 if only one)
Health	15% of expenses (up to €1,000)
Education and training	30% of expenses (up to € 800)
Retirement homes residency	25% of expenses (up to €403.75)
Housing (for mortgages – both capital and interest – and rents)	15% of expenses (up to € 296 for mortgages or up to €502 for renters in the official renting regime and other specific limits – see below)
Paid alimonies ⁽¹⁾	20% of the alimonies annual amount
Disability	€3,843.44 per couple both disabled (or €1,921.72 per individual) + €1,201.07 per disabled dependent + 30% of expenses on special education + 25% of expenses on life insurance of covering exclusively the risks of death, disability, or old age
Invoice claiming ⁽¹⁾	15% of the VAT paid in products and services from specific sectors (restaurants, hotels, car repair, ...) up to €250
Household general expenses ⁽²⁾	35% of expenses (up to €250) supported by each partner in the couple or by each single taxpayer or 45% of expenses (up to €335) in the case of lone parents – see below

⁽¹⁾ EU-SILC contains no data on these expenses, so the simulated tax credits are equal to zero.

⁽²⁾ From 2015 on, a new tax credit is given according to documented general expenses. Data may not yield information on consumption, but the limit of €250/year (€335 if single parent) should prove to be easily attainable for every non-exempt taxpayer, thus providing strong arguments to simulate the full limit to every household without the need to regard consumption.

Table 2.36 Specific limits for housing tax credit [2020-2023]

	2020	2021-2023
For renters paying rent	For individual tax bases up to the 1 st income bracket, the limit is €800	No changes
	For individual tax bases between the 1 st income bracket and €30,000: $Limit = 502 + (800 - 502) \times \frac{30,000 - Ind. Tax Base}{30,000 - 1st\ income\ bracket\ amount}$	No changes
For owners paying mortgage	For individual tax bases up to the 1 st income bracket, the limit is €450	No changes
	For individual tax bases between the 1 st income bracket and €30,000: $Limit = 296 + (450 - 296) \times \frac{30,000 - Ind. Tax Base}{30,000 - 1st\ income\ bracket\ amount}$	No changes

Limits for tax credits: the tax credits total amount (only on health, education, housing, alimonies, invoice claiming, residential homes and fiscal benefits) is restricted accordingly to the table below. Note:

the limits refer to the sum of the tax credits due to expenses on health, education, housing, alimonies, invoice claiming, residential homes and other fiscal benefits. Fixed tax credits regarding the number of taxpayers or other elements in the tax units, disability or tax credits regarding general expenses are not considered for these limits.

Table 2.37 Limits for tax credit [2020-2023]

2020	2021-2023
For individual tax bases up to the 1 st income bracket, there is no limit.	No changes
For individual tax bases between the 1 st and last income brackets: $\text{Limit} = 1,000 + (2,500 - 1,500) \times \frac{\text{last income bracket amount} - \text{Ind. Tax Base}}{\text{last} - \text{1st income bracket amounts}}$	No changes
For individual tax bases above the last income bracket, the limit is €1,000.	No changes

Note: In tax units with 3+ dependent children, all the above limits are further increased in 5% for each one.

- ***EUROMOD modelling***

Joint taxation for unmarried couples is not compulsory (although it is by far the most frequent option), but for EUROMOD purposes it is assumed as such. To be specific, from January 1st, 2015, two adult individuals that share the same fiscal dwelling during at least two years – as well as in the period of the income tax – are entitled to joint taxation (under civil union, ‘*união de facto*’, without need for additional proof). Comparing the percentage of individuals in EUROMOD/SILC eligible for joint taxation with administrative microdata from the income tax, the share of adult individuals that fills the declaration in joint taxation is only slightly higher (difference of 1 p.p.).

2.8 COVID-19 temporary measures

2.8.1 Wage compensation scheme COVID-19 (*yemcomp_pt*)

- **Definition**

This benefit intended to support employees via a simplified layoff scheme, available to companies whose economic activity was totally or partially closed by legislative determination (at least a 40% activity breakdown), to compensate wages loss. Employers participating in this regime could not dismiss/fire their employees.

Whether there was a reduction in the normal working time or suspension of the contract, in 2021 workers were entitled to receive 100% of their gross wage (in 2020 they were entitled to a minimum amount equal to 2/3 of their gross salary). Employers could apply this system either for total or partial layoffs, *i.e.*, workers could work zero hours or a proportion of the hours in their contracts. This compensation had an initial duration of up to one month, and could be extended monthly, if justified.

This measure to support the COVID-19 effects ceased in the first quarter of 2022.

- **Eligibility conditions**

There were no specific eligibility conditions.

- **Benefit amount**

The replacement rate of the salary for the non-worked hours was 100% of the gross wage (original salary) in 2021 (in 2020, workers were entitled to an amount equal to 2/3 of their gross wage). Workers were entitled to a minimum compensation of €665 (1 x NMW) and a maximum of €1,995 (3 x NMW). These limits were adjusted proportionally if the worker had a part-time contract.

In 2020, employers with layoff workers were entitled to a Social Security support in the amount of 70% of 2/3 of the normal gross wage of each worker covered, up to a limit of €1,995 per worker (3 x NMW), to support the payment of wages. The employer paid the remaining 30%. In 2021, workers were entitled to the full payment of their gross wages (and for that to not represent an increase to the employer's expenses, the compensation amount paid by Social Security was increased to the extent strictly necessary in order to ensure the worker a compensation of 100% of the gross wage). The employer still supported the remaining 30% of the 2/3.

In partial layoff, the worker earned the proportion of the salary corresponding to the hours lost, and 100% of the proportion of the salary corresponding to the hours worked. Limits were additionally adjusted by the share of lost hours over total hours in the contract.

- **Subject to taxes/SIC**

Income from this compensation scheme was treated as salaries for tax and benefit purposes, being thus subject to income taxation, employees' SIC and means tested benefits.

On the other hand, employers that entered in the simplified layoff scheme were temporarily exempt from paying the 23.75% flat rate regarding employers' SIC for the workers covered by the temporary compensation scheme.

- **EUROMOD modelling**

This policy can only produce results if the model is run in combination with the LMA add-on. The individuals that are selected to undergo transitions to monetary compensation schemes are defined in

the *TransLMA_pt* policy, which is switched on automatically by the add-on. For more information about the modelling of labour market transitions, please consult the “*Simulating labour market transitions in EUROMOD*” document.

For 2020, labour transition model based data are produced by Eurostat, using detailed distributional information on the loss of jobs and short-term work schemes from the Labour Force Survey and administrative data. The impact across different categories of individuals, the duration of unemployment/absence and percentage of hours worked are modelled using the EU-LFS longitudinal and quarterly transitions as target. For more information please consult the methodological note available at 9a70fb55-ceb7-d25a-1b31-ab0c030095d2 (europa.eu). For 2021, not enough information was available, so all parameters were set to zero.

2.8.2 Self-employed compensation due to COVID-19 (*ysecomp_pt*)

- **Definition**

It was provided special financial support for self-employed with significant reduction of their economic activity. This compensation had an initial duration of up to one month, and could be extended monthly, if justified.

This measure to support the COVID-19 effects ceased in the first quarter of 2022.

- **Eligibility conditions**

Self-employed were eligible to income support if they had contributed to Social Security 3 consecutive months or 6 months with gaps in the last 12 months prior to the lockdown. They needed to be self-employed exclusively (for example, not be a pensioner).

They also needed to prove that their activity (or the activity of the respective sector) was stopped because of the COVID-19 outbreak, or that they registered a breach of at least 40% of their invoice in the 30 days prior to the request submitted to Social Security.

- **Benefit amount**

Self-employed were entitled to financial support corresponding to the amount of the average remuneration recorded as a contributory base in the 12 months prior to the request, with an upper limit of 1 x SSI, when the average is lower than 1.5 x SSI. On the other hand, when the amount of the average remuneration recorded as a contributory base was equal or higher than 1.5 x SSI, the benefit amount corresponded to 2/3 of the remuneration recorded as a contributory base, with an upper limit of 1 x NMW.

In the case of an abrupt break of at least 40% of the invoice, the benefit amount was multiplied by the respective break, expressed in percentage terms.

Self-employed workers that contributed with the minimum level of contribution (€20) were granted a lump sum amount of 0.5 x SSI.

- **Subject to taxes/SIC**

Income from this compensation scheme was treated as salaries for tax and benefit purposes, being thus subject to income taxation, employees' SIC and means tested benefits.

Only self-employed with employees at their charge were temporarily exempt from paying SIC. (NOT SIMULATED)

- *EUROMOD modelling*

This policy can only produce results if the model is run in combination with the LMA add-on. The individuals that are selected to undergo transitions to monetary compensation schemes are defined in the *TransLMA_pt* policy, which is switched on automatically by the add-on. For more information about the modelling of labour market transitions, please consult the “*Simulating labour market transitions in EUROMOD*” document.

For 2020, labour transition model based data are produced by Eurostat, using detailed distributional information on the loss of jobs and short-term work schemes from the Labour Force Survey and administrative data. The impact across different categories of individuals, the duration of unemployment/absence and percentage of hours worked are modelled using the EU-LFS longitudinal and quarterly transitions as target. For more information please consult the methodological note available at [9a70fb55-ceb7-d25a-1b31-ab0c030095d2](https://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&plugin=1) (europa.eu). For 2021, not enough information was available, so all parameters were set to zero.

3. DATA

3.1 General description

EUROMOD database results from EU-SILC, (EU-SILC containing 2021 cross-sectional and 2020 longitudinal Version 230724⁶). The Portuguese EU-SILC survey is an annual survey with a four-year rotational panel. Fieldwork was carried out in 2021, between March and September, and contains data regarding the incomes of 2020. The database is provided by Eurostat.

The EU-SILC sample is composed of four independent sub-samples, where each one follows a stratified two-stage cluster sampling design. The 2020 sampling frame was selected from the National Dwellings Register (NDR). It is constituted by private dwellings of usual residence and excludes collective households and institutions. Its size is approximately 1,4 million dwellings of usual residence.

The selection of the sample followed a stratified (NUTS II stratification) and multistage sampling design. The primary sampling units, consisting of cells of the INSPIRE grid of 1km², were selected with probability proportional to the number of dwellings of usual residence. And the secondary sampling units (dwellings) were systematically selected in each primary sampling unit. Information is collected on all households and individuals living in the selected dwelling.

Table 3.1 EUROMOD database description

EUROMOD database	PT_2021_a1
Original name	EU-SILC
Provider	Eurostat
Year of collection	2021
Period of collection	Fieldwork executed between March and September
Income reference period	2020
Sampling	Stratified, multi-stage, clustered
Unit of assessment	Household and personal
Coverage	Private households (households living at private residential addresses). Individuals living in institutional households (e.g., in care or imprisonment institutions, etc.) are excluded.
Original sample size	10,973 households (of which 26,822 individuals)

Source: Statistics Portugal (2019) ‘*ICOR - Documento Metodológico Versão 3.7*’; Statistics Portugal (2021) *Income and Living Conditions 2020* (Provisional Data).

3.2 Sample quality and weights

The Portuguese EU-SILC information regularly collected on an annual basis through computer-assisted face-to-face interviews (CAPI) in the second quarter of each year. Yet, as a result of public health measures following the COVID-19 pandemic, in particular social lockdown and distancing, the survey was conducted exclusively through telephone interviews (CATI) in 2020 and 2021.

⁶ As it constitutes the most recent dataset in the EUROMOD model, the EU SILC 2021 dataset would normally be considered the ‘best-match’ for the 2021 system. However, it may not be the most appropriate for the 2021 system due to:

- a) The significant employment income losses experienced in Portugal during the COVID-19 pandemic in 2020 make the EU SILC 2021 dataset, which takes 2020 as the income reference period, less reflective of the economic conditions in 2021. For instance, using the pt_2020_a1 dataset would better replicate the decrease in the AROP rate in Portugal in 2021, as identified by ESTAT.
- b) There are no substantial differences in the income distribution between pt_2020_a1 and pt_2021_b1.
- c) There are no significant differences in other outcomes of the 2021 system produced by the two datasets.

Based on these factors, we have come to the conclusion that the 2020 dataset (i.e., pt_2020_a1) is the ‘best-match’ in the 2021 system of the model.

The sample size usually considers a compensation factor of the effect of the total non-responses. Being impossible to carry out face-to-face interviews due to the context of the COVID-19 pandemic, this factor has been substantially reinforced by taking into account that telephone data collection usually have lower response rates than face-to-face interviews, as well as the effect of outdated telephone numbers in the database.

3.2.1 Non-response

In 2021, the survey addressed 16,478 households, of which 10,973 with full response (with data collection on 26,822 people; 23,730 with 16 and over). Non-response is corrected by reweighting the final sample, *i.e.*, by recalculating the sample weights.

3.2.2 Weights

Adjustments to the sample weights are made for the whole sample (combining the four sub-samples) at household and individual level using the SAS macro CALMAR. An integrative calibration is applied to ensure consistency between households and individuals, because all household members receive the same cross-sectional weight as the household they belong to.

The estimated results are obtained using household and individual weights, calibrated by region, household size, age, and sex.

The following table shows the descriptive statistics for the grossing-up weights used.

Table 3.2 Descriptive statistics of the grossing-up weight *rb050*

	EU-SILC UDB Portuguese data
Number	26,822
Mean	383.95
Median	198.46
Maximum	3,483.34
Minimum	7.14
Max/Min	487.83
Decile 1 (P10)	30.13
Decile 9 (P90)	960.68
Decile 9 / Decile 1 (P90/P10)	31.88

3.3 Data adjustment

Adjustments to the variables are kept to a minimum. Some minor data cleaning is done to ensure that the relationships of individuals within households are consistent. In order to guarantee consistency between demographic and income variables which refer to the previous year (and on which EUROMOD simulation are based), all children born between the end of the income reference period and the data of the interview (45 cases) were dropped from the sample.

However, the weights were not readjusted to consider the drop of these individuals. EUROMOD final sample contains 10,973 households and 26,777 individuals.

3.4 Imputations and assumptions

3.4.1 Time period

In the EU-SILC dataset, the income reference period is the previous year of the survey. All monetary amounts are expressed in annual terms. Dividing them by 12, these are converted into monthly amounts for the EUROMOD database.

There are two age variables in the EU-SILC dataset: one relates to the age of the individual at the moment of the survey, and the other to the age at the end of the income reference period. EUROMOD uses the first one to characterise all individuals in the dataset.

3.4.2 Gross incomes

The EU-SILC survey contains information on both gross and net monetary incomes, if applicable, and flag variables, which indicate if the observation has been collected in a gross or net form.

Income data can be provided by respondents in either gross or net values. Hence, the net series is obtained by Statistics Portugal using a specific gross-to-net micro simulation model (see more information regarding the model in Rodrigues, 2007).

3.4.3 Disaggregation of harmonized variables and other imputations

Some variables required for the simulation of the tax-benefit system in Portugal are not available in the EU-SILC UDB. However, the Euromod team has also access to EMSD file provided by Eurostat that contains some national variables not included in the EU-SILC UDB. The use of the EMSD file provided by Eurostat contains imputations in some variables and a disaggregation of other variables.

The use of EMSD allows the split of the following variables:

- a. **Old age pension** splits into contributory pensions (*poac*) and means-tested non-contributory benefit for the elderly (*poanc* – old age social pension). The EMSD provides two variables obtained from the national EU-SILC PDB: *poact_nsilc* and *poanc_nsilc*. Each of those national variables are divided by 12, these are converted into monthly amounts for the EUROMOD database.
- b. **Unemployment benefit** in the UDB split into contributory unemployment benefit (*bunct*) and the means-tested unemployment benefit (*bunnc*). The splitting is based on the variables PY091G (Unemployment benefits – Contributory and means-tested) and PY092G (Unemployment benefits – Contributory and non-means-tested).
- c. **The aggregate family benefits** variable in the UDB splits into two components: child benefit (*bch*) and Other family benefits (*bfa*). The EMSD provides two variables obtained from the national EU-SILC PDB: *bch_nsilc*, *bcpn_nsilc*. Those variables are added and divided by 12 to obtain the monthly amount of *bch*. The difference between *bch* and *hy050/12* are included in *bfa*.
- d. **Social exclusion benefits** split into three components: Solidarity supplement for the elderly (*bsaoa*), minimum income benefit (*bsa00*) and Other social assistance benefits (*bsaot*). The EMSD provides three variables obtained from the national EU-SILC PDB: *bsa00_nsilc*, *bsaoa_nsilc* and *bsaot_nsilc*. Each of those national variables are divided by 12, these are converted into monthly amounts for the EUROMOD database.

Education level is imputed to children aged under 16 according to their age and the rules of the Portuguese education system.

Incomes reported at household level are assigned to the relevant member of the household or to the first member closer to 45 years old.

3.5 Uprating factors

Uprating factors are used to account for any time inconsistencies between the input dataset and the policy year. Each monetary variable (*i.e.*, each income component) is updated to account for changes in the non-simulated variables that have taken place between the year the data was collected and the simulation year of the tax-benefit system. Uprating factors are generally based on the changes in the average value of the relevant income component between the two years. For detailed information on the construction of each uprating factor and corresponding sources, see Annex 1.

As a rule, uprating factors are given in Annex 1 for both simulated and non-simulated income components included in the input dataset. Note, however, that in the case of simulated variables, the actual simulated amounts are used in the baseline rather than the uprated original variables in the dataset. Uprating factors for simulated variables are given to enable the user to turn off the simulation of a particular variable if and when required.

4. VALIDATION

4.1 Aggregate Validation

EUROMOD results are validated against external benchmarks. Detailed comparisons of the number of individuals receiving a particular income component and total annual amounts are given in Annex 3. It is important to bear in mind that, since labour market transitions are switched OFF in EUROMOD baselines, COVID-19 temporary measures (policies *wage compensation scheme COVID-19* and *self-employed compensation due to COVID-19*) do not produce any effect in baseline simulations, i.e., the EUROMOD results for 2023 do not consider the effect of the pandemic in the Portuguese economy.

Market incomes, non-simulated taxes and benefits in the input dataset, and simulated taxes and benefits are validated against external official data. The main discrepancies between EUROMOD results and external benchmarks are discussed in the following subsections, as well as the factors that may explain the differences.

4.1.1 Components of disposable income

This subsection outlines the differences in the disposable income definition in EUROMOD and EU-SILC 2021. The major components of disposable income are the same in both sources: original incomes (+); benefits (+), taxes (-), employee social insurance contributions (-); and self-employed social insurance contributions (-). However, there are two differences at the individual level components:

- i) The EU-SILC 2021 definition includes the (imputed) annual value of (using) a company car, while EUROMOD excludes it; and
- ii) Pensions from individual private plans are included in the EUROMOD definition used in EUROMOD, while EU-SILC 2021 excludes it.

Besides these differences, the amount of the disposable income of the same household can be different because the simulated income components in EUROMOD can differ from their observed counterparts in EU-SILC dataset.

Table 4.1 Components of disposable income

	EUROMOD	EU-SILC 2021	Notes
Household disposable income	ils_dispy	hy020	
Employee cash or near cash income	yem	py010g	yem derived from py010g
Company car	-	py021g	
Cash benefits or losses from self-employment	yse	py050g	yse derived from py050g
Pension from individual private plans	ypp	-	ypp derived from py080g
Investment income	yiY	hy090g	yiY derived from hy090g
Income from rental of a property or land	yprrt	hy040g	yprrt derived from hy040g
Income received by people aged under 16	yot	hy110g	yot derived from hy110g
Regular inter-household cash transfer received	ypt	hy080g	ypt derived from hy080g
Regular inter-household cash transfer paid (-)	xmp	hy130g	xmp derived from hy130g
Old age benefits	poact_s	py100g py102g	poact_s and poanc_s derived from the split of py100g into contributory and non-contributory old age pensions
	poanc_s	py103g py104g	
Survivors benefits	bsu	py110g	bsu derived from py110g
Disability benefits	bdi	py130g	bdi derived from py130g
Unemployment benefits	bunct_s	py090g	bunct_s derived from py092g
	bunnc_s	py091g py092g	bunnc_s derived from py091g
Housing allowances	bho	hy070g	bho derived from hy070g
Family/children related allowances	bfa	hy050g	bfa derived from the difference between hy050 and hy053
	bch_s	hy053g	bch_s derived from hy053g
Education related allowances	bed	py140g	bed derived from py140g
Sickness benefits	bhl	py120g	bhl derived from py120g
Social exclusion not elsewhere classified	bsaot	hy060g	hy060g split into social integration income (bsa00_s), solidarity supplement for the elderly (bsaoa_s) and other social assistance benefits (bsaot)
	bsaoa_s		
	bsa00_s		
Tax on income and social contributions (-)	tin_s	hy140g	EUROMOD data includes three simulated components: tin_s (simulated income tax); tscee_s (simulated SIC employee) and tscse_s (simulated SIC self-employee).
	tscee_s		
	tscse_s		
Regular taxes on wealth (-)	tpr	hy120g	tpr derived from hy120g

Note: all “_s” variables are EUROMOD simulated benefits or taxes.

4.1.2 Validation of market incomes

Note: Please see Annex 3 for tables.

Tables A3.1 and A3.2 show the number of recipients and annual amounts of income earned from different sources reported but not simulated in EUROMOD. Unfortunately, it is not possible to obtain data from external sources to validate all types of income (namely from private pensions) and for all the simulation years. The number of **employees** and the level of **total wages** are quite like the figures obtained from external sources. The number of employees remains fixed in EUROMOD, while in the external statistics it slowly increases, as expected due to the recovery in employment after the COVID-

19 economic impact. Concerning the wages, they also rise in EUROMOD, but this is only due to the uprating factors and changes in the policies – namely the updates in the private aggregates – rather than changes in employment, while the external statistics rise should result from both factors, amongst others (and considering that there are statistics only until 2021). The values of gross wages slightly overestimated the official data, by around 18% in 2020 and 10% in 2021. This overestimation of gross incomes comes directly from the EU-SILC 2021 data and is not a consequence of EUROMOD modelling.

The number of recipients of **self-employment** income is underestimated (around 15% between 2020 and 2022). This number remains fixed in EUROMOD, while it varies in the external statistics (with a steady from 2020 onwards, as expected due to the recovery in employment after the COVID-19 economic impact). Conversely, the level of self-employment income appears clearly overestimated (1.70 on average between 2020 and 2021). The complexity of the self-employment social security contributions system could explain part of this difference. The Portuguese version of the EU-SILC (and EUROMOD) attributes social security contributions to most of the self-employed that actually do not pay them due to the multiple exemption schemes and to the lack of capacity to deal with tax evasion⁷.

The number of recipients of **rent income** is also underestimated around 39% on average in 2020 and 2021 – being that the number also remains fixed in EUROMOD, while it is almost static in the external statistics. On the other hand, the level of total rent income is quite like the figures obtained from external sources (1.16 in the baseline and 0.86 in 2021).

Finally, the **investment income** recipients and the level of total income are both substantially overestimated in EUROMOD regarding the figures obtained from external sources (around 22.13 and 2.51, respectively, between 2020 and 2021). Part of this difference could be explained by the fact that EU-SILC does not well-capture capital incomes, and/or the external source data is not strictly comparable to EU-SILC data.

4.1.3 Validation of taxes and social insurance contributions

Note: Please see Annex 3 for tables.

Tables A3.3 and A3.4 include the **number of taxpayers** and **amount of taxes** collected during the period of 2020-2023 as simulated by EUROMOD. Unfortunately, there is still little external statistics to compare against EUROMOD's results (only regarding 2020 and 2021). However, for those years, EUROMOD seems to reveal an overestimation of the amount of the income tax (20% on average) that could be associate with the overestimation of gross wages amounts detected before. Besides, the impossibility of simulating some tax credits could be also leading to the observed overestimation.

The simulation of **social contributions** seems quite accurate when compared with external sources. However, some caution must be held against the external statistics, which result from gathering complex and somewhat ambiguous data on different regimes, sources and administrative or budgetary statistics. No information is available regarding the number of individuals paying contributions.

4.1.4 Validation of benefits

Note: Please see Annex 3 for tables.

Tables A3.5 and A3.6 show the number of recipients of benefits and the respective aggregate amounts. **Disability** and **survivor's** benefits are taken from Social Security (SS) data sources and are not corrected or simulated in EUROMOD. The number of recipients of the disability pension is somewhat overestimated in the EU-SILC dataset compared to the SS external sources, while the number of recipients of the survivor pension is clearly underestimated – consequently, EUROMOD reproduces this underestimation. Regarding the aggregate amounts, both appears to be very close to the one recorded

⁷ On the informal economy and tax evasion in Portugal, see CEAFGA (2008).

by the external sources (1.01 for the disability benefit and 1.10 for the survivor's benefit, on average between 2020 and 2021). As for the figures on the **non-contributory pension** ("**social pension**") they are underestimated, around 22% regarding the number of recipients and 15% regarding the aggregate amounts (for 2020 and 2021).

The validation process reveals an underestimation in the performance of the simulation of the number of **unemployment benefits** recipients between 2020 and 2022 (0.62 to 0.83 in the main benefit, and even lower comparison ratios for the less expressive unemployment assistance benefit – 0.27 to 0.30), and consequently also on the aggregate amounts. Such differences over time may be explained by the changes in unemployment in Portugal over the period and the corresponding impact on its total expenditure, whilst EUROMOD relies on the structural data from the first year, *i.e.*, the number of recipients is kept constant throughout (the default simulation process is basically a split of the original unemployment benefit variable).

The number of **sickness benefits** recipients is clearly underreported in the EU-SILC data. The number of recipients is slightly above one third of the number reported by the SS external sources. The aggregate amount also appears to be underestimated. One possible explanation is that external data is constructed using sickness episodes along the year and there is no information on the EU-SILC data about the number of individuals experiencing various episodes along the year (e.g., counting of a same individual experiencing various episodes along the year).

The simulation of **child benefit** shows that the figures are quite accurate both regarding the number of recipients (0.83 on average between 2020 and 2022) and the total amount between 2020 and 2021 (also 0.83).

The simulation of the minimum income program in Portugal ("**social integration income**") has several difficulties associated (e.g., capturing the means tested entitlement conditions in the simulations, the complex issue of non-take up, and the changes occurred in the entitlement conditions). Notwithstanding, the figures from external statistics and EUROMOD's results do not significantly differ respecting the number of recipients, that reveals only a small undervaluation during the whole period of 2020-2022 (around 9%). In the simulated benefit amount, the underestimation is only slightly higher (around 11% on average between 2020 and 2021).

An adjustment at the core of the simulation was made regarding the number of recipients of the **solidarity supplement for the elderly**, due to a misalignment of the EUROMOD values and the external source. That allowed for an alignment respecting the average amounts in 2020 and 2021.

4.2 Income distribution

Note: Please see Annex 3 for tables.

The analysis in this section provides the indicators of income distribution, poverty, and inequality. All income distribution results presented here are computed for individuals according to their household disposable income (HDI) equivalised by the "modified OECD" equivalence scale. HDI is calculated as the sum of all income sources of all household members, net of income tax and social insurance contributions. The weights in the OECD equivalence are: first adult = 1; additional individuals aged 14+ = 0.5; additional individuals aged under 14 = 0.3.

4.2.1 Income inequality

In this section, the changes in income distribution estimated by EUROMOD are compared with the "official" results published by Eurostat and Statistics Portugal as computed from different waves of the EU-SILC. Currently, the latest available EU-SILC operation is 2022, thus enabling its use as a benchmark for the EUROMOD estimates between 2020 and 2021.

The equivalised disposable income simulated in EUROMOD is slightly different from the original EU-SILC data. Several reasons may explain this difference:

- i) Inclusion of different sources of income in the definition of household income as mentioned earlier. For example, the EU-SILC includes in disposable income (variable hy020) the company car (py021), which is not included in EUROMOD; and EUROMOD includes pensions received from individual private plans (py080) and repayments/receipts for tax adjustment, not included EU-SILC;
- ii) Changes in the sample and weighting of the observations;
- iii) Changes in the amounts of some income sources due to their simulation in EUROMOD:
 - a. In general, simulated social benefits rely on full take up, which should generate significant differences in disposable income when compared to EU-SILC;
 - b. The social supplement for the elderly constitutes an exception, as it is adjusted so that simulated take up is coherent with actual take up. But as EU-SILC underestimates the total amount received, there are again differences between simulated and actual disposable income.

Table A3.7 shows the distribution of equivalised income by deciles according to EUROMOD and Eurostat. The mean disposable income simulated by EUROMOD is slightly higher than the figures provided by Eurostat in the base year (4%) and in 2021 (3%). However, the share of the first decile estimated by EUROMOD is higher (21% in 2020 and 10% in 2021), possibly due to the assumption of full take-up in the simulation for most of the benefits. The differences between EUROMOD and Eurostat figures are almost unnoticeable for the other nine deciles.

The same table also shows the main inequality indices. Compared to the EU-SILC figures, the EUROMOD simulation estimates slightly lower income inequality indices in 2020 and 2021 (3% and 4%, respectively) – EUROMOD higher income share of the bottom decile (see above) can explain, at least partially, this discrepancy).

4.2.2 Poverty rates

Table A3.8 shows that the poverty rates estimated by EUROMOD for the base year are very similar to those computed using the EU-SILC data for poverty lines defined as 50%, 60% and 70% of the median equivalent income. The most expressive differences happen when comparing poverty rates defined at 40% of the median. These results suggest that the increase in incomes in the lower part of the distribution as discussed above is “taking individuals out of poverty” the lower the threshold is, this meaning that the difference between the two income distributions is higher at the extreme lower part.

4.3 Summary of “health warnings”

This final section summarises the main findings in terms of particular aspects of the Portuguese part of EUROMOD or its database that should be considered while using the model and interpreting its results.

- Care should be taken in interpreting results for small sub-groups due to small sample sizes.
- The weights do not control for the variations of unemployment in Portugal over the period under consideration.
- No adjustments are made for structural changes in the characteristics of the population between the data income collection year (2020) and the simulation years.
- The Portuguese version of the EU-SILC clearly underestimates some social benefits, and this is not corrected by EUROMOD unless these benefits are simulated.
- The simulation of some benefits in EUROMOD is conditioned by the difficulty of splitting some income variables from the EU-SILC user database and by the difficulty some of the recipients have in clearly identifying the source of their incomes.
- Non-take-up of benefits is not modelled in most policies (the exception being the Social Supplement for the Elderly). This has the effect of inflating the simulated incomes of households who do not actually take up these benefits. This is particularly relevant in the simulation of child

benefits and social integration income. And although the Social Supplement for the Elderly simulation adjusts the number of recipients to match the actual benefit's take-up, as EU-SILC underestimates the same number (and amounts), this has an impact on the comparison between EUROMOD results and other indicators based on disposable income obtained from EU-SILC (poverty rate, inequality indices, etc.).

- Comparisons between EUROMOD and administrative figures on personal income tax must take into consideration the existence of tax evasion, as well as the lack of adequate information for the simulation of several tax allowances and deductions.
- Parental leave benefits are only simulated from 2015 to 2023 in EUROMOD I4.0. They are defined in an extension (Parental Benefits Extension) that is switched off in the baselines, i.e., the non-simulated component (*bfa*) is being used. When the extension is switched on, the non-simulated component is reduced by subtracting the value of the simulated components (*bmapr_s*, *bplct_s*, *bplnc_s*). The simulated numbers might differ significantly from external statistics as some policy rules cannot be simulated accurately due to lack of information in the underlying data.
- The simulation of monetary compensation schemes (*yemcomp_pt* & *ysecomp_pt*) is triggered by the simulation of labour market transitions defined in policy *TransLMA_pt*. This policy becomes operational if the model is run in conjunction with the LMA add-on. The nature of these simulations is still experimental and only partially validated. Users are encouraged to refer to the “Simulating labour market transitions in EUROMOD” document prior to their use.

Labour market transitions are switched OFF in EUROMOD baselines. As a consequence, the simulation of monetary compensation schemes does not produce any effect in baseline simulations. Since all policies not linked to labour market transitions are fully functional, it is possible for disposable income in 2023 to be higher than disposable income in previous years.

5. REFERENCES

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Online legislation (in Portuguese): www.dre.pt

ANNEX 1. UPRATING FACTORS

Table I.1 Monetary updating raw indices (in relation to 2006)

Variable		2020	2021	2022	2023	Source/comments
Employment income						
Dependent employment income						
Civil servants	yem	114.95	115.87	118.19	118.73	Statistics Portugal Estatísticas do Emprego
Private sector employees		135.92	141.90	148.43	149.19	Statistics Portugal Estatísticas do Emprego
Self-employed income	yse	135.92	141.90	148.43	149.19	In line with private wages
Pensions						
Main old age pension, survivors pension, disability pension	poact, psu, pdi	*	*	*	*	PT Law on pensions updating (pensions updated according to every year updating schedule)
Social pension	poanc	211.79	211.79	213.91	224.24	Base amount of the social pension
Private pension	ypp	118.22	119.75	129.09	129.83	Statistics Portugal Índice de Preços no Consumidor – Inflation "without deflation" (inflation as 0 on years with deflation) (2023 forecast)
Unemployment benefits						
Insurance and assistance	bun, bunnc	132.22	135.92	141.90	148.43	In line w/private wages, but lagged one year
Sickness benefits						
Sickness benefit (for civil servants)		114.95	115.87	118.19	118.73	In line with civil servant wages
Sickness benefit (for private sector employees)	bhl	135.92	141.90	148.43	149.19	In line with private wages
Family and child benefits						
Family benefits (for civil servants)		114.95	115.87	118.19	118.73	Essentially, parental leave benefits (updated in line w/civil servant wages)
Family benefits (for private sector)	bfa	135.92	141.90	148.43	149.19	Essentially, parental leave benefits (updated in line w/private wages)
Child benefit	bch	438.81	438.81	443.20	480.43	In line with Social Support Index
Social assistance						
Social assistance and social assistance (other)	bsa, bsaot	438.81	438.81	443.20	480.43	In line with Social Support Index
Social integration income	bsa00	189.66	189.66	189.66	209.11	PT law on social integration income's threshold update
Social supplement for the elderly	bsaoa	5,258.63	5,258.63	5,258.63	5,858.63	PT law on social supplement for the elderly's threshold update

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Variable		2020	2021	2022	2023	Source/comments
Other benefits						
Education benefits	bed	438.81	438.81	443.20	480.43	In line with Social Support Index
Housing benefits	bho	438.81	438.81	443.20	480.43	In line with Social Support Index
Imputed benefit in kind	kfbbc	116.91	118.43	127.67	128.39	Statistics Portugal Índice de Preços no Consumidor (2023 forecast)
Investment/property income						
Investment income	yy	188.93	199.33	212.68	213.06	Statistics Portugal GDP current prices (2023 forecast)
Property income (rent)	ypr	116.91	118.43	127.67	128.39	Statistics Portugal Índice de Preços no Consumidor (2023 forecast)
Other income						
Private transfers	ypt	135.92	141.90	148.43	149.19	In line w/private wages
Non-cash income	kfb	116.91	118.43	127.67	128.39	Statistics Portugal Índice de Preços no Consumidor (2023 forecast)
Income received by <16	yot	116.91	118.43	127.67	128.39	Statistics Portugal Índice de Preços no Consumidor (2023 forecast)
Assets						
Financial capital	afc	116.91	118.43	127.67	128.39	Statistics Portugal Índice de Preços no Consumidor (2023 forecast)
Expenditure items						
Rent paid; housing costs (other); maintenance payment	xhert, xhcot, xmp	116.91	118.43	127.67	128.39	Statistics Portugal Índice de Preços no Consumidor (2023 forecast)
Interest on mortgage payment	xhcmomi	233.00	237.00	268.00	271.48	Statistics Portugal Taxas de Juro Implícitas no Crédito à Habitação (mortgage + interests)
Expenditure on private pensions	xpp	116.91	118.43	127.67	128.39	Statistics Portugal Índice de Preços no Consumidor (2023 forecast)
Tax and SICs						
Property tax	tpr	116.91	118.43	127.67	128.39	Statistics Portugal Índice de Preços no Consumidor (2023 forecast)
Income tax; Income tax repayments/receipts	tin, tad	135.92	141.90	148.43	149.19	In line w/private wages
SIC employee, SIC self-employed; SIC employer	tscee, tscese, tscer	135.92	141.90	148.43	149.19	In line w/private wages
Income tax and SICs	tis	135.92	141.90	148.43	149.19	In line w/private wages
Other						
Disposable income	yds	116.91	118.43	127.67	128.39	Statistics Portugal Índice de Preços no Consumidor (2023 forecast)
Imputed house rent	kivho	116.91	118.43	127.67	128.39	Statistics Portugal Índice de Preços no Consumidor (2023 forecast)

ANNEX 2. POLICY EFFECTS IN 2022-2023

Table A2 and figure A2 show the effect that 2023 policies have on disposable income by income component and income decile group. The effect is estimated as the difference between simulated household income under 2023 tax-benefit policies (deflating monetary parameters by Eurostat’s Harmonized Index of Consumer Prices, HICP) and net incomes simulated under the year 2022 policies, as a percentage of mean equivalised household disposable income in 2022. It’s important to note that the results presented here are in real terms, which already incorporates how inflation eroded the real value of the increases in social benefits and pensions between 2022 and 2023.

Changes in 2023 were enough to compensate the increasing HCPI that most European countries are facing, leading to a small increase of 1.03% of households’ disposable income, with the bottom income deciles recording the greatest increases (of 8.09% in the first decile). This behaviour is coherent with the kind of policy changes implemented and simulated in 2023, mostly parametric and under the current figures of inflation, that have implied a slight overall increase on total disposable income, despite the small decrease on pensions income (-0.95%), as the extraordinary update in pensions was not enough to compensate the increasing costs of living.

The lack of structural policies changes also explains the inability of the means-tested benefits in having an overall positive effect, but the fact that the main benefit amounts were updated (the solidarity supplement for the elderly and the SII, for instance) and that new extraordinary supports for the most vulnerable families were implemented, allowed an increase in the disposable income for the poorest deciles (3.21% in the first decile, compared to an almost unperceptive overall effect of -0.15%). When looking at the changes in income broke down by decile, results also reflect the impact described above, since non means-tested benefits positive impact grown larger in the first deciles (5.71% in the first decile, compared to an overall effect of 1.04%).

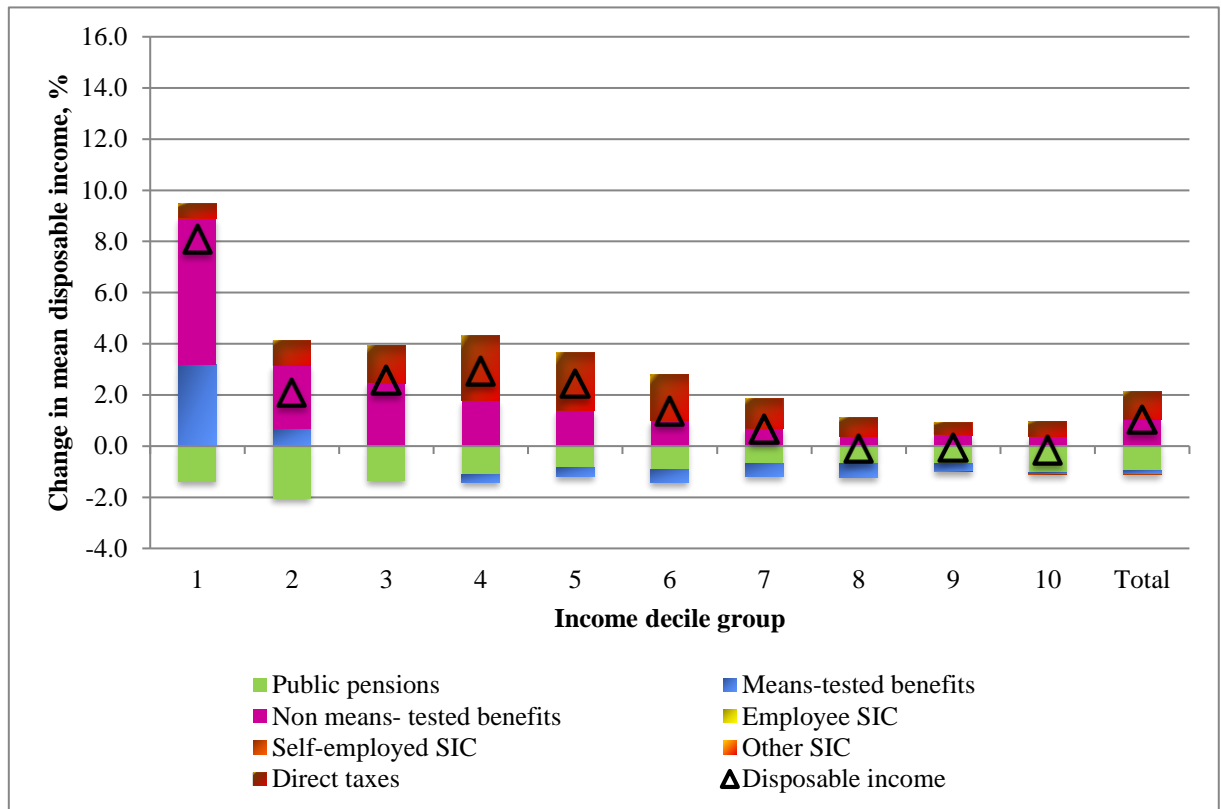
Like what was previously observed in the last couple of years, in 2023 social insurance contributions (SICs) – both paid by employees and self-employed – had no effect on the income distribution, as no changes occurred. The effect of direct taxes on mean household disposable income is also positive (1.1%), although more expressive in middle income deciles, as the changes occurred (partial exemption for young people, extended tax credits and income brackets update) tend to benefit more those deciles.

Table A2 Policy effects in Portugal in 2022-2023, using the CPI-indexation (CPI = 1.051), %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	-1.37	3.21	5.71	0.00	0.00	0.00	0.55	8.09
2	0.00	-2.04	0.66	2.49	0.00	0.00	0.00	0.98	2.09
3	0.00	-1.35	0.01	2.45	0.00	0.00	0.00	1.47	2.58
4	0.00	-1.11	-0.30	1.79	0.00	0.00	0.00	2.54	2.91
5	0.00	-0.85	-0.36	1.40	0.00	0.00	0.00	2.24	2.44
6	0.00	-0.93	-0.49	0.99	0.00	0.00	0.00	1.79	1.36
7	0.00	-0.67	-0.52	0.67	0.00	0.00	0.00	1.19	0.67
8	0.00	-0.67	-0.55	0.37	0.00	0.00	0.00	0.74	-0.11
9	0.00	-0.68	-0.32	0.43	0.00	0.00	0.00	0.49	-0.08
10	0.00	-1.04	-0.07	0.38	0.00	-0.02	0.00	0.59	-0.16
Total	0.00	-0.95	-0.15	1.04	0.00	0.00	0.00	1.10	1.03

Note: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2022, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2023 policies by Eurostat’s Harmonized Index of Consumer Prices (HICP).

Figure A2 Policy effects in Portugal in 2022-2023, using the CPI-indexation (CPI = 1.051), %



ANNEX 3. VALIDATION TABLES

Table A3.1. Original income in EUROMOD - Number of recipients (thousands)

	Simulated (Y / N)	EUROMOD				External				Ratio			
		2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023
Earnings (ils_earns)													
employment income (rendimento monetário ou similar do trabalho por conta de outrem) (yem)	N	4,288	4,409	4,288	4,288	4,010	4,067	4,165	NaN	1.07	1.08	1.03	NaN
self-employment income (rendimento monetário do trabalho por conta própria) (yse)	N	594	577	594	594	659	704	711	NaN	0.90	0.82	0.84	NaN
[Covid-19] wage compensation paid by the firm (yemmc_s)	Y	0	0	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Other original income (ils_origy - ils_earns)													
investment income (rendimentos de capital) (yiy)	N	963	1,056	963	963	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
income of children under 16 (Rendimentos obtidos por menores de 16 anos) (yot)	N	1	3	1	1	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
income from property (rendimentos de propriedades) (ypr)	N	487	450	487	487	770	774	NaN	NaN	0.63	0.58	NaN	NaN
private pension (rendimento monetário de planos privados de pensões) (ypp)	N	71	64	71	71	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
private transfers (transferências monetárias regulares entre agregados - recebidas) (ypt)	N	224	184	224	224	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
maintenance payment (Transferências monetárias regulares entre agregados - pagas) (xmp)	N	234	226	234	234	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN

Continued...

Source	Comments
Earnings (ils_earns)	
employment income (rendimento monetário ou similar do trabalho por conta de outrem) (yem)	https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_destaquas&DESTAQUESdest_boui=472918611&DESTAQUESmodo=2 https://info.portaldasfinancas.gov.pt/pt/dgci/divulgacao/estatisticas/estatisticas_ir/Pages/Estatisticas_
	Statistics Portugal, Labour force survey for the number & Tax authority, PIT model 3 declarations statistics - fiscal years 2018 to

Continued...

	Source	Comments
self-employment income (rendimento monetário do trabalho por conta própria) (yse)	https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_destaquas&DESTAQUESdest_boui=472918611&DESTAQUESmodo=2 https://info.portaldasfinancas.gov.pt/pt/dgci/divulgacao/estatisticas/estatisticas_ir/Pages/Estatisticas_	Statistics Portugal, Labour force survey for the number & Tax authority, PIT model 3 declarations statistics - fiscal years 2018 to
[Covid-19] wage compensation paid by the firm (yemmc_s)	-	-
Other original income (ils_origy - ils_earns)		
investment income (rendimentos de capital) (yiy)	https://info.portaldasfinancas.gov.pt/pt/dgci/divulgacao/estatisticas/estatisticas_ir/Pages/Estatisticas_IRS.aspx	Tax authority, PIT model 3 declarations statistics - fiscal years 2018 to 2020
income of children under 16 (Rendimentos obtidos por menores de 16 anos) (yot)	-	-
income from property (rendimentos de propriedades) (ypr)	https://info.portaldasfinancas.gov.pt/pt/dgci/divulgacao/estatisticas/estatisticas_ir/Pages/Estatisticas_IRS.aspx	Tax authority, PIT model 3 declarations statistics - fiscal years 2018 to 2020 ('Estatísticas das declarações modelo 3 -
private pension (rendimento monetário de planos privados de pensões) (ypp)	-	-
private transfers (transferências monetárias regulares entre agregados - recebidas) (ypt)	-	-
maintenance payment (Transferências monetárias regulares entre agregados - pagas) (xmp)	-	-

Table A3.3. Taxes and SIC - Number of payers (thousands)

	Simulated (Y / N)	EUROMOD				SILC				Ratio				External				Ratio			
		2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023
Taxes (ils_tax)																					
property tax (tpr)	N	2,705	2,631	2,705	2,705	2,705	2,705	2,705	2,705	1.00	0.97	1.00	1.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
income tax on capital income (tiniy_s)	Y	963	1,056	963	963	0	0	0	0	0.00	0.00	0.00	0.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
personal income tax (tin_s)	Y	3,408	3,315	3,524	2,877	0	0	0	0	0.00	0.00	0.00	0.00	3,044	3,256	NaN	NaN	1.12	1.02	NaN	NaN
Employee Social Insurance Contributions (ils_sicee)																					
employees' SIC (tscee_s)	Y	4,288	4,409	4,288	4,288	4,288	4,288	4,288	4,288	1.00	1.03	1.00	1.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Self-employed Social Insurance Contributions (ils_sicse)																					
self-employed SIC (tscse_s)	Y	355	355	353	351	481	481	481	481	0.74	0.74	0.73	0.73	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Employer Social Insurance Contributions (ils_sicer)																					
employers' SIC (tscer_s)	Y	4,288	4,409	4,288	4,288	4,288	4,288	4,288	4,288	1.00	1.03	1.00	1.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Credited Contributions (ils_sicct)																					
Other Contributions (ils_sicot)																					
extraordinary solidarity contribution on pensions (txcpe_s)	Y	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN

Continued...

	Source	Comments
Taxes (ils_tax)		
property tax (tpr)	-	-
income tax on capital income (tiniy_s)	-	-
personal income tax (tin_s)	https://info.portaldasfinancas.gov.pt/pt/dgci/divulgacao/estatisticas/estatisticas	Tax authority, PIT model 3 declarations statistics - fiscal years 2018 to 2020
Employee Social Insurance Contributions (ils_sicee)		
employees' SIC (tscee_s)	https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_destaquas&DESTAQUES	Statistics Portugal, Tax Revenue Statistics ('INE, Estatísticas das Receitas Fiscais 1995-
Self-employed Social Insurance Contributions (ils_sicse)		
self-employed SIC (tscse_s)	-	Statistics Portugal
Employer Social Insurance Contributions (ils_sicer)		
employers' SIC (tscer_s)	-	-
Credited Contributions (ils_sicct)		
Other Contributions (ils_sicot)		

Continued...

	Source	Comments
extraordinary solidarity contribution on pensions (txcpe_s)	-	-

	Simulated (Y / N)	EUROMOD				SILC				Ratio				External				Ratio			
		2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023
unemployment insurance benefit (bunct_s)	Y	238	196	238	238	259	259	259	259	0.92	0.75	0.92	0.92	199	189	196	NaN	1.20	1.04	1.22	NaN
[Covid-19] wage compensation paid by the state (bwkmcee_s)	Y	0	0	NaN	NaN	0	0	NaN	NaN	0.00	0.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
[Covid-19] self-employment compensation paid by the state (bwkmcse_s)	Y	0	0	NaN	NaN	0	0	NaN	NaN	0.00	0.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Extraordinary Supplement for Vulnerable Families 2023 (bfaxp01_s)	Y	NaN	NaN	NaN	1,084	NaN	NaN	NaN	0	NaN	NaN	NaN	0.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN

Continued...

Source		Comments
Pensions (ils_pen)		
contributory old-age pension (poact_s)	-	Social Security Accounts 2020 table 13 for the number & table 24 for the amount
disability pension (pensão de invalidez) (pdi)	https://www.seg-social.pt/estatisticas-detalle/-/asset_publisher/GzVIhCL9jqf9/content/pensoes-de-velhice	Social Security statistics ('Prestações de Velhice'; 'Invalidez'), sheet Q1 for the number & Social Security Accounts 2020 table 22 for the amount
survivor pension (pensão de sobrevivência) (psu)	https://www.seg-social.pt/estatisticas-detalle/-/asset_publisher/GzVIhCL9jqf9/content/pensoes-de-velhice	Social Security statistics ('Prestações de Velhice'; 'Sobrevivência'), sheet Q3 + CGA Report and Accounts 2020 table 19 'pensionistas' for the number & Social Security Accounts 2020
social pension (pensão social de velhice) (poanc_s)	-	Social Security Accounts 2020 table 13 for the number & table 24 for the amount
Means-tested benefits (ils_benmt)		
housing benefit (apoio monetário estatal à habitação) (bho)	-	-
unemployment assistance benefit (bunnc_s)	https://www.seg-social.pt/estatisticas-detalle/-/asset_publisher/GzVIhCL9jqf9/content/prestacoes-de-desemprego	Social Security statistics ('Prestações de desemprego'), sheet Q2 sum of the other 4 benefits for the number & Social Security Accounts 2020 table 26 for the amount
child benefit (bch_s)	https://www.seg-social.pt/estatisticas-detalle/-/asset_publisher/GzVIhCL9jqf9/content/csi	Social Security statistics ('Prestações familiares'), sheet Q1 for the number & Social Security Accounts 2020 table 111 for the amount
solidarity supplement for older persons (bsaoa_s)	https://www.seg-social.pt/estatisticas-detalle/-/asset_publisher/GzVIhCL9jqf9/content/csi	Social Security statistics ('Complemento Solidário para Idosos'), sheet Q1 for the number & Social Security Accounts 2020 table 111 for the amount
social insertion income (bsa00_s)	https://www.seg-social.pt/estatisticas-detalle/-/asset_publisher/GzVIhCL9jqf9/content/csi	Social Security statistics ('Rendimento Social de Inserção'), sheet Q1 for the number & Social Security Accounts 2020 table 111 for the amount
other social assistance benefits (bsaot)	-	-
Prenatal family allowance (PARBEN) (bmapr_s)	-	-
Parental social allowance (PARBEN) (bplnc_s)	-	-
Family income support 2022 (bfaxp_s)	-	-
Rent support (Apoio extraordinário à renda) (bhotn_s)	-	-

Continued...

	Source	Comments
Non-means-tested benefits (ils_bennt)		
scholarships (prestações sociais monetárias relacionadas com a educação) (bed)	-	-
sickness benefit (subsídio de doença) (bhl)	-	-
Parental allowance (PARBEN) (bplct_s)	-	-
family benefits (other than child benefit) (bfa)	-	-
unemployment insurance benefit (bunct_s)	https://www.seg-social.pt/estatisticas-detalle/-/asset_publisher/GzVlhCL9jqf9/content/prestacoes-de-desemprego	Social Security statistics ('Prestações de desemprego'), sheet Q2 sum of the other 4 benefits for the number & Social Security Accounts 2020 table 26 for the amount
[Covid-19] wage compensation paid by the state (bwkmcee_s)	-	-
[Covid-19] self-employment compensation paid by the state (bwkmcse_s)	-	-
Extraordinary Supplement for Vulnerable Families 2023 (bfxp01_s)	-	-

Table A3.7. Distribution of equivalised disposable income

	EUROMOD				External				Ratio			
	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023
Decile 1	3.15	3.29	3.14	3.34	2.60	3.00	NaN	NaN	1.21	1.10	NaN	NaN
Decile 2	4.64	4.87	4.66	4.71	4.60	4.90	NaN	NaN	1.01	0.99	NaN	NaN
Decile 3	5.83	6.04	5.87	5.97	5.80	6.00	NaN	NaN	1.00	1.01	NaN	NaN
Decile 4	6.91	6.99	6.94	7.12	7.00	7.00	NaN	NaN	0.99	1.00	NaN	NaN
Decile 5	7.94	7.96	8.01	8.09	8.00	7.90	NaN	NaN	0.99	1.01	NaN	NaN
Decile 6	9.03	9.07	9.08	9.14	9.00	8.90	NaN	NaN	1.00	1.02	NaN	NaN
Decile 7	10.35	10.37	10.35	10.39	10.30	10.10	NaN	NaN	1.00	1.03	NaN	NaN
Decile 8	12.09	12.06	12.17	11.93	12.10	11.80	NaN	NaN	1.00	1.02	NaN	NaN
Decile 9	15.13	15.02	15.07	14.88	15.20	14.90	NaN	NaN	1.00	1.01	NaN	NaN
Decile 10	24.94	24.35	24.70	24.45	25.50	25.60	NaN	NaN	0.98	0.95	NaN	NaN
Median	11,456	11,552	12,497	13,439	11,089	11,014	NaN	NaN	1.03	1.05	NaN	NaN
Mean	13,658	13,530	14,765	15,610	13,113	13,148	NaN	NaN	1.04	1.03	NaN	NaN
Gini	31.90	30.85	31.68	30.88	33.00	32.00	NaN	NaN	0.97	0.96	NaN	NaN
S80/20	5.14	4.83	5.10	4.89	5.66	5.13	NaN	NaN	0.91	0.94	NaN	NaN

Table A3.8. At-risk-of-poverty rates (%) by gender and age

	EUROMOD				External				Ratio			
	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023
40% median HDI by gender												
Total	5.53	5.08	5.66	4.87	7.50	5.80	NaN	NaN	0.74	0.88	NaN	NaN
Males	5.54	5.16	5.61	4.90	7.30	5.70	NaN	NaN	0.76	0.91	NaN	NaN
Females	5.53	5.02	5.70	4.84	7.80	6.00	NaN	NaN	0.71	0.84	NaN	NaN
50% median HDI by gender												
Total	11.32	9.79	11.54	10.68	12.40	10.00	NaN	NaN	0.91	0.98	NaN	NaN
Males	10.67	9.12	10.97	10.02	11.90	10.00	NaN	NaN	0.90	0.91	NaN	NaN
Females	11.89	10.39	12.04	11.27	12.90	10.10	NaN	NaN	0.92	1.03	NaN	NaN
60% median HDI by gender												
Total	18.30	16.83	18.38	18.62	18.40	16.40	NaN	NaN	0.99	1.03	NaN	NaN
Males	17.32	16.02	17.29	17.44	17.50	15.90	NaN	NaN	0.99	1.01	NaN	NaN
Females	19.17	17.56	19.35	19.66	19.20	16.80	NaN	NaN	1.00	1.05	NaN	NaN
70% median HDI by gender												
Total	25.54	24.28	25.28	25.12	25.90	23.70	NaN	NaN	0.99	1.02	NaN	NaN
Males	24.30	23.16	24.05	23.70	24.80	23.20	NaN	NaN	0.98	1.00	NaN	NaN
Females	26.65	25.28	26.39	26.39	27.00	24.30	NaN	NaN	0.99	1.04	NaN	NaN
60% median HDI by age group												
0-15 years	17.58	16.29	17.20	15.30	20.00	18.60	NaN	NaN	0.88	0.88	NaN	NaN
16-24 years	21.45	18.74	21.16	20.48	21.90	20.10	NaN	NaN	0.98	0.93	NaN	NaN
25-49 years	14.87	13.12	14.40	13.75	15.50	14.40	NaN	NaN	0.96	0.91	NaN	NaN
50-64 years	18.45	17.06	18.18	18.48	18.50	15.70	NaN	NaN	1.00	1.09	NaN	NaN
65+ years	22.19	21.62	23.83	27.04	20.10	17.00	NaN	NaN	1.10	1.27	NaN	NaN