EUROMOD Country Report - Sweden

2021-2024

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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) and Household Budget Surveys (HBS). 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 Sweden. 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 J1.0+. 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.

EUROMOD documentation: https://euromod-web.jrc.ec.europa.eu/resources/documentation

Glossary of EUROMOD terms: https://euromod-web.jrc.ec.europa.eu/resources/glossary

Policy parameters used in EUROMOD: https://euromod-web.jrc.ec.europa.eu/resources/parameters

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1. BASIC INFORMATION

1.1 Basic information about the tax-benefit system

- The tax-benefit system is largely a unified, national system.[1] Income tax is paid to the state, municipalities and county councils. Tax rates for the municipalities and county councils vary.
- The tax system generally changes in January each year. Main benefit changes happen at the same time, but may also be implemented in July. Both taxes and benefits can at rare occasions be changed at any month during the year.
- State pension age is flexible and varies from 63-69 years of age. 65 is the most common pensioning age.
- Minimum school leaving age is 16; dependent children are defined as aged under 16 or under 20 and in full-time upper secondary education.
- The income tax system is an individual system, with the spouses being assessed independently.
- The means-tested benefit system assesses entitlement according to benefit unit income. The benefit unit is the nuclear family - the couple (cohabiting or married) or single adult plus any dependent children.
- Social contributions and state benefits and pensions are usually assessed and delivered on a monthly basis. Amounts are referred to in monthly terms. The exception is income tax, where liability is based on annual income and allowances and thresholds are referred to in annual terms. Incomes related to means-tested systems are often defined in annual terms.
- Income tax withholdings are collected on a cumulative basis, i.e., the system tries to ensure withholding the exact amount due in the financial year. Most people however have to fill in an income tax return, which however can be very simple when the amounts are known by the tax authority. Wages and interests are normally pre-printed on the income tax return.
- Consumption taxes consist of (1) VAT with three rates (one standard of 25 percent, and two reduced, 12 and 6 percent respectively), (2) harmonised excises on tobacco, alcohol, and energy.

1.1.1 Policy changes for 2022

Besides general changes of already existing policies (i.e., increase or decrease of benefit amounts, changed threshold amounts, and changes of allocation/eligibility criteria), the only major change of whole policies in 2022 was the abolishment of COVID-19 related benefits. Following COVID-19 policies were changed:

Constants (ConstDef_se): The constant for COVID-19 wage compensation schemes and policies (3.7) is switched off.

Wage Compensation Scheme COVID-19 (yemcomp_se): The policy is switched off as a whole.

[1] The way it operates in practice may vary across regions and by other characteristics.

Employer Insurance Contribution (tscer_se): All part of the insurance that were changed due to COVID-19 are switched off.

Self-employed Social Insurance Contribution (tscse_se): All part of the insurance that were changed due to COVID-19 are switched off.

1.1.2 Policy changes for 2023

Besides general changes of already existing policies (i.e., increase or decrease of benefit amounts, changed threshold amounts, and changes of allocation/eligibility criteria), the only major change of whole policies in 2023 stems from a change in the age threshold of the earliest pensionable age, which in 2023 increased from 62 to 63. Since the age thresholds in several benefit and tax systems are connected to this threshold, a lot of age thresholds have been updated this year. This includes the age threshold for disability pension, housing allowance for seniors, maintenance support for elderly, old age pension, guarantee pension, social contributions, basic allowance, the earned income tax credit and the tax credit for persons with disability pension.

1.1.3 Policy changes for 2024

There are no major policy changes in 2024, only changes of already existing policies (i.e., increase or decrease of benefit amounts, changed threshold amounts, and changes of allocation/eligibility criteria).

The policy parameters saved as constants in the model and their values for the most recent year are available at https://euromod-web.jrc.ec.europa.eu/resources/parameters.

1.2 Social Benefits

1.2.1 Simulated Social Benefits.

Child benefit (Barnbidrag) is received for each child until 16 years. Child 2, 3, etc. gets extra benefit. If the child is in primary school, the child benefit is prolonged. If the child is in secondary school, he/she can get financial help during 10 months/ a year until 20 years of age with the same amount as the child benefit. The benefit is not taxable.

Housing allowance (Bostadsbidrag) can be given to families with children and to single and married/cohabiting families where all family members are 18-29 years old without children. The maximum allowance depends on the number of children and the housing cost (within certain limits). If the size of the dwelling exceeds a certain area, the accepted housing cost is proportionally reduced to match the maximum accepted area.

Housing allowance for pensioners (Bostadstillägg, BT) can be given to old-age pensioners and persons with disability pension. It is considered to be a part of the pension system. From the age of 66 you can get age allowance and for younger persons you can get disability allowance. The benefit is not taxable.

Social assistance (Ekonomiskt bistånd) is the ultimate and last part of the social safety net. It can be paid out if the family has temporary financial problems, or if the disposable income/month is too low. Two important conditions to get social assistance are that the family doesn't have any wealth and is willing to take a job if this is offered. The income limits for getting the benefit are based on the normative costs for a basket of commodities needed to get a reasonable standard of living. The income limits depend on the age of children, single or cohabitant couple, and the number of individuals in the family. Housing costs, and costs for health, dentist, furniture, local commuting, insurance and child care costs are not included in the normative costs. Actual costs are used instead. The benefit is not taxable.

Maintenance support for elderly (Äldreförsörjningsstöd) can be given to old individuals (>= 66 years) if their disposable income is below the limits for reasonable level of living. Normative rules are used for calculating the income. This benefit is valid for e.g. immigrants who have not earned Swedish pension rights. The benefit is not taxable. The rules are similar to Social assistance and hence the Maintenance support will be simulated as part of the Social assistance.

Unemployment insurance benefit (Arbetslöshetsförsäkring) consists of a mandatory part (basic insurance) and a voluntary income related insurance. Membership of an unemployment insurance fund is voluntary. Eligibility for unemployment insurance benefits requires membership for 12 months prior to the first day of unemployment. However, if the person is not enrolled in the unemployment insurance fund but has worked for at least 60 hours per month during at least 6 months in the past 12 months, or at least a total of 420 hours for six consecutive months, with at least 40 hours per month, in the past 12 months. Then the person is entitled to between 5610 - 11,220 SEK per month. These are temporary eligibility rules in place until 31 December 2023. The benefit is taxable.

Parental leave insurance (Föräldraförsäkringen) consists of parental benefit (simulated for some years and switched off in the baseline), temporary parental benefit (not simulated), pregnancy benefit (not simulated), and special days for the other parent (simulated for some years and switched off in the baseline). All parts are taxable benefits.

Parental benefit (**Föräldrapenning**) is the biggest part of the parental leave insurance and which all parents are eligible to. For each birth the parents receive 480 days with parental benefit. Of these days the benefit for 390 days is based on the parent's income and 90 days are on a basic level. The days can be used from 60 days before the expected birth. If the child was born in 2013 or earlier, the days can be used until the day when the child is 8 years old, or has passed the first year at school. If the child was born in 2014 or later, the days can be used until the day when the child is 12 years old, or has passed the fifth year at school, but 80 percent of the days must be used before the child becomes four years old. Both parents have the right to half of the days, but it is possible to transfer days to the other parent. However, if the child is born in 2014 or 2015, 60 of the days on basic level cannot be transferred, and if the child is born after 2015 none of the days on the basic level (90 days) can be transferred to the other parent. It is possible to get the benefit full time or part time. If the parents get twins they receive 180 days extra, 90 days with benefit based on their income and 90 days according to the basic level.

Special days for the other parent (10-dagar vid barns födelse). The parent who is not pregnant has the right to temporary parental benefit for 10 days when the baby is born or adopted. The days have to be used within 60 days after the child's arrival at home. The benefit rules are the same as for the temporary parental benefit.

1.2.2 Non-simulated social benefits

Sickness benefit (Sjukpenning) Sickness insurance provides compensation in the event of sickness that reduces work capacity by at least one-quarter. Sickness benefit is based on the sickness benefit qualifying annual income (SGI). In principle, the income is supposed to correspond to the annual income before tax, non-monetary taxable benefits should not be included. The SGI is determined by the Social Insurance Agency. Sick pay is paid by the employer for the first 14 days period and thereafter the Social Insurance Agency pays sickness benefit. No compensation is paid on the first day (the qualifying day). If an individual is unemployed the maximum benefit is the same as the unemployment insurance. The benefit is taxable.

As of January 1 2020, the government gives a compensation with a maximum daily amount of 1027 SEK. This was increased to 1116 SEK as of January 1 2023 and to 1218 SEK on January 1 2024. **Temporary parental benefit (Vård av barn, VAB).** For children under the age of 12 (and in certain cases under 16) temporary parental benefit can be paid. The benefit can be paid for 120 working days per year, when a parent needs to stay away from work due to a sick child.

These days can be divided between the caretakers of the child, and not exclusively by the parents of the child. Parents of a seriously sick child can get an unlimited number of days until the age of 18. It is possible to get the benefit full time or part time.

Pregnancy benefit (Graviditetspenning). If the work conditions make it impossible to work, a pregnant woman can apply for pregnancy benefit during a period of maximum 50 days. The benefit rules are the same as for the sickness benefit.

Special housing allowance for pensioners (SBT, Särskilt Bostadstillägg) can be paid out if the disposable income is low and the housing cost is high. The amounts vary with age, disability and marital status (single/married). The benefit is not taxable.

Old age pension (Ålderspensionen). The mandatory parts of the age-pension are under the process of changing from the old system (born 1937 or earlier) to the new system which started in 2003. Pensioners born in 1938 or later are gradually subject to a new system. From age class 1954 the new system is fully implemented. For age classes 1938-1953 the benefits are partly from the old system and partly from the new system. If born in 1953, 1/20 comes from the old system and if born in 1938 16/20 comes from the old system.

The old system consists of a supplementary pension and a guarantee pension. The supplementary pension is based on the average of the 15 years with the highest work income. Only incomes up to 7.5 income base amounts/year (7.5*74 300 SEK in 2023) are included. The supplementary pension is indexed with the average salary minus 1.6 percentage points.

If the supplementary pension is low, guarantee pension can be achieved. For a single pensioner the maximum guarantee is 2.17 price basic amounts/year and is reduced with increased supplementary pension. For a married pensioner the maximum is 1.935 price basic amounts.

In the new system income related pension can be earned during the whole lifetime. 18.5% of the earnings finance the earned pension rights (up to 7.5 income base amounts). 16% are going to public funds, which you cannot handle yourself. 2.5% goes to private funds, where you can decide how it should be composed. Over time the pension funds rise with the average wage in the whole economy. The earliest pensionable age is 63 years, but there is no last pension age, even if traditionally many retire at the age of 65. You also have legal right to work until the end of the month of your 69th birthday. At the age for retirement the pension is determined by the total pension rights divided with the expected number of remaining years to live. After retirement the pension is indexed with the average salary minus 1.6 percentage points.

If the related income is too low, guarantee pension can be achieved from the age of 66. The maximum value is 2.13 price base amounts for unmarried and 1.90 for married people.

Both in the old and new system, not only earnings but also insurance benefits like sickness, unemployment and parental leave benefits give pension rights.

In the new system you also get pension rights when studying, doing military (duty) service or taking care of small children (up to 4 years of age).

In addition to the mandatory pension most employees have occupational pensions, with different rules for different sectors of the labour market. Typically, the employers pay a fee between about 3,5% and 4.5% of the salary. For all contracting parties, except private and cooperative workers, the employers also give an extra compensation for income shares above the income ceiling for the mandatory pensions.

All pensions are taxable. It is possible to retire full-time or part-time.

Disability pension (Sjukersättning/aktivitetsersättning). If disabled or so sick or so injured, that you cannot work any longer, you can get disability pension in the form of *sjukersättning* (if aged 30-65) or *aktivitetsersättning* (if aged 19- 29). The benefit is taxable.

Disability pension (Sjukersättning (aged 30-64 during 2016 and aged 19-64 from 2017, 19-65 from 2023). The benefit can be income related or a guarantee benefit. The income related benefit is 64.7 percent of an expected income up to a certain level, as if the ability to work had not decreased. The assumed forecasted income is based on the average of the 3 highest annual incomes within a number of years before the person became sick. The number of years depends on the age of the person. The guarantee benefit is age-dependent, ranging from 2.48 price base amounts for those under 21 to 2.78 price base amounts for those aged 30 or above in 2023.

Disability pension (Aktivitetsersättning (aged 19-29 years)). They can only get time-limited benefit. The assumed income can be based on the 2 highest annual incomes if that gives a higher assumed income. The income related benefit is the same as for older persons but the guarantee benefit is 2.48-2.78price base amounts (2023) depending on the age of the person.

Introductory compensation to refugees and certain other foreign nationals (Etableringsersättning) is a compensation that a newly arrived refugee can receive if an establishment plan is created. The compensation is paid for a maximum of five days per week if the refugee has an establishment plan. The compensation is 231 SEK per day during the preparation of the plan, and 308 SEK per day when participating in activities that are a part of the plan.

When participating in activities part time, the compensation is reduced to the same extent.

Supplementary introduction benefit (Etableringstillägg) is a supplementary benefit that a refugee that is already receiving *introductory compensation to refugees and certain other foreign nationals* can apply for if he or she has children living in the household. The supplementary benefit is paid monthly, 800 SEK per child that hasn't turned 11 years old yet and 1500 SEK per child that has turned 11 but is not yet 20 years old. The supplementary benefit is paid for a maximum of three children. If there are more than three children in the household the benefit is paid for the three oldest children.

If a refugee receives *maintenance support* for three children, then the benefit is only paid for the two oldest children. If a refugee receives *maintenance support* for four to five children, then the benefit is only paid for the oldest child. If a refugee receives *maintenance support* for six or more children, then the benefit is not paid at all.

Housing allowance to refugees and certain other foreign nationals (Bostadsersättning) is an allowance that a refugee that is entitled to *supplementary introduction benefit* and is single and without children registered as living in the household. If the refugee has an establishment plan according to law (2010:197), housing allowance can be paid for the part of the living cost per month that is between 1800 SEK and 5700 SEK. Depending on what ratio the establishment plan is (full-time, part-time etc.) the housing allowance is paid in the same extent.

Activity and development grant (Aktivitetsstöd och utvecklingsersättning). If an individual is unemployed and participating in a policy program one can receive an activity or a development grant. If the individual is over 25 years old or meet the conditions for unemployment benefits the individual get an activity grant. The grant is at the minimum level of 510 SEK per day, and at the most 1200, if the policy program is full time. The number of days receiving the grant is contracted from the days with unemployment benefit.

If the individual does not meet the requirements for unemployment benefits and is at least 25 years old, the individual receives 223 SEK per day.

If the individual is not yet 25 years old and doesn't meet the conditions for unemployment benefits the individual gets a development grant. The grant is 199 SEK per day if the individual finished high school.

If the individual did not finish high school the grant is 57 SEK per day until the individual turns 20 years old, after that the grant is 183 SEK per day. The development grant is non-taxable.

Not strictly benefits

Maintenance support (Underhållsstöd). When a child lives with only one parent, the other parent must pay child support (underhållsbidrag). If child support is not received, the child may be entitled to maintenance support. This is a benefit for children whose parents do not live together. The size of the maintenance support is depending of the age of the child. It is at most SEK 1673-2223 (2023) per child and month, and is paid to the parent with whom the child lives

Childcare allowance (Omvårdnadsbidrag och merkostnadsersättning) Parents taking care of a sick child or a child with a disability can obtain childcare allowance. The child must need special supervision and care for at least six months. The childcare allowance can also be obtained by families having large additional expenses due to the child's disability or illness. The childcare allowance can be obtained from the time of the child's birth until the month of June in the year the child attains the age of 19.

Student aid (studiemedel) Students attending a college or university can apply for student aid. Student aid includes both grants and loans. The student can choose between applying only for the grant or applying for both grant and loan. The loan has to be paid back during a number of years after the studies are finished. The amount of student aid received depends on the number of weeks of studying and if full-time or part-time studies.

1.3 Social contributions

Social contributions refer to health insurance, parental insurance, occupational injuries, old age pension, survivors' pension, labour market, general wage fee and a special wage tax (for persons older than 65 years).

Employees pay a general old age pension contribution, approximately 7.0% of the gross salary.

The employer pays social contributions as a proportion of the gross salary. The total contribution is 31.42% of the gross salary.

Farmers and self-employed also pay social contributions but as proportion of the net income. The proportion varies with age. Persons below 66 years of age pay all social contributions, summing up at 28.97%. Persons aged 66 years or older age either pay special wage tax for elderly (6.15%) if born 1937 or earlier or special wage tax for elderly (6.15%) plus old age pensions contributions (10.21%). The special wage tax for elderly was only paid up until 30 June 2019, after which it was abolished.

For the period of 1 March 30 to 1 June 2020 the social security contributions was reduced. For employers, the proportion of the gross salary to be paid was reduced from 31.42% to 10.21% (thus only paying only the old-age pension contribution). The reduction was valid for up to 30 employees and for salaries up to SEK 25 000. For further employees and for salaries above this amount no reduction was available. For farmers and self-employed the proportion of net income to be paid was reduced from 28.97% to 10.21% (thus only paying the old-age pension contribution). The reduction was valid for net income up to SEK 100 000.

1.4 Taxes

The Swedish system for direct taxes includes income taxes, capital tax and tax on real estate. The sum of taxes cannot be negative.

Indirect taxes The VAT is 25 % as the normal level, but lower for some goods (i.e. food at 12 %, books and newspapers at 6 %).

There are taxes on alcohol, tobacco, traffic, and a number of energy related taxes.

1.4.1 Simulated taxes

Income tax (Inkomstskatt) is assessed individually. Earnings, insurance benefits like sickness benefit, pensions etc. are included in the tax base. Costs for work to a limited amount and private premiums to a limited amount for retirement are deducted from the tax base. The result is called assessed income. From the assessed income the basic allowance is deducted according to a rather complex formula. The result is called taxable income, on which the tax schedule is applied. All amounts are expressed in annual terms.

The national income tax is only paid on taxable incomes above a certain amount (20 135 SEK for 2021, 20 431 SEK for 2022, 22 208 SEK 2023 and 24238 SEK 2024, annually) and there are two tax rates. Local taxes are assessed at municipality and county level. All municipalities (about 300) and county councils (about 25) have taxation rights. The tax is proportional to the taxable income.

Everybody pays a funeral fee which is used for the care of cemeteries and premises for funeral ceremonies. It is not connected to individual's funerals.

Capital tax (Kapitalskatt) is a national individual tax. The tax base consists of capital income and is separate from the national income tax. The general tax rate is 30%, but special rules in specific parts lead to different (lower) tax rates than the general one. If the taxable income is negative this leads to tax reduction on the final tax (sum of local tax and national tax). It is especially common for loans on owned houses.

The tax base consists of interests, cost of interest, interests on bonds, shares, funds etc., capital gains and capital losses on shares, funds, real estate.

Consumption taxes

The standard VAT rate is 25%. A lower rate of 12% exists for food and repair of clothes and an even lower rate of 6% exists for public transport, culture (e.g. museums, theatres, cinemas, books and newspapers) and basic needs goods and services (rent, medical and dental services, pharmaceuticals and education). Insurance and financial services also have the lowest VAT rate of 6 %.

Excise duties are levied on several products, such as tobacco, various alcoholic beverages, packaging. Tobacco is a EU-harmonized tax. All Swedish excises are ad-quantum, with the exception of the excise on cigarettes (which is a combination of an ad-quantum and ad-valorem excise).

1.4.2 Non simulated taxes

Tax on real estate. As from 2008 government property tax on dwellings was abolished and replaced by a municipal property charge. Tax on real estate is included in the SILC data (EUROMOD variable: tpr).

2. SIMULATION OF TAXES AND BENEFITS IN EUROMOD

2.1 Scope of simulation

Table 2.1 and Table 2.2 show respectively the benefits and taxes and contributions which are included (i.e. not simulated but included using the value recorded in the survey) or simulated in EUROMOD.

Table 2.1 Simulation of benefits in EUROMOD

	Variable name(s)	Treatment in EUROMOD				Why not fully simulated?
		2021	2022	2023	2024	
Unemployment benefit	bunct	PS	PS	PS	PS	Unemployment benefit is not simulated in the baseline year and is set to toggle as it is not possible to define contribution record and past earnings.
Unemployment benefit	bunnc	I	I	I	I	Lack of info in input data.
Parents' allowance	bpl	I	I	I	I	
Sickness benefit	bhl	I	I	I	I	
Education related allowance	bed	I	I	I	I	
Disability benefits	pdi	I	I	I	I	
Old age pensions	poa	I	I	I	I	
Survivors' pensions	psu	I	I	I	I	
Child benefit	bch_s	S	S	S	S	
Housing allowance	bho_s	S	S	S	S	
Housing allowance for pensioners	bhope_s	S	S	S	S	
Social Assistance	bsamt_s	S	S	S	S	
Social Assistance	bsanm_s	I	I	I	I	Lack of info in input data.
Short-term work allowance (paid by state)	bwkmcee_s		S	S		
Short-term work allowance (paid by firms)	yemmc_s		S	S		

Notes: "-": policy did not exist in that year; "E": *excluded* from the model as it is neither included in the micro-data nor simulated; "I": *included* in the micro-data but not simulated; "PS" *partially simulated* as some of its relevant 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 contributions in EUROMOD

	Variable name(s)	Treatment in EUROMOD					Why not fully simulated?
		2020	2021	2022	2023	2024	

Employee social contributions	tscee_s	S	S	S	S	S	
Employer social contributions	ils_sicer	S	S	S	S	S	
Self-employed social contributions	ils_sicse	S	S	S	S	S	
Personal income tax	tin_s	S	S	S	S	S	
Tax on capital income	tinkt_s	S	S	S	S	S	
Tax on real estate	tpr	I	I	I	I	I	Lack of info in input data. This includes repayment of student loan
VAT	-	S	S	S	S	S	Calculations based on extended input files with consumption expenditures from HBS
Excise duties	-	S	S	S	S	S	Calculations based on extended input files with consumption expenditures from HBS

Notes: "-" policy did not exist in that year; "E" policy is *excluded* from the model's scope as it is neither included in the microdata nor simulated; "PS" policy is *partially simulated* as some of its relevant rules are not simulated; "S" policy is *simulated* although some minor or very specific rules may not be simulated

2.2 Order of simulation and interdependencies

Social contributions are simulated first, in order to allow the employee social insurance contributions to be subtracted from the income tax. Then, the income tax is simulated in all its components followed by the tax on capital income. The simulation of the non-taxable benefits follow: child benefit, housing allowance and housing allowance for pensioners. The social assistance is the last benefit simulated because it includes all previous simulated benefits and taxes in its means-test.

In the simulation of the tax benefit system, the price base amount is used repeatedly and in one case also the income base amount. They are defined as "constants" in the policy sheet ConstDef. The price base amount (XBASM) is an amount established by the government for one year at a time and adjusted annually. It is used for calculations of pensions, sickness benefit and allowances for example. The income base amount (XBASMI) is linked to the "income index" and was introduced in connection with the pension reform. The income index measures the average income change in Sweden.

Table 2.3 EUROMOD Spine: order of simulation

Policy	SE_2020	SE_2021	SE_2022	SE_2023	SE_2024	Comment
setdefault_se	on	on	on	on	on	DEF: SET DEFAULT
uprate_se	on	on	on	on	on	DEF: UPRATING FACTORS
ConstDef_se	on	on	on	on	on	DEF: CONSTANTS

ilsdef_se	on	on	on	on	on	DEF: INCOME CONCEPTS (standardized)
ilsUDBdef_se	on	on	on	on	on	DEF: INCOME CONCEPTS (UDB)
ildef_se	on	on	on	on	on	DEF: INCOME CONCEPTS (non-standardized)
random_se	on	on	on	on	on	DEF: Random assignment
transLMA_se	off	off	off	off	off	DEF: Simulation of labour market transitions
tudef_se	on	on	on	on	on	DEF: ASSESSMENT UNITS
yem_se	off	off	off	off	off	DEF: minimum wage
neg_se	on	on	on	on	on	DEF: recode negative self-employment income to zero
yemcomp_se	on	on	off	off	off	BEN: wage compensation scheme COVID-19
bunct_se	off	off	off	off	off	BEN: Unemployment benefit
bfapl_se	switch	switch	switch	switch	switch	BEN: Parental leave benefit
bpa_se	switch	switch	switch	switch	switch	BEN: Paternity leave (10 days)
tscee_se	on	on	on	on	on	SIC: Employee Social Insurance contribution
tscer_se	on	on	on	on	on	SIC: Employer Social Insurance contribution
tscse_se	on	on	on	on	on	SIC: Self-employed Social Insurance contribution
tin_se	on	on	on	on	on	TAX: Personal Income tax
tinkt_se	on	on	on	on	on	TAX: Tax on Capital Income
bch_se	on	on	on	on	on	BEN: Child benefit
bho_se	on	on	on	on	on	BEN: Housing allowance
bhope_se	on	on	on	on	on	BEN: Housing allowance for pensioners
bsamt_se	on	on	on	on	on	BEN: Social Assistance
output_std_se	on	on	on	on	on	DEF: STANDARD OUTPUT INDIVIDUAL LEVEL
output_std_hh_se	off	off	off	off	off	DEF: STANDARD OUTPUT HOUSEHOLD LEVEL
tco_se	on	on	on	on	on	TAX: Commodities (consumption taxes)

The last policy included in the spine is tco_se (consumption taxes). It is placed at the very end because consumption tax liabilities (VAT and excises) depend on household consumption expenditures, and these are estimated by the model based on the income shares (xs_* variables included in the input data) and simulated disposable income (ils_dispy). This is why before running any simulation of consumption tax policy it is required to activate all the other policies intervening in the simulation of disposable income.

Table 2.4 Annual Base amounts

	2021	2022	2023	2024
XBASM	47,600	48,300	52,500	57,300

XBASMI	68,200	71,000	74,300	76,200

Notes. XBASM: price base amount. XBASMI: income base amount

2.3 Policy extensions

There are three extensions defined in the Swedish model:[2]

- **Parental Benefits Extension (PBE)** – to choose between observed (extension *off*) and simulated (extension *on*) values of maternity benefit and parental benefit
- **Benefit Calibration Adjustments (BCA)-** allowing the user to calibrate the receipt of benefits to match the simulated total expenditure of a benefit to real expenditure from external statistics. The extension is implemented for the simulation of means-tested social assistance (*bsamt_se*). The default for the baseline is off. When the extension is on, a subset of eligible of observations is selected randomly as beneficiaries so that the real expenditure is reached, removing the benefit from the rest of the eligible observations; when off, all eligible observations are kept as beneficiaries. This extension shares most of its functions with the BTA extension; as a general rule, only one of the extensions should be on, but if both are, the lowest rate between the take-up rate and the calibration rate will be applied. More details on the specific implementation of BCA and BTA extensions are provided in the subsections describing the corresponding benefit.
- **Benefit Take-up Adjustments (BTA)** - allowing the user to apply non-take-up corrections. The extension is used for the simulation of means tested social assistance benefits (*bsamt_se*). The default for the baseline is off. When the extension is on, a share of (weighted) eligible observations equal to the take-up rate is selected randomly as beneficiaries, removing the benefit from the rest of the eligible observations; when off, all eligible observations are kept as beneficiaries. This extension shares most of its functions with the BCA extension; as a general rule, only one of the extensions should be on, but if both are, the lowest rate between the take-up rate and the calibration rate will be applied. More details on the specific implementation of BCA and BTA extensions are provided in the subsections describing the corresponding benefit.
- **Minimum Wage Adjustment (MWA)** – This extension rescales the income for incomes that fall below the minimum wage set for that given year. Note that there is no minimum wage set and that hence the intended user should choose a value for the constant $MinWage in the spine.
- **HHoT – Unemployment extension (HHoT_un) -** this extension improves the simulation accuracy of the unemployment insurance benefit when EUROMOD is run with hypothetical data. For instance, in most countries the legislation of this benefit requires information on variables such as individuals' employment history, which are not available in SILC; we can define these variables in HHoT and use them to simulate the policy's rules more precisely when running the model with hypothetical data. This extension is set to on when the model is used with HHoT data.

[2] Policy switches are denoted with 'switch' in the policy spine (for a given policy year), while their default values (*on* or *off*) are set in a separate dialogue box in the model.

2.4 Social benefits

2.4.1 Unemployment insurance benefit (bunct_s)

- ***Definitions***

Unemployment insurance benefit consists of a mandatory part (*basic insurance*) and a *voluntary income related insurance*. Membership to an unemployment insurance (UI) fund is voluntary. The daily allowance, paid five days a week, is based on the income received the 12 months before the unemployment (the amount received is equal to the basic amount or 80% of previous gross earnings with a maximum limit).

- ***Eligibility conditions***

Eligibility for unemployment insurance benefits requires membership to an unemployment insurance fund for 12 months prior to the first day of unemployment and having worked for at least 60 hours per month during at least 6 months during the last 12 months, or at least 420 hours in 6 consecutive months with at least 40 hours each month. In the recent past, most of the Swedes were members of an unemployment insurance fund (in the simulation, we will assume that such an eligibility condition is satisfied).

However, if the person is not enrolled in the unemployment insurance fund, but has worked for at least 60 hours per month during at least 6 of the past 12 months. Or if the person has worked at least 420 hours during a cohesive period of 6 months and worked at least 40 hours during each one of these months, then is entitled to receive between 255 and 510 SEK per day.

It is possible to get the benefit full-time or part-time. From 1 July 2018 no compensation is paid for the first six days (the qualifying days), but as a COVID-measure this was temporary lowered to 2 days in 2020. This temporary measure has been prolonged until December 31st, 2024. The self-employed are also eligible to the benefit in case their business closes down. The benefit is taxable.

- ***Income test***

The daily allowance, paid five days a week, is based on the income received the 12 months before unemployment. This is the case for all years between 2021-2024.

- ***Benefit amount***

The benefit is calculated according to the rules summarized in the table below.

Table 2.5 Unemployment benefits 2017-2024

Labour days	Basic amount SEK/day	Compensation (as a share of previous income)	Upper limit SEK/day
Year 2017-2020 (12 april) (parent with child)			
1-100	365	0.8	910
101-200	365	0.8	760
201-450	365	0.7	760
450*-	365	0.65	760
Year 2017-2020 (12 april) (other)			
1-100	365	0.8	910
101-200	365	0.8	760

201-300	365	0.7	760
301*-	365	0.65	760
2020 (13 April)-2021 (parent with child)			
1-100	510	0.8	1200
101-200	510	0.8	1000
201-450	510	0.7	1000
450*-	510	0.65	1000
2020 (13 April) – 2021 (other)			
1-100	510	0.8	1200
101-200	510	0.8	1000
201-300	510	0.7	1000
301*-	510	0.65	1000
2021 - 2024 (parent with child)			
1-100	510	0.8	1200
101-200	510	0.8	1000
201-450	510	0.7	1000
450*-	510	0.65	1000
2021-2024 (other)			
1-100	510	0.8	1200
101-200	510	0.8	1000
201-300	510	0.7	1000
301*-	510	0.65	1000

Notes: *Individuals participating in a public employment service program receive a special unemployment benefit (activity grant), which they can receive as long as you are taking part in the program, i.e. more than 450 days (parents with children) or more than 300 days (if no children).

The following table summarises the main characteristics of unemployment insurance benefit in Sweden.

Table 2.6 Characteristics of the unemployment benefit

		2021[b]	2023[b]	2023[b]	2024[b]
Eligibility	Contribution period	6 out of 12 last months	6 out of 12 last months	6 out of 12 last months	6 out of 12 last months
	Other conditions	Membership to UI fund	Membership to UI fund	Membership to UI fund	Membership to UI fund
	Eligibility of self-employed	Yes	Yes	Yes	Yes
Payment	Contribution base	Gross earnings (12 months before)	Gross earnings (12 months before)	Gross earnings (12 months before)	Gross earnings (12 months before)

	Basic amount	510 SEK/day or 80% of previous earnings (decreasing to 65%)	510 SEK/day or 80% of previous earnings (decreasing to 65%)	510 SEK/day or 80% of previous earnings (decreasing to 65%)	510[3] SEK/day or 80% of previous earnings (decreasing to 65%)
	Additional amount	N/A	N/A	N/A	N/A
	Floor[a]	510 SEK/day	510 SEK/day	510 SEK/day	510 SEK/day
	Ceiling[a]	1200 SEK/day	1200 SEK/day	1200 SEK/day	1200 SEK/day
Duration	Standard (in labour days)	300	300	300	300
	Special cases (in labour days)	450 (parent with child)	450 (parent with child)	450 (parent with child)	450 (parent with child)
Subject to	Taxes	Yes	Yes	Yes	Yes
	SIC	Yes	Yes	Yes	Yes

Notes: [a] The floor and ceiling are defined for full-time workers. For individuals working less than fulltime, the floor and ceiling are scaled down in proportion to their working time.
b Temporary rules for the period 2020-April-13 – 2024-December-31.

EUROMOD modelling

Effectively, this benefit is only partly simulated using the information about actual receipt and it is switched off in the baseline. Rather than only using the observed receipt as part of the eligibility criteria, all eligibility rules in full detail are covered. However, as not all required information (e.g. work history) is available several assumptions are made, including considering some rules automatically fulfilled for those observed in receipt of this benefit. This approach is chosen so that the benefit can be also modelled for those currently employed if needed (e.g. to simulate their entitlement if they become unemployed, for replacement rates calculations).

Unemployment duration (lunmy_s) is set equal to the minimum between the maximum duration according to the national rules and, the maximum of observed unemployment duration (lunmy) and observed benefit receipt (bunmy). If modelling unemployment benefit for those currently employed, unemployment duration is set equal to the minimum between the maximum duration according to the national rules or the reported number of months in employment in the current year (liwmy), once contribution history (see the next step) is modelled. It is effectively also assumed that unemployment spells start in the reference year.

Modelled contribution history is based on the reported number of months in employment (liwmy), controlling for the total number of months in work (liwwh).

1. For those currently employed (lnu>0), this is used.
2. For those currently unemployed (lunmy_s > 0) and in receipt (bunct > 0), this is set at least equal to the minimum qualifying period.
3. For those currently unemployed (lunmy_s > 0) and not in receipt (bunct = 0), this is set to zero.

[3] 510 SEK for 12 months of full-time employment, for part-time employment a minimum of 255 SEK is applied, for all years in the table.

At this point, people who are unemployed (lunmy_s > 0), have not reached retirement age yet and have sufficient contribution history are considered eligible. In our simulations we assume that all employees fulfil the eligibility condition of being a member of an unemployment insurance fund for at least 12 months. On the contrary, it is assumed that the self-employed are not members of an unemployment insurance fund and are therefore entitled only to the daily allowance. Part-time benefit is not simulated as no information about whether part-timers are seeking for full-time work or not is available.

Benefit duration (bunmy_s) is simply set equal to the unemployment duration (lunmy_s) as long as this is smaller than the maximum duration according to the national rules. The standard maximum duration is 300 (labour) days but in case of parents with children it is 450 (labour) days.

Benefit entitlement is calculated based on the variable previous earnings, which is equal to current earnings for those in work and which is obtained by reverse engineering starting from the unemployment benefit amount for the unemployed.

The benefit is calculated as an average over the applicable parameters over the year (assuming that all spells started at the beginning of the year).

COVID-19 Notes

Due to the Covid-19 pandemic the government has temporarily changed the eligibility conditions of the unemployment insurance benefit. From 13 April 2020 the eligibility conditions were temporarily eased and the six qualifying days are temporarily removed. Individuals fulfilling the requirements, but without membership of an unemployment insurance fund, receive a daily allowance (5 days a week) equal to 510 SEK. Individuals without a membership and without enough hours worked to be eligible for unemployment insurance benefit, receive a daily allowance (5 days a week) equal to 255 SEK.

From 31 March 2020 to 31 December 2022 the (non-simulated) requirement for membership to an unemployment insurance fund are lowered to 3 months and the number of hours worked has been lowered to 60 hours per month during at least 6 months during the last 12 months. For 2023, most of these temporary conditions have been prolonged. The six qualifying days, that were previously completely removed, are now 2 days (as it also was in 2021 and 2022). The higher levels of the unemployment insurance and the lower work requirements are kept, but the membership requirements to an unemployment insurance fund are changed back to the pre-pandemic level of 12 months.

2.4.2 Child benefit (bch_s)

- ***Definitions***

The child benefit is a universal benefit received by legal guardians of children aged 0-15 years or until 18 years if in upper secondary school.

- ***Eligibility conditions***

If having children aged 0-15 years or until 18 years if in upper secondary school the family receives this benefit.

The assessment unit is the nuclear family (tu_bch_se), including cohabiting partners and children aged below 16 years or until 18 years if in upper secondary school.

Children, who are themselves parents, count as children as well.

- ***Income test***

Not applicable.

- ***Benefit amount***

Child benefit's basic amount is for each child until 16 years of age. From the second child on, there is an extra benefit in addition to the basic amount. If the child is a student in a lower secondary school (dec =3), the child benefit is prolonged until he completes compulsory education (grade 9). The child benefit is received 12 months a year.

Children aged 16-20 years and studying in upper secondary school (dec= 4) receive the basic amount of the child benefit (i.e. study allowance) 10 months a year. The extra amount is paid 12 months per year.

The extra amount is based on the number of children receiving child benefit and study allowance.

The benefit is not taxable.

Table 2.7 Child benefit monthly amounts – 2020-2024

Child number	Basic amount	Extra amount[a]
1	1,250	0
2	1,250	150
3	1,250	580
4	1,250	1,010
5	1,250	1,250
Next child	1,250	1,250

[a]the extra amount is cumulative. E.g., a family with 6 kids get 1250*6+150+580+1010+1250+1250=11740

- ***Allocation of the benefit within the family***

The benefit (basic and extra amount) for children until 18 years is by default split evenly between the legal guardians if they have joint custody and the child was born after 1 March 2014 otherwise it is paid to the legal guardian with sole custody. For children born before 1 March 2014, the benefit is paid to one legal guardian by default. The basic amount for children older than 18 years is paid directly to the child. The extra amount (12 months per year) is always received by the parents.

EUROMOD modelling

The child benefit Allocate function (22.6) has been implemented incorrectly from 2014 and onwards. CURRENTLY, the policy is implemented as if the child benefit is split between parents with joint custody in relation to all children, when this is only the case for children born after 1 March 2014. It needs to be separated into two groups of children – born before 2014 and born after 2014.

2.4.3 Housing allowance (bho_s)

- ***Definitions***

The unit of assessment is the family.

- ***Eligibility conditions***

Housing allowance can be given to families (tu_bho_se) with children (up to 18 years old, or aged under 20 and receiving the basic amount of child benefit (dec = 4)) and to single and married/cohabiting couples without children where at least one family member is 18-29 years old. The maximum allowance depends on the composition of the household, the housing cost, the income of the household, and the size of the dwelling. If the household exceeds certain income thresholds, the allowance is reduced (see table 2.8 below). The eligibility criteria are active regardless of whether the person owns or rents the residence.

In multi-family households, the housing allowance is given only to the main family unit responsible for the house (i.e. xhc >0).

Housing allowance below 100 SEK/month is not paid out. The benefit is not taxable.

- ***Income test***

For higher incomes exceeding specific thresholds, the allowance is reduced; 20% of annual income for parents and lone parents, and 33% of annual income for lone youngsters and young couples with children.

Table 2.8 Housing allowance – Thresholds 2020-2024

Year	Cohabiting Parents		Lone Parents		Young Couples without Children		Lone Youth	
	Threshold (for each parent)	Rate	Threshold	Rate	Threshold	Rate	Threshold	Rate
2021	75,000	20%	150,000	20%	58,000	33%	41,000	33%
2022	75,000	20%	150,000	20%	58,000	33%	41,000	33%
2023	75,000	20%	150,000	20%	58,000	33%	41,000	33%
2024	75,000	20%	150,000	20%	58,000	33%	41,000	33%

The wealth of the family (property excluded) exceeding 100,000 SEK is added to the income by 15 % (afc00_s).

For calculating the housing allowance, the following individual income concept for each adult in the family is considered:

Income (il_means_bho) = (Employment income (yem) + fringe benefits (kfb) + Private pensions (ypp) + Unemployment benefits (bunct + bunnc) + Old age pension (poa) + Survivor' pension (psu) + Sickness benefit (bhl) + Disability benefit (pdi) + property income (ypr) + investment income (yiy) + self-employment income (yse) + maintenance payments received (ypt) + 80% of

education allowances (bed) + parents' allowance (bpl) + 15% of wealth ((afc00_s, divided by two if there are two partners) – 100 000)

Losses due to self-employment are set to 0.

EUROMOD modelling

For housing cost the variable xhc is used, which is a proxy of the housing cost considered in the assessment of the allowance.

In the system there are limitations on size in m^2 for the flat; those limitations cannot be simulated.

Currently, the reduction for cohabiting parents is computed separately, referring to these as dgn=0, 'female partner' and dgn=1, 'male partner'. This does not include same-sex parents.

- ***Benefit amount***

Families with children:

The housing allowance is calculated as the sum of a *special component* for families with children and a *rent component*:

- The special component consists of a special component for children who live permanently at the household (sin01_s) and a special component for children with alternating households. It is assumed that all children live permanently at households because there is no variable to distinguish them from those with alternating household. Both components are given by the table below.
- If there are children with both permanent household and alternating households in the same family, the special component for the permanent children is paid out first and the alternating children is given a special component according to the table below.
- The rent component (sin02_s) is calculated as follows:

Rent component = (min(xhc , upper level) – lower level)*0.5

according to the lower and upper values reported in the following table:

Table 2.9 Housing allowance parameters – Families with children – 2021- 2024

	Rent component		Special component, permanent households	Special component, alternating households
Number of children	**Lower level SEK/month**	**Upper level SEK/month**	**SEK/month**	**SEK/month**
1	1,400	5,300	1,500	1,300
2	1,400	5,900	2,000	1,600
3 and more	1,400	6,600	2,650	2,100

Table 2.10 Housing allowance parameters – Families with children with both permanent and alternating housholds– 2021-2024

Number of permanent children	Number of alternating children	Special component for the children(s) SEK/month
1	1	300
2	1	500
1	2	800

The housing allowance is reduced following the equation below with the parameters of the valid year (i.e., 2022 as in the equation below), which vary according to the typology of the recipient. Thus, the equation is similar for every year, but with the annual values from table 2.8. added:

- Married or cohabiting partner (the following applies to each partner separately, yearly amounts – sin05_s):
Final Housing allowance = Housing allowance – 0.20(max((il_means_bho – 75,000), 0))

- Lone parents (yearly incomes, sin06_s):
Final Housing allowance = Housing allowance – 0.20(max((il_means_bho – 150,000), 0))

COVID-19 Notes

During 2020, from July 1 until December 31, a temporary supplement to housing allowance was introduced for families with children. The temporary supplement amounted to a 25% increase in the allowance and was granted without the need of application. This supplement was later on extended to the period from the July 1 2021 to December 31 2021, July 1 2022 to December 31 2022 and January 1 2023 to June 30 2023 and July 1 to December 31 2023 and increased to 40% on January 1 2024.

Young families below the age of 29 without children

.
The rent component (sin07_s) is calculated as reported in the following table:

Table 2.11 Housing allowance parameters – Young couples without children – 2016- 2024

Housing cost (xhc) SEK / month	Rent component
< 1,800	0
1,800 – 2,600	(xhc - 1,800) * 0.90)
2,600 – 3,600	(2,600 - 1,800) * 0.90 + (3,600 - xhc) * 0.65
>= 3,600	(2,600 - 1,800) * 0.90+(3,600 - 2,600) * 0.65

The housing allowance is then reduced according to the typology of the recipient:
-singles (yearly incomes, sin08_s):
Final Housing allowance = Housing allowance – 0.33(max((il_means_bho– 41,000), 0))

-married or cohabiting (the following applies to each partner separately, yearly amount, sin12_s): Final Housing allowance = Housing allowance – 0.33(max((il_means_bho – 58,000), 0))

2.4.4 Housing allowance for pensioners (bhope_s)

- ***Definitions***

The unit of analysis is the nuclear family (tu_bho_se), including the cohabiting partners and children up to 18 years old, or aged under 20 and receiving the basic amount of child benefit (dec =4). In multi-family households, the housing allowance is given only to the family who is responsible for the house (xhc > 0).

- ***Eligibility conditions***

Housing allowance for pensioners can be given to age pensioners or disable pensioners (persons aged 19-65 who are permanently unable to work due to a disability). It is considered to be part of the pension system.

Families with persons older than 65 years or families with persons receiving disability pension (pdi) can receive this allowance (age allowance and disability allowance). The benefit is not taxable.

- ***Income test***

The allowance is diminished with the income over certain income limits, which are dependent of the recipients being married/cohabitants (126,060 SEK) or single (139,239 SEK). Labour income is weighted less than pension income. Additionally,15% of the wealth (afc) of the family (divided by two if there are two partners) over 100,000 SEK for single and 200,000 SEK for cohabiting partner is considered as income.

For calculating the housing allowance for pensioners the following individual income concept ("reserved amount") for each elderly or disabled adult (if a child is living with his parents only the parents can receive the allowance) in the family is calculated for all years 2009-2020 and deducted from the means:

Table 2.12 Housing allowance for pensioners – Reserved amount – 2020-2024

Condition	**Reserved amount 2021** (ydg01_s)	**Reserved amount 2022**	**Reserved amount 2023-2024**
pdi>0 and age<= 20	2.23*XBASM	2.48*XBASM	2.48*XBASM
pdi>0 and 20< age <= 22	2.28*XBASM	2.53*XBASM	2.53*XBASM
pdi>0 and 22< age <= 24	2.33*XBASM	2.58*XBASM	2.58*XBASM
pdi>0 and 24< age <= 26	2.38*XBASM	2.63*XBASM	2.63*XBASM
pdi> 0 and 26< age <= 28	2.43*XBASM	2.68*XBASM	2.68*XBASM
pdi> 0 and 28< age <= 29	2.48*XBASM	2.73*XBASM	2.73*XBASM

pdi> 0 and age>= 30	2.53*XBASM	2.78*XBASM	2.78*XBASM
Single, age>65 and pdi=0	2.181*XBASM	2.181*XBASM	2.43*XBASM
Married or cohabiting, age > 65 and pdi=0	1.951*XBASM	1.951*XBASM	2.2*XBSAM

For person younger than 66 years
Income (il_means_bhope) = Old age pension (poa) + Disability benefit (pdi) + investment income (yiy) + 0.8*(Private pensions (ypp) + fringe benefits (kfb) + Unemployment benefits (bunct + bunnc) + Sickness benefit (bhl) + parents' allowance (bpl)+ Survivor' pension (psu)) + property income (ypr) + 0.5 * (Employment income (yem) + self-employment income (yse)) + 0.15*(wealth (afc00_s, divided by two if there are two partners) – 100 000) – reserved amount (ydg01_s).

For persons older than 64 years from 2020 (65 from 2023) and onwards
Income (il_means_bhope) = 0.93 * Income related pension (proxied by poa) +
Guarantee pension (not included as already in poa) + Widow's pension (proxied by psu) + investment income (yiy) + property income (ypr) + 0.15*(wealth (afc00_s, divided by two if there are two partners) – 100 000) + 0.93 *max((Employment income (yem)+ self-employment income (yse))-24000,0) + 0.93 *(Private pensions (ypp) + fringe benefits (kfb) + Unemployment benefits (bunct + bunnc) + Sickness benefit (bhl) + parents' allowance (bpl) + other survivor pensions (not included as already in psu)) – reserved amount (ydg01_s)

The proxies and omissions are used because it is not possible to separate some benefits within variables in the data. We believe that the misclassified benefits are smaller compared to the other benefits included in those aggregated variables. With respect to Incomes related pension, its components should only be Income pension, Supplementary pension and Premium pension.

This Income is calculated independently for each partner. If married or cohabiting then Income (sin02_s) = (Income_male + Income_female)/2

- ***Benefit amount***

The maximum housing allowance (sin01_s) is calculated as follows per each entitled individual:

For 2021
- persons younger than 65 years and receiving disability pensions: 0.96* min((xhc-bho_s), 5000)+0.7*(MAX(MIN(xhc-bho_s,5600)-5000,0))
- persons older than 64 years and married: 1.0* min((xhc-bho_s), 3000)+0.9*(MAX(MIN(xhc-bho_s,5000)-3000,0)+0.7*(MAX(MIN(xhc-bho_s,7000)-5000,0))+12*170
- persons older than 64 years and single: 1.0* min((xhc-bho_s), 3000)+0.90*(MAX(MIN(xhc-bho_s,5000)-3000,0)+0.7*(MAX(MIN(xhc-bho_s,7000)-5000,0))+12*340

For 2022
- persons younger than 65 years and receiving disability pensions: 0.96* min((xhc-bho_s), 5000)+0.7*(MAX(MIN(xhc-bho_s,7500)-5000,0))
- persons older than 64 years and married: 1.0* min((xhc-bho_s), 3000)+0.9*(MAX(MIN(xhc-bho_s,5000)-3000,0)+0.7*(MAX(MIN(xhc-bho_s,7000)-5000,0)+0.5*(MAX(MIN(xhc-bho_s),7500)-7000,0))+)+12*270

- persons older than 64 years and single: 1.0* min((xhc-bho_s), 3000)+0.9*(MAX(MIN(xhc-bho_s,5000)-3000,0)+0.7*(MAX(MIN(xhc-bho_s,7000)-5000,0)+0.5*(MAX(MIN(xhc-bho_s),7500)-7000,0))+12*540

For 2023
- persons younger than 66 years and receiving disability pensions: 0.96* min((xhc-bho_s), 5000)+0.7*(MAX(MIN(xhc-bho_s,7500)-5000,0))
- persons older than 65 years and married: 1.0* min((xhc-bho_s), 3000)+0.9*(MAX(MIN(xhc-bho_s,5000)-3000,0)+0.7*(MAX(MIN(xhc-bho_s,7000)-5000,0)+0.5*(MAX(MIN(xhc-bho_s),7500)-7000,0))+)+12*420
- persons older than 65 years and single: 1.0* min((xhc-bho_s), 3000)+0.9*(MAX(MIN(xhc-bho_s,5000)-3000,0)+0.7*(MAX(MIN(xhc-bho_s,7000)-5000,0)+0.5*(MAX(MIN(xhc-bho_s),7500)-7000,0))+12*840

For 2024
- persons younger than 66 years and receiving disability pensions: 0.96* min((xhc-bho_s), 5000)+0.7*(MAX(MIN(xhc-bho_s,7500)-5000,0))
- persons older than 65 years and married: 1.0* min((xhc-bho_s), 3000)+0.9*(MAX(MIN(xhc-bho_s,5000)-3000,0)+0.7*(MAX(MIN(xhc-bho_s,7000)-5000,0)+0.5*(MAX(MIN(xhc-bho_s),7500)-7000,0))+)+12*420
- persons older than 65 years and single: 1.0* min((xhc-bho_s), 3000)+0.9*(MAX(MIN(xhc-bho_s,5000)-3000,0)+0.7*(MAX(MIN(xhc-bho_s,7000)-5000,0)+0.5*(MAX(MIN(xhc-bho_s),7500)-7000,0))+12*840

Housing costs and Housing allowance are always considered at family level. If it is a cohabiting couple then the maximum allowance is divided by 2 (even in case only one partner is entitled to the allowance because each partner is expected to pay their part of the housing cost).

The upper levels of housing costs are reported in the following table:

Table 2.13 Housing allowance for pensioners – Maximum housing costs limits and total coverage at maximum limit– 2020-2023

Year	Upper level housing cost Disability pens. SEK/month	Per cent benefit Disability pens.	Upper level housing cost Age pensioners SEK/month	Per cent benefit Age pensioners
2021	5,600	93.2	7,000	95.1
2022	7,500	87.3	7,500	93.2
2023	7,500	87.3	7,500	97.2
2024	7,500	87.3	7,500	97.2

Table 2.14 Housing allowance for pensioners – Thresholds and marginal coverage – 2020-2023

Disability Pension		Old-Age Pension	
2020-2021	**2022-2024**	**2020-2021**	**2022-2024**

Housing Cost Threshold	Benefit Coverage (%-rate)	Housing Cost Threshold	Benefit Coverage (%-rate)	Housing Cost Threshold	Benefit Coverage (%-rate)	Housing Cost Threshold	Benefit Coverage (%-rate)
5,000	96	5,000	96	3,000	100	3,000	100
5,600	70	7,500	70	5,000	96	5,000	90
				7,000	70	7,000	70
						7,500	50

The housing allowance for pensioners is then calculated for all persons in the family who are entitled (older than 65 or receiving disability benefit) according to the following rules:

Table 2.16 Housing allowance for disable pensioners – Amounts – 2020-

Condition	Amount
per capita income (sin02_s) < XBASM	max((Indiv. maximum allowance - (sin02_s*0.62)), 0)
per capita income (sin02_s) >= XBASM	max((Indiv. maximum allowance - (XBASM*0.62) – ((sin02_s - XBASM)*0.5)), 0)

Table 2. 17 Housing allowance for old-age pensioners – Amounts – 2020-

Condition	Amount
N/A	max((Indiv. maximum allowance - (sin02_s*0.62)), 0)

The total housing allowance for pensioners is given by the sum received by both partners (if entitled).

2.4.5 Social assistance (bsamt_s)

- ***Definitions***

The unit of analysis is the nuclear family (tu_bho_se), including the cohabiting partners and children up to 18 years old, or aged under 20 and receiving the basic amount of child benefit (dec =4). In multi-family households, the social assistance is given to the family who is responsible for the hosing cost.

- ***Eligibility conditions***

Social assistance is the ultimate and last part of the social safety net. It can be paid out if the family has temporary financial problems, or if the disposable income/month is too low. Two conditions to get social assistance are that the family doesn't have any wealth (afc= 0) and is

willing to take a job if offered. The income limits for getting the benefit are based on the normative costs for a basket of commodities needed to get a reasonable standard of living. The income limits depend on the age of children, single or cohabitant couple, and the number of individuals in the family. Housing costs, and costs for health, dentist, furniture, local commuting, insurance and child care costs are not included in the normative costs. Actual costs (xhc) are used instead. Income losses for self-employment income are not considered (i.e. set to 0). The benefit is not taxable.

- ***Income test***

The family's needs are calculated as common needs plus personal needs depending of the age of the children and if the head of the family is single or not. For example, a married couple with 2 children aged 4 and 8 years old have the following needs in 2023:

2,410 (Child age 4) + 3,380 (child age 8) + 6,300 (Married couple) + 1,790 (family size=4)

The family's consumption needs are calculated according to the rules reported in the following tables:

Table 2.18 Personal needs – Monthly amounts (SEK) – 2020-2024

Year\Age	0	1-2	3	4-6	7-10	11-14	15-18	19-20	Single	Married/ cohabiting
2021	2050	2240	1990	2170	3060	3520	3970	4000	3160	5700
2022	2090	2280	2030	2210	3110	3580	4040	4070	3210	5800
2023	2270	2480	2210	2410	3380	3890	4390	4430	3490	6300
2024	2470	2700	2410	2620	3680	4230	4780	4820	3800	6850

Table 2. 19 Common needs – Monthly amounts (SEK) – 2020-2024

Number of family members	1	2	3	4	5	6	7+
2021	1020	1130	1420	1610	1860	2100	2270
2022	1040	1150	1450	1640	1890	2140	2310
2023	1130	1250	1580	1790	2060	2330	2510
2024	1230	1360	1720	1950	2240	2540	2730

- ***Benefit amount***

Final amount of social assistance is given by the following formula:

Personal needs + Common needs + housing cost (xhc) – net income (il_means_bsa)

If the household has had social assistance for 6 months or more when calculating net income, only 75% of the employment income (yem) is deducted (i.e. the household can keep 25% of employment income).

- ***Take up adjustment***

BTA and BCA extensions are off, so the baseline model neither adjusts for non-take-up of the benefit nor calibrates its receipt, but the user can activate them if necessary. See section 2.3 for technical details on both extensions and their interactions.

Users can enable the necessary extensions in Country Tools/Set Switches. For proper functioning, the extensions require the following inputs:

BTA: The estimated take-up rate of the benefit should be set as the value of the $bsamt_BTA_rate constant in the model. Currently, the value is set to 1, indicating no adjustment for non-take-up.

BCA: The aggregate expenditure of benefit recipients needs to be filled out in the External Statistics table, so that the calibration rate ($bsamt_BCA_rate) is computed accordingly. Data are currently available for the years 2018-2023; given the absence of information for 2024, the calibration rate is not computed within the 2024 system, but the one computed within the 2023 system is used instead. For the modelling of reforms, the 2024 system should be used in order to allow for variation in the number of beneficiaries (hence expenditure): beneficiaries will change when the eligibility conditions change by applying the share of 2023 to the new pool of eligible units. If previous systems were used for reforms, total expenditure would remain constant irrespective of the reform applied, since the model would always stick to the existing external statistics.

2.4.6 Parental benefit (bfapl_s)

- ***Definitions***

It is a benefit to all parents that provide care for children. The benefit can be used from 60 days before the expected birth until the child has finished their first year in compulsory school if the child is born before 1 January 2014. For children born on or after 1 January 2014, the benefit can be used until the child's 12th birthday/at the end of primary 5.

- ***Eligibility conditions***

A parent to the child or the person who has the custody of the child is entitled to parental benefit. The child must be resident in Sweden or within the EU / EEA or Switzerland.

- ***Benefit duration***

Parental benefit covers a total of 480 days, 240 days for each parent. Twin and triplet parents receive an additional 180 and 360 days respectively. In the case of two parents, both can stay home at the same time for maximum 30 days (this counts as 60 days of parental leave). A single parent is entitled to all days.

It is possible for the parents to divide the days by transferring days to each other. But for parents to children born in 2016 or later, 90 days are personal and cannot be transferred to the other parent (60 days in 2015). The remaining 300 days, or 150 each, can be transferred. It is thus possible for a parent couple to divide the days so that one gets 90 and the other 390 days.

The days can be used from 60 days before the expected birth until the child has finished their first year in compulsory school. If the child becomes 8 years old after school termination, parental benefit can be paid until the child reaches the age of 8 years.

If the child is born in 2014 or later, the custodian may take out parental benefit until the child reaches the age of 12 or when the child ends grade 5 of the compulsory school. However, from the child's 4th birthday, only 96 days can be saved. If you have twins, you can save 132 days in total.

- ***Benefit amount***

For 390 of days, the remuneration is based on SGI (yearly income from work without deductions from any absence, i.e. monthly income * 12) (for people with both employment and self-employment income, only the former is considered in the simulation). For these days parents receive 80% of the income up to 10 price base amounts. The resulting amount is reduced to 97%. The 90 (60 in 2015) personal days are paid at this rate. The minimum benefit (e.g. for parents with low or missing SGI) during these 390 days starting in 2016 is SEK 250 per day (225 in 2015). For the remaining 90 days the compensation is SEK 180 per day.

The first 180 days taken for the child must be based on SGI. This also includes days of parental benefit taken before the birth of the child.

- ***Subject to taxes/SIC***

The benefit is taxable.

- ***Take up***

In 2010 (there aren't more recent figures), 12% of female parents did not use parental benefit days, while this was 68% for male parents.

- ***EUROMOD modelling***

This benefit and the following one are switched off in the baseline (therefore, those observed in the data are used). We assume that duration of the parental leave depends on the month of birth of a child. The month of birth is assumed to be equal to the middle month of the quarter of birth reported in SILC. If child's month of birth is unavailable, the assumption is that the child is born on June 30 (6^{th} month of the year). Mother is assumed to be the main carer. Where mothers absent, fathers are assumed to receive the allowance for the same duration as mothers.

We assume that all women with eligible child have taken 60 days of parental leave before childbirth and all transferable days (390) right after the childbirth. For single parents this is extended to 480 days (including 60 days before childbirth). The families with twins get additional 180 days on top of that. The partners of main carers thus are eligible for 90 days. We assume that these 90 days are also taken in the first year of a child's life. We assume that the main carer gets max 300 days at the high replacement rate (80%), which means that the partner gets his/her 90 days at this rate too.

Consider allocating the parental benefit to the mother instead of the head of the tax unit.

2.4.7 Special days for the other parent (bpa_s)

- ***Definitions***

The parent who is not pregnant (mostly and assumed male) has the right to temporary parental benefit for 10 days when the child is born.

- ***Eligibility conditions***

Parent to the child or the person who has the custody of the child is entitled to the benefit. The child must be resident in Sweden or within the EU / EEA or Switzerland

- ***Income test***

There is no income test

- ***Benefit duration***

The parent can receive the benefit for 10 days. These days must be taken within 60 days after the child has returned home

- ***Benefit amount***

The amount is based on SGI. The remuneration is 80% of the income. The resulting amount is reduced to 97%. The maximum amount is 7.5 price base amounts.

- ***Subject to taxes/SIC***

The benefit is taxable.

- ***Take up***

N/A

2.5 Social contributions

2.5.1 Employee social contributions(tscee_s)

- ***Liability to contributions***

All individual residents in Sweden and born after 1937 with employment income (yem), fringe benefits (kfb), sickness benefit (bhl) or unemployment benefit (bunct + bunnc) larger than 1000 SEK per year have to pay the general social security contributions.

- ***Income base used to calculate contributions***

The contribution base is calculated as follows:

- Initial Contribution base = (yem+kfb+bhl+bunct+bunnc)*12. This is rounded down to the nearest hundred SEK.
- Final Contribution base = min(Initial Contribution base , 8.07*XBASMI). This is rounded down to the nearest hundred SEK.

- ***Contribution rates***

If the Final Contribution base is larger than XBASM * 0.423, then the Social contribution is 7% of the Final Contribution base. Otherwise no contribution is paid. The Social contribution is then rounded down to the nearest hundred SEK (tscee_s).

2.5.2 Employer social contributions (ils_sicer)

- ***Liability to contributions***

All employers are liable to pay social contributions based on employment income (yem) and fringe benefits (kfb), if the annual amount is greater than 1,000 SEK.

- ***Income base used to calculate contributions***

The employer social contributions are based on employment income (yem) and fringe benefits (kfb), if the annual amount is greater than 1,000 SEK.

- ***Contribution rates***

There are 8 different employer social contributions: health insurance, parental insurance, occupational injuries, old age pension, survivors pension, labour market, general wage fee and a special wage tax (for persons older than 65 years).The rates are specified in the following tables.

In 2021, reduced social contributions rates were introduced for employers hiring young workers. Two age cohorts are eligible for the reduced rates; 15- to 18-year-olds and 19- to 23-year-olds. The reduced rates are only applicable if the employee earns less than 25 000 SEK per month. For the youngest age-cohort, the employer pays the old age pension social contribution at 10.21% only, and for the older cohort, the employer pays all types of social contributions but at a reduced total rate of 19.73% (instead of 31.42%). During the 3 summer months (June, July and August), the rate of the older age group is reduced to the same rate as the younger group. As of 2023, the lower age limit changed to 16. The exemption for summer salaries is further removed, and as of April 1st the lower rates for 19 - to 23 year-olds is completely removed, regardless of salary.

Table 2. 20 Employer social contributions – Persons younger than 66 years old

	2021	2022	2023	2024
Health insurance (tscersi_s)	0.0355	0.0355	0.0355	0.0355
Old age pension (tscerpi_s)	0.1021	0.1021	0.1021	0.1021
Survivors pension (tscerci_s)	0.0060	0.0060	0.0060	0.0060
Occupational injuries (tscerac_s)	0.0020	0.0020	0.0020	0.0020
Labour market (tscerir_s)	0.0264	0.0264	0.0264	0.0264
General wage fee (tscerot_s)	0.1162	0.1162	0.1162	0.1162
Parental insurance (tscerml_s)	0.0260	0.0260	0.0260	0.0260

Table 2.21 Employer social contributions – Persons older than 65 and born after 1937

Year	2021	2022	2023	2024

Old age pension (tscerpi_s)	0.1021	0.1021	0.1021	0.1021

Table 2.22 Employer social contributions – Persons aged between 15 and 23

Year	2021	2022	2023	2024
Social Contribution Rate for 15 [a] -18 Year Olds	0.1021[b]	0.1021[b]	0.1021[b]	0.3142 [d]
Social Contribution Rate for 19-23 Year Olds	0.1973	0.1973[b]	0.3142[b]	0.3142 [d]
Social Contribution Rate for 19-23 Year Olds (during summer)	0.1021	0.1021[b]	0.3142[c]	0.3142 [d]

Notes: [a] increased to 16 in 2023

[b] up to 25,000 SEK per month, 31.42 % for all salaries above this level
[c] Changed as of April 1st, 0.1973 for incomes up to 25,000 SEK until March 31.
[d] Exemption for younger people removed as of Jan 1st 2024.

COVID-19 Notes

A temporary reduction of employer's contributions and the general payroll tax was introduced between March 1st to June 30th, 2020. Employers could request a reduction of employer's contributions for a maximum of 30 of their employees, so that only the old-age pension contribution (10.21 percent) on compensation up to 25,000 kronor per payee and per month was paid.

Self-employed social contributions(ils_sicse)

- ***Liability to contributions***

The self-employed (lse > 0) pay social contributions.

- ***Income base used to calculate contributions***

The social contribution is based on total self-employment income (yse) if the annual amount is greater than 1,000 SEK (if below no contribution is paid).

- ***Contribution rates***

There are 8 different self-employed social contributions: health insurance, parental insurance, occupational injuries, old age pension, survivors pension, labour market, general wage fee and a special wage tax (for persons older than 66 years). The rates are specified in the following tables. If the self-employed business activity can be categorized as a passive business (i.e., if the individual does not spend any work hours in the business), a special wage tax of 24,26% is paid instead of the social contributions.

Table 2.24 Self-employed social contributions – Persons younger than 67 year old

Year	2021	2022 [a]	2023[ab]	2024[a]
Health insurance (tscsesi_s)	0.0364	0.0364	0.0364	0.0364
Old age pension (tscsepi_s)	0.1021	0.1021	0.1021	0.1021
Survivors pension (tscseci_s)	0.0060	0.0060	0.0060	0.0060
Occupational injuries (tscseac_s)	0.0020	0.0020	0.0020	0.0020
Labour market (tscseir_s)	0.0010	0.0010	0.0010	0.0010
General wage fee (tscseot_s)	0.1162	0.1162	0.1162	0.1162
Parental insurance (tscseml_s)	0.0260	0.0260	0.0260	0.0260

Notes: [a]In 2022, 2023 and 2024, individuals who have a full age pension or sometime during the current year has received full disability pension only pay the old age pension contribution, i.e. 10,21%

[b] In 2023, the age was increased to younger than 67 (from younger than 66)

Table 2.25 Self-employed contributions – Persons older than 65 and born after 1937

Year	2021	2022	2023	2024
Age	66-83	66-84	67-85	67-85
Special wage tax (tscseot_s)	0	0	0	0
Old age pension (tscsepi_s)	0.1021	0.1021	0.1021	0.1021

Table 2.26 Self-employed contributions – Persons older than 65 years

Year	2021	2022	2023	2024
Special wage tax for elderly	0.0	0.0	0.0	0.0

EUROMOD modelling

COVID-19 Notes

For farmers and self-employed the proportion of net income to be paid as social contribution fee was reduced for 2020 from 28.97% to 10.21% (they will only pay the old age pension contribution). The reduction is valid for net income up to SEK 100 000. Thus, for net income up to SEK 100 000 the social contribution percentage will be 10.21% and for net income above SEK 100 000 the full social contribution fee will be paid.

2.6 Personal income tax

The main tax simulated for Sweden is the personal income tax which is divided into four parts: a government tax, a county council tax, a municipality tax and a funeral tax. All individuals earning above 20 135 SEK in 2021, 20 431 SEK in 2022 and 20 208 SEK in 2023 and 24 238 SEK in 2024 (annually) pay taxes.

2.6.1 Tax unit

Personal income tax is assessed at individual level.

2.6.2 Exemptions

Child benefits, social assistance, housing allowance, housing allowance for pensioners and social assistance for elderly are exempted from income tax. Those who earn less than 20 135 SEK in 2021, 20 431 SEK in 2022 and 20 208 SEK in 2023 and 24 238 SEK in 2024 (annually) are exempt from paying income tax.

2.6.3 Taxable income

The taxable income (il_taxabley) includes: employment income (yem), fringe benefits (kfb), self-employment income (yse), parental leave benefit (bpl – parent's allowance at birth), income received by children (yot), Private pensions (ypp), Unemployment benefits (bunct + bunnc), Old age pension (poa), Disability benefit (pdi), Sickness benefit (bhl) and Survivor' pension (psu).

There exist, however, additional minor tax-related incomes not simulated in Euromod. For example, emoluments (*arvoden*), taxable student aid, annuity, and taxable car and housing benefits.

2.6.4 Tax allowances

Two tax allowances are simulated.

Allowance for voluntary Private Pension contributions (tintapv_s).

From 2016 and onwards, the allowance for voluntary private pension contributions are only for self-employed.

EUROMOD modelling

Due to lack of data, we do not simulate those rules which anyway affect only 3 percent of those claiming the allowance (i.e. having a higher value).

Basic allowance (tinta00_s)

The basic allowance (tinta00_s) is based on taxable income minus the allowance for voluntary Private Pension (il_taxabley_ppta).

Table 2.27 Basic Allowance - 2020-2024

Taxable income minus allowance for Private pension		Allowance
Lower level	**Upper level**	

0	0.99*XBASM	min (il_taxabley_ppta, 0.423*XBASM)
0.99*XBASM	2.72*XBASM	0.423*XBASM+0.2*(il_taxabley_ppta -0.99*XBASM)
2.72*XBASM	3.11*XBASM	0.77*XBASM
3.11*XBASM	7.88*XBASM	0.77*XBASM-0.1*(il_taxabley_ppta -3.11*XBASM)
7.88*XBASM		0.293*XBASM

There is also an additional basic allowance for pensioners (65 years or older when the tax year started until Jan 1st 2023, when it increased to 66 years or older) (tintape_s):

Table 2. 28 Additional Basic Allowance for pensioners (over 65 years) – 2021-2024

2021		
0	0.99*XBASM	min (il_taxabley_ppta, 0.687*XBASM)
0.99*XBASM	1.11*XBASM	0.885*XBASM-0.2* il_taxabley_ppta
1.11*XBASM	2.72*XBASM	0.600*XBASM+0.057* il_taxabley_ppta
2.72*XBASM	3.11*XBASM	-0.169*XBASM+0.34* il_taxabley_ppta
3.11*XBASM	3.21*XBASM	-0.480*XBASM+0.44* il_taxabley_ppta
3.21*XBASM	7.88*XBASM	0.207*XBASM+0.228* il_taxabley_ppta
7.88*XBASM	8.08*XBASM	0.995*XBASM+0.128* il_taxabley_ppta
8.08*XBASM	11.28*XBASM	2.029*XBASM
11.28*XBASM	12.53*XBASM	9.023*XBASM-0.62* il_taxabley_ppta
12.53*XBASM	13.54*XBASM	1.253*XBASM
13.54*XBASM	35.36*XBASM	2.03*XBASM-0.0574* il_taxabley_ppta
35.36*XBASM		0
2022-2023 (age limit changed to 66 in 2023)		
0	0.91*XBASM	min (il_taxabley_ppta, 0.687*XBASM)
0.91*XBASM	1.11*XBASM	0.885*XBASM-0.2* il_taxabley_ppta
1.11*XBASM	1.965*XBASM	0.600*XBASM+0.057* il_taxabley_ppta
1.965*XBASM	2.72*XBASM	0.333*XBASM+0.1949* il_taxabley_ppta
2.72*XBASM	3.11*XBASM	-0.212*XBASM+0.3949* il_taxabley_ppta
3.11*XBASM	3.24*XBASM	-0.523*XBASM+0.4949* il_taxabley_ppta
3.24*XBASM	5.53*XBASM	0.325*XBASM+0.233* il_taxabley_ppta
5.53*XBASM	7.88*XBASM	0.441*XBASM+0.212* il_taxabley_ppta
7.88*XBASM	8.08*XBASM	1,104*XBASM+0.128* il_taxabley_ppta
8.08*XBASM	11.48*XBASM	2.139*XBASM

11.48*XBASM	12.8*XBASM	9.257*XBASM-0.62* il_taxabley_ppta
12.8*XBASM	13.54*XBASM	1.32*XBASM
13.54*XBASM	35.54*XBASM	2.097*XBASM-0.574* il_taxabley_ppta
35.54*XBASM		0
2024 (66 and over)		
0	0.91*XBASM	min (il_taxabley_ppta, 0.687*XBASM)
0.91*XBASM	1.11*XBASM	0.885*XBASM-0.2* il_taxabley_ppta
1.11*XBASM	1.965*XBASM	0.600*XBASM+0.057* il_taxabley_ppta
1.965*XBASM	2.72*XBASM	0.333*XBASM+0.1949* il_taxabley_ppta
2.72*XBASM	3.11*XBASM	-0.212*XBASM+0.3949* il_taxabley_ppta
3.11*XBASM	3.24*XBASM	-0.523*XBASM+0.4949* il_taxabley_ppta
3.24*XBASM	5*XBASM	0.208*XBASM+0.2693* il_taxabley_ppta
5*XBASM	7.88*XBASM	0.3*XBASM+0.2513* il_taxabley_ppta
7.88*XBASM	8.08*XBASM	0.986*XBASM+0.1643* il_taxabley_ppta
8.08*XBASM	10.74*XBASM	2.313*XBASM
10.74*XBASM	12.16*XBASM	8.972*XBASM-0.62* il_taxabley_ppta
12.16*XBASM	13.54*XBASM	1.430*XBASM
13.54*XBASM	38.42*XBASM	2.206*XBASM-0.574* il_taxabley_ppta
38.42*XBASM		0

2.6.5 Tax base

The tax base (il_taxbase) is defined as taxable income minus the allowance for voluntary private pension and the basic allowance.

2.6.6 Tax schedule

The tax schedule for government tax (tinna_s), county council tax (tinrg_s), municipality tax (tinmu_s) and funeral tax (tinfu_s) applies to the same tax base (il_taxbase).

Tax rates differ by region in Sweden. In 2024 the county council tax rate varies between 10.83% and 12.08 % of the tax base, the municipality tax rate varies between 16.90 % and 23.80 % of the tax base. The funeral tax rate is common to all municipalities since 2017, except for Stockholm and Tranås, which have 0.065 % and 0.26 % of the tax base in 2024, respectively.

Since information on the region persons are living in is not included in EUROMOD, the taxes are simulated according to the average value for Sweden, as reported in the following table.

Table 2.29 Income tax rates – 2016-2024

Year	Municipality tax	County council tax	Funeral tax
2021	20.71%	11.56%	0.253%
2022	20.67%	11.56%	0.261%
2023	20.67%	11.56%	0.258%
2024	20.8%	11.56%	0.277%

The government income tax schedule is based on three income bands as reported in the following table. From 2020 the government income tax only has two income bands, as seen below.

Table 2.30 Government income tax schedule – 2021-2024

Band	Tax rate	2021	2022	2023	2024
1st	0 %	0-537,200	0-540,700	0-598,500	0-598,500
2nd	20 %	537,200-	540,701-	598,500-	598,500-
3rd	25 %	N/A	N/A	N/A	N/A

2.6.7 Tax credits

There are eight different non-refundable tax credits in the Swedish tax system (the final tax liability cannot be negative). Here we report on those we are able to simulate or impute. Five of the tax credits cannot be simulated due to lack of data but are also presented below.

Tax credit for general social security contributions

The general social security contribution (see 2.3.1 – tscee_s) is 100 % deductible from income tax.

Tax credit for negative capital income

This can be simulated for those who have a negative capital income (i.e. the interests paid minus the sum of income from rent and capital incomes, if the difference is positive) because of mortgage on their house. All negative capital income due to other forms of mortgage cannot be simulated. The annual amount of the tax credit (tintcmi_s) is:

0.30* negative capital income *12 if negative capital income *12 < 100,000

0.30*100,000 + 0.21*(negative capital income *12-100,000) if negative capital income *12 >= 100 000

Earned Income Tax credit

Depending on the age there are two different scales for the tax credit.

In both cases it is based on the income (tintc00_s) defined as follows:
tintc00_s = yem + yse + kfb .

Table 2.31 Earned Income Tax credit – 2016-2018

Persons younger than 66 years		
Annual Income base for tax credit		
Lower level	**Upper level**	**Tax credit**
0	0.91*XBASM	(tintc00_s –BA)*MT
0.91*XBASM	2.94*XBASM	(0.91*XBASM+0.332*(tintc00_s -0.91*XBASM)-BA)*MT
2.94*XBASM	8.08*XBASM	(1.584*XBASM+0.111*(tintc00_s -2.94*XBASM)-BA)*MT
8.08*XBASM	13.54*XBASM	((2.155*XBASM)-BA)*MT
13.54*XBASM		(((2.155*XBASM)-BA)*MT)-0.03*(tintc00_s-13.54*XBASM)

Persons 66 years and older		
Annual Income base for tax credit		
Lower level	**Upper level**	**Tax credit**
0	100,000 SEK	0.2* tintc00_s
100,000 SEK	300,000 SEK	15,000+0.05* tintc00_s
300,000 SEK	600,000 SEK	30,000
600,000 SEK		30,000-0.03*(* tintc00_s-600,000)

BA = Basic Allowance, see chapter 2.6.4
MT = Municipality tax rate and County council tax rate

Table 2.32 Earned Income Tax credit – 2020- 2021

Persons younger than 66 years		
Annual Income base for tax credit		
Lower level	**Upper level**	**Tax credit**
0	0.91*XBASM	(tintc00_s –BA)*MT
0.91*XBASM	3.24*XBASM	(0.91*XBASM+0.3405*(tintc00_s -0.91*XBASM)-BA)*MT
3.24*XBASM	8.08*XBASM	(1.703*XBASM+0.128*(tintc00_s -3.24*XBASM)-BA)*MT
8.08*XBASM	13.54*XBASM	((2.323*XBASM)-BA)*MT
13.54*XBASM		(((2.323*XBASM)-BA)*MT)-0.03*(tintc00_s-13.54*XBASM)

Persons 66 years and older		
Annual Income base for tax credit		
Lower level	**Upper level**	**Tax credit**
0	100,000 SEK	0.2* tintc00_s
100,000 SEK	300,000 SEK	15,000+0.05* tintc00_s
300,000 SEK	600,000 SEK	30,000
600,000 SEK		30,000-0.03*(* tintc00_s-600,000)

BA = Basic Allowance, see chapter 2.6.4
MT = Municipality tax rate and County council tax rate

Table 2.32 Earned Income Tax credit – 2022

Persons younger than 66 years		
Annual Income base for tax credit		
Lower level	**Upper level**	**Tax credit**
0	0.91*XBASM	(tintc00_s –BA)*MT
0.91*XBASM	3.24*XBASM	(0.91*XBASM+0.3874*(tintc00_s -0.91*XBASM)-BA)*MT
3.24*XBASM	8.08*XBASM	(1.812*XBASM+0.128*(tintc00_s -3.24*XBASM)-BA)*MT
8.08*XBASM	13.54*XBASM	((2.432*XBASM)-BA)*MT
13.54*XBASM		(((2.432*XBASM)-BA)*MT)-0.03*(tintc00_s-13.54*XBASM)

Persons 66 years and older		
Annual Income base for tax credit		
Lower level	**Upper level**	**Tax credit**
0	100,000 SEK	0.2* tintc00_s
100,000 SEK	300,000 SEK	15,000+0.05* tintc00_s
300,000 SEK	600,000 SEK	30,000
600,000 SEK		30,000-0.03*(* tintc00_s-600,000)

BA = Basic Allowance, see chapter 2.6.4
MT = Municipality tax rate and County council tax rate

Table 2.32 Earned Income Tax credit – 2023-2024

Persons younger than 66 years		
Annual Income base for tax credit		
Lower level	**Upper level**	**Tax credit**
0	0.91*XBASM	(tintc00_s –BA)*MT
0.91*XBASM	3.24*XBASM	(0.91*XBASM+0.3874*(tintc00_s -0.91*XBASM)-BA)*MT
3.24*XBASM	8.08*XBASM	(1.812*XBASM+0.128*(tintc00_s -3.24*XBASM)-BA)*MT
8.08*XBASM	13.54*XBASM	((2.432*XBASM)-BA)*MT
13.54*XBASM		(((2.432*XBASM)-BA)*MT)-0.03*(tintc00_s-13.54*XBASM)

Persons 66 years and older		
Annual Income base for tax credit		
Lower level	**Upper level**	**Tax credit**
0	100,000 SEK	0.22* tintc00_s
100,000 SEK	300,000 SEK	15,000+0.07* tintc00_s
300,000 SEK	600,000 SEK	36,000
600,000 SEK		36,000-0.03*(* tintc00_s-600,000)

BA = Basic Allowance, see chapter 2.6.4
MT = Municipality tax rate and County council tax rate

Due to lack of data, five tax credits cannot be simulated. However, they are presented below and an overview of their total amounts is reported in the Table below.

Tax credit for persons with Disability pension (Sjukersättning/aktivitetsersättning) (2020-2024).

Since 2018, a person receiving disability pension (pdi>0) is entitled to disability tax credit under the following rules. The tax base is the total amount of disability pension that was paid out during the year (tax free benefits excluded). The basic allowance is not considered in 2020 and 2021, but in 2022 and 2023 it is. Exact thresholds and calculations for the respective years are given below:

2020-2021

Persons younger than 65 year		
Annual disability pension base for tax credit		
Lower level	**Upper level**	**Tax credit**
0	0.253*XBASM	pdi *0.045* MT
2.53 *XBASM		2.53*XBASM*0.045*MT + (pdi -2.53 *XBASM))* 0.025*MT

MT = Municipality tax rate and County council tax rate

2022-2024

Persons younger than 66 years (65 for 2022)		
Annual disability pension base for tax credit		
Lower level	**Upper level**	**Tax credit**
0	0.91*XBASM	(pdi –BA)*MT
0.91*XBASM	3.24*XBASM	((0.91*XBASM+0.3405*(pdi -0.91*XBASM))-BA)*MT
3.24*XBASM		((1.703*XBASM+0.128*(pdi -3.24*XBASM))-BA)*MT

BA = Basic Allowance, see chapter 2.6.4
MT = Municipality tax rate and County council tax rate

Tax credit on seafarer's income

A tax reduction is given for persons with seafarer's income. The amount is from 9,000 SEK to 14,000 SEK per year depending on if the ship is sailing abroad or in Sweden.

Tax credit on domestic and reconstruction services (2007-)

The tax reduction is 30 percent of the labour cost for reconstruction services and 50 percent of the labour cost for domestic services. There is an upper limit for this reduction. For reconstruction

services the reduction is maximum 50,000 SEK per year. For domestic services the reduction is maximum 75 000 SEK per year (implemented in 2021). The total reduction is maximum 75 000 SEK per year since 2021 (in 2020 it was 50 000 SEK, which could be divided freely between domestic and reconstruction services). After July 1st, the credit was increased to 75 000 reconstruction services as well, and the total possible reduction was increased to 150 000. This only pertains for spending done after July 1st, for spending before the old limits still apply. Due to this, the old limits are still used in EUROMOD for the whole of 2024.

Tax credit for installation of 'green technology' (2021-2024

The tax credit will reduce labour and material costs for the installation of various kinds of 'green technology, with varying rates of the reduction. For installation of solar cells, the reduction is 20% (15% 2021-2022), for storing self-produced electricity, the reduction is 50 %, for installation of charging points for electric vehicles, the reduction is 50 %. The maximum reduction is 50 000 SEK per year.

Tax credit on real estate tax

Pensioners (persons older than 65 years) can receive a tax credit on real estate tax so that this tax not exceeds four percent of the income. The tax credit only refers to the property where the person is living.

2.7 Other taxes

Tax on capital income

The tax on capital is 30 % of the positive capital income, defined as income from capital and property income minus interests paid. This can partly be simulated as 0.30*max(((yiy+ypr) - xhcmomi), 0). Other interests paid, in addition to the interests paid on mortgage (xhcmomi), are not recorded in the data and they cannot be taken into account.

Tax on real estate

As from 2008 government property tax on dwellings was abolished and replaced by a municipal property charge. The tax is applicable for persons owning a ready-built house or a block of ready-built flats in Sweden. Newly built houses are exempt from charge. For houses built 2011 or earlier, the property is not charged the first five years, thereafter, half the normal rate applies for the five additional years. Accordingly, first after 10 years are the properties fully charged. For houses built 2012 or later, the property is not charged the first 15 years.

The table below describes the types of property mainly concerning private persons. Tax on real estate is included in the SILC data (EUROMOD variable: tpr).

Table 2. 34 Tax on real estate

Type of property	Municipal property charge 2009-2024
House/land, 0-5 years, built 2011 or earlier	0
House/land, 6-10 years, , built 2011 or earlier	min((0.00375* assessed value), (0.00375*800,000*KPIyear))

House/land older than 10 years, built 2011 or earlier	min((0.0075*assessed value), (0.0075*800,000*KPIyear))
House/land, 0-15 years, built 2012 or later	0

*KPIyear = XBASMI/XBASMI 2008

2.8 Consumption taxes

Consumption taxes simulated in EUROMOD can be divided in two groups: VAT (value added tax) and excises (additional duties paid over consumption, typically on energy, alcoholic beverages, and tobacco).

Simulated consumption tax liabilities paid by households depend on the tax rules (e.g. the VAT rate) and on the tax base (consumption expenditures or quantities). This is why, to simulate consumption taxes in EUROMOD, the input data must contain information on household expenditures. The expenditures matched in the EUROMOD input files based on SILC are reported directly by households in the HBS surveys at purchasing prices. Therefore, they already include the consumption taxes paid.

i) **VAT** (il_tva variable in EUROMOD) is the value-added tax. The model also simulates at high disaggregation level the VAT liabilities paid for each consumption category (output variables are tva01111, tva01112, and so on and so forth, corresponding to COICOP codes 01111 and 01112, etc.)

ii) **Excises** (il_tx variable in EUROMOD) are additional duties paid over consumption and can be classified in two groups: ad-valorem excises (il_txv) that depend on producer prices, and of specific or ad-quantum excises (il_txa) that depend on consumed quantities.

Since consumption data from HBS refers to expenditures (price times quantity), for the simulation of specific excises information on consumption prices are needed.

Further information on methodology and specific calculations and the independence of these consumption taxes is common across countries (this is why they are placed in an add-on and not in the policy spine of each country) and can be found in Akoğuz et al (2020).[4]

2.8.1 VAT (il_tva)

To extract the baseline VAT embedded in the expenditure consumption reported by households we only need the VAT rate of the policy system year. VAT rates usually do not vary too much across product, and are typically three rates (standard, reduced and zero), although in some countries there are more (specify if this is the case).

Table 2.35 VAT rates [2021-2024]

Products	2021	2022	2023	2024

[4] Akoğuz, Elif Cansu, Bart Capéau, André Decoster, Liebrecht De Sadeleer, Duygu Güner, Kostas Manios, Alari Paulus, and Toon Vanheukelom. A new indirect tax tool for EUROMOD: final report. Technical Report, https://euromod-web. jrc. ec. europa. eu/sites/default/files/2021-03/A% 20new% 20indirect% 20tax% 20tool% 20for% 20EUROMOD% 20Final% 20Report. pdf, 2020.

Standard[5]		25%	25%	25%	25%
Reduced	Mainly applies to food (inc. restaurant meals) and repair of clothes.	12%	12%	12%	12%
Super reduced	Mainly applies to public transport, culture, rent, medical services/pharmaceuticals and education.	6%	6%	6%	6%
Zero	These goods all goes on the exemptions below.	0%	0%	0%	0%
Exempted[6]	Artistic performances, art, libraries, rental of privately owned property, certain medical services, certain financial and insurance services.	-	-	-	-

2.8.2 Ad-valorem excises (il_txv)

Ad-valorem excies only cover cigarettes in Sweden.

Table 2.35 Ad-valorem excise rates [2021-2024]

Products	2021	2022	2023	2024
Cigarettes	1%	1%	1%	1%

2.8.3 Tax credits

Specific excises (il_txa)

Specific excises apply to alcohol, tobacco and energy products. In this case, we collect both tax parameters and consumer prices, to allow the model to estimate the implicit quantities behind the reported household consumption expenditure amounts.

Table 2.36 Specific (ad-quantum) excise rates (in SEK)

Products	2021	2022	2023	2024
Ethyl alcohol (pure alcohol)	-	-	‘52.176/ L	52.697 / L
Wine	-	-	9.65-57.53 / L	6.19-37.34 /L
Beer			2.12 / L	2.28 / L
Cigarettes	-	-	1.78 / piece	1.84 / piece

[5] Reduced rates for specific territories in AT, EL, ES, FR and IT are not modelled yet.
[6] Only country specific exemptions

Cigars/other tobacco	-	-	1.56-1.78 / piece	1.62-2.24 / piece
Electricity	-	-	3.92 SEK/MWh	4.28 SEK/MWh
Natural Gas	-	-	71-98.6 / Gj	77.6 -107.8 / Gj
LPG	-	-	3.991 – 5.278 / kg	4.363- 5.770 / kg
Gas Oil	-	-	4.072 – 4.616 / L	4.192 -4.797 / L
Heavy fuel oil	-	-	4.2863 / kg	4.4126 / kg
Kerosene	-	-	4.072 – 4.616 / L	4.192 – 4.591 / L
Coal and Coke	-	-	128.3908 / Gj	140.3356 / Gj
Petrol	-	-	4.010 – 7.350 / L	4.560 – 6.750 / L

Table 2.36 Average Prices of Excise Products (in SEK)

Prices	2023	2024[n]
Ethyl alcohol	357.10 / L	
Wine	130.89 – 312.97 / L	
Beer	34.86 / L	
Cigarettes	3.16 / piece	
Cigars	2.43 / piece	
Other tobacco	4.54 / piece	
Electricty	3007 / MWh	
Natural Gas - Heating	812.45 / MWh	
LPG - Heating	48.04 / kg	
Gas Oil - Heating	15.12 / L	
Heavy fuel oil - Heating	123.9 / kg	
Kerosene- Heating	N/A	
Coal and Coke - Heating	826.92 / Gj	

Petrol	20.13 -22.92 / L
LPG - Propellant	26.52 / kg
Gas oil, Class1 - Propellant	23.06 - 23.22 / L
Kerosene, Class 1 - Propellant	N/A
Natural Gas - Propellant	626.84

n: nowcasted

Consumer prices of goods subject to excise duties are nowcasted, similarly to what the model does to update incomes from SILC. We combine the latest available data from the following sources:

- Prices per product, usually from last year, but for instance, fuel prices have only 15 days delay.
- Inflation: Harmonised Index of Consumer Prices (HICP, Eurostat) at COICOP 5 digits, usually for the first quarter for beta release and up to third quarter 3 for final release.
- Inflation quarter-on-quarter forecasts (DG ECFIN, confidential) by HICP main groups (Unprocessed food, Processed food including alcohol and tobacco, Non-energy industrial goods, Energy, Services - overall index excluding goods) of quarters 2, 3 and 4, as needed for each release.

For more details on the specific source of the price of each good, see Akoğuz et al (2020).

The price of (indicate product) did not followed this general sources/nowcasting strategy but was sourced from (indicate source) because (indicate reason).

- **EUROMOD modelling**

Consumption taxes (tco_se policy) require extended EUROMOD input data (with imputed income shares of consumption expenditures at the household level) and an add-on to run. The policy is set to off in the baseline. To activate it, the CT_xbase add-on must be run, and the extended EM input files (see Section 3 for more information on the methodology and features behind these extended input files) should be selected (as defined in the database configuration of each country). The other add-ons (CT_*) are designed for reform simulations and assume different behavioural responses: i) constant quantities (CT_XCQ), ii) constant income shares (CT_XCIS), and iii) constant expenditure shares (CT_XCES). These reform-scenario add-ons require the auxiliary output files are generated by running the first baseline simulation (as either the quantities or expenditures and savings from the baseline are kept constants and enter as inputs in the simulated reform scenarios).

2.9 Extraordinary measures

2.9.1 COVID-19: Wage Compensation scheme COVID-19 (yemcomp_se)

This scheme allowed employers to reduce their employees' working hours while the government compensated a significant portion of the lost wages. The goal was to help companies retain their employees and avoid layoffs during periods of reduced business activity. The government covered a substantial part of the wage costs for the reduced hours, while the employer and employee shared the remaining cost.

3. DATA

3.1 General description

The Swedish database is drawn from the UDB version of the European Statistics on Income and Living Conditions (EU-SILC). Every year a systematic sample is drawn from the register of total population (TPR). The reference population is therefore the whole Swedish population, except short-term migrants (i.e. those staying no longer than 3-12 months). The sample design follows a stratified sample with simple random sampling; before 2021 within age strata and from the collection year 2021 by NUTS2 region, age and sex. The table below illustrates the main characteristic for the 2020 sample. Up until the collection year of 2020, the SILC sample in a given year (say year *t*) consists of four rotating panels: one is included for the first time in the same year *t*, while the other three panels were originally drawn in years *t-1*, *t-2* and *t-3*. As of the collection year 2021, the number of rotating panels increased to five[7]. In addition, there is an additional cross-sectional sample, only taking part in the survey for one year, to reach the desired cross-sectional sample size of 20 000 selected respondents.

Table 3.1 EUROMOD database description

EUROMOD database	SE_2021_b1
Original name	UDB version 20211
Provider	EUROSTAT
Year of collection	2021
Period of collection	2021.01.01—2021.06.31
Income reference period	2020
Sample size	8,889 households, 21,715 individuals
Response rate	46,28%

The cross-sectional weighting procedure uses auxiliary information through a calibration approach. The use of auxiliary information is aimed to reduce nonresponse bias and to provide better estimates of indicators of poverty measures. The auxiliary variables are obtained from the total population register (TPR), the register of income and taxation (IoT) and the register of education; and include age*sex, civil status, education level, region, place of birth (Swedish born/foreign born), income deciles, income (amount), receipt of financial aid, housing allowance and sickness compensation.

This section briefly describes the weighting procedure.[8] The sample unit of interest in the Swedish EU SILC are the households of sampled individuals. More precisely, individuals are sampled in order to reach households. In collection made before 2021, the sample is stratified by age in eight strata: 16-24 years, 25-34 years, 35-44 years, 45-54 years, 55-64 years, 65-74 years, 75-84 years and 85 years and older. The sample allocation was proportional. From 2021 and onwards, the sampling design for new panel samples is stratified systematic sampling, in which stratification is with respect to NUTS2 regions and where the sampling frame is ordered by sex and age. The sampling allocation is non-proportional, in which small NUTS2 regions are overrepresented, and large NUTS2 regions are underrepresented. The purpose of the new sampling design is to increase compliance with the precision requirements for SILC.

[7] As of collection year 2022, the number of panels will increase to 6.

[8] For more information see the Quality Report EU-SILC Sweden, available from: https://www.gesis.org/en/missy/materials/EU-SILC/documents/quality-reports

The design weights of the initial sample (DB080) are given by the ratio of the total number of individuals in each stratum to the number of individuals in the sample in each stratum multiplied with the proportion of selected respondents from the current panel in the cross-sectional sample. In order to get the household weights (DB090), the design weights (DB080) are calibrated to the population totals of the auxiliary variables. All individuals in a household get the same value of the household weights (DB090) and personal weights RB050 and PB040 are set equal to DB090. In addition, calibration for the personal weights, PB060, is made separately using totals for the population of selected respondents.

3.2 Data adjustment

Adjustments to variables are kept to a minimum. Some minor data cleaning has been done to make sure that the households and relationships of individuals within households are coherent (for example, that young children are not living alone or family relations are coherent).

In order to guarantee consistency between demographic variables 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 date of interview have been dropped from the sample.

3.3 Imputations and assumptions

3.3.1 Time period

In the SILC user database, the income reference period is a 12-month period. Information on all income sources refers to the last income year (1 January 2020 – 31 December 2020). The variables are recorded at the time the person receives it, i.e. when the payment is done. This means that the income of a person for example unemployed during the last part of December 2019 but receiving the payment in January 2020, will then be part of the income for 2020.
The other variables refer to the time of the interview or a 12 months period prior to the interview.

Children born after the end of the income reference period (i.e. 31 December 2018) have been dropped from the dataset.

3.3.2 Gross incomes

The incomes used are gross incomes.

3.3.3 Disaggregation of harmonized variables

EU-SILC variable HY050g (Family/children related allowances) has been split into two components: child benefit (bch00, simulated in EUROMOD as bch00_s) and parent's allowance at birth (bpl, not simulated in EUROMOD) according to the rules about child benefits.

EU-SILC variable PY140g (Education related allowances) has been split into two components: education related allowances (bed, non-simulated in EUROMOD) and extra supplement of child benefit for upper secondary school students (bchot, simulated in EUROMOD as bch01_s) according to the year of birth of the individual (i.e. after 1986 is considered as extra supplement).

3.4 Updating

To account for any time inconsistencies between the input dataset and the policy year, updating factors are used. Each monetary variable (i.e. each income component) is updated so as to account for changes in the non-simulated variables that have taken place between the year of the data and the year of the simulated tax-benefit system. Updating factors are generally based on changes in the average value of an income component between the year of the data and the policy year. For detailed information about the construction of each uprating factor as well as the sources that have been used, see Annex 1.

As a rule, updating factors are provided both for simulated and non-simulated income components present 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. Updating factors for simulated variables are provided so as to facilitate the use of the model in cases when the user wishes to turn off the simulation of a particular variable.

3.5 Extended input data (with household expenditures for the simulation of consumption taxes)

For the simulation of consumption taxes, the model needs to be run with extended EUROMOD input files. They consist of the core EUROMOD input files based on EU-SILC or National SILC, extended with new variables (household-level income shares of expenditures by product) imputed from EU/National-HBS. The semi-parametric method implemented for the imputation follows the methodology developed by Akoğuz et al (2020).

Table 3.2 summarizes the major features of the most recent database used to be run with the policy systems of 2021-2024.

Table 3.2. Extended EUROMOD database description

Extended EUROMOD database for the simulation of consumption taxes	**SILC 2022 – Income year 2021 – Expenditures from HBS 2015**
EUROMOD database	SE_2022_b1_2015_03_e2
Year of collection (HBS) and source	HBS 2015 – EU
Year of collection (SILC) and source	SILC 2022 – EU
Coverage and sample size	Same as SE_2022_b1
Share of households with negative incomes excluded from the matching procedure	0.41%

z: source of expenditure shares data with u (EU-HBS), e (EMSD) n (national HBS), a (admin data)
M: version of matching (correlative number), f: source of SILC dataset (National, UDB, ESMD): a, b or c
N: version of SILC processing (correlative number)

These extended EUROMOD files contain all the variables included in the standard EUROMOD input files plus the income shares of each consumption category included in HBS. For example, for countries with consumption disaggregation at 4 COICOP level (5 digits), there will be close

to 200 additional variables, each one with the income shares of expenditure (household level) for that particular consumption category (e.g. starting from the income share of rice consumption: xs_01111; bread: xs_01112, and so on and so forth). The number of additional variables depends on the granularity available in HBS, and it varies across countries).

For the case of Sweden, data SE_2022_b1, the number of variables included (income shares of expenditures, xs_c*) are 193, corresponding to the harmonized consumption categories defined at COICOP 2013 level 4 (five digits)

This database is an extension of the core EUROMOD input database, and so it is based on the same sample (i.e., same identifiers "idperson" and "idhh" to identify persons and households, respectively) and contains the same variables plus the income shares of expenditure (xs_* variables).

In Table 3.3 we present the share of households' consumption expenditures by product (and total) captured in our matched databases (extended EM input files) with respect to the original reported expenditures in HBS. The column that refers to the same year (in this case, HBS 2015 with Extended EM Input 2015) directly depends on the quality of the imputation procedure, while the comparison across different years is influenced not only by the matching noise but also by the changes in population characteristics and in the underlining distribution of income. Therefore, the coverage displayed in the second column is just informative but is not and should not be used to evaluate nor validate the imputation procedure.

Information on the coverage of these simulated expenditures (coming from the imputation of HBS 2015 to more recent SILC-based data) with respect to the expenditures reported by National Accounts is included in section 4 of this report, together with the other macro-validation results.

Below we summarize the main findings from the imputation validation checks for Sweden.

Table 3.3. Expenditure coverage of Extended EM Input files

COICOP group	HBS 2015 – Extended EM Input 2015	HBS 2015 – Extended EM Input 2022
1	99%	106%
2	83%	78%
3	74%	99%
4	108%	124%
5	98%	98%
6	136%	155%
7	115%	114%
8	121%	131%
9	118%	123%
10	36%	132%
11	122%	135%
12	105%	118%

Total	**101%**	**118%**

The expenditure coverage of the matched datasets show us that the performance of the matched dataset between SILC 2015 – HBS 2015 is rather good, where the average expenditure is 101%. The matched dataset with SILC 2022 however, shows an overestimation of 18% of total expenditures compared to HBS 2015, with sever overestimation for COICOP categories 6,8,10 and 11.

Please note that, due to the lack of information in the HBS files distributed by Eurostat, there is no consumption reported at 5-digit COICOP level for the following 3-digit codes:

CP044, CP102, CP104 and CP105.

Positive consumption might exist for 3-digit or 4-digit levels, but EUROMOD uses only 5-digit values.

4. VALIDATION

4.1 Aggregate Validation

EUROMOD results are validated against external benchmarks. Detailed comparisons of the number of people receiving a given income component and total yearly amounts are shown in Annex 3. Both market incomes and non-simulated taxes and benefits in the input dataset as well as 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. Some factors that may explain the observed differences are also discussed.

The macro-validation takes place compared to publicly published aggregate statistics. This means that macro-level benchmarks are not available for all (reported or simulated) indicators from the EUROMOD model. Furthermore, it should be noted that there can be differences in for instance sample or income definitions that are used in EUROMOD compared to what is used for national reporting of macro-level statistics in Sweden.

4.1.1 Components of disposable income

The definition of disposable income in EUROMOD follows closely EU-SILC definition. The minor differences are outlined in the following table. Note that disposable income in EUROMOD is constructed using simulated components whenever possible and, hence, the values of two disposable income concepts are not identical.

Table 4.1 Components of disposable income

	EUROMOD 2020-2024	EU-SILC 2020
	ils_dispy	HY020
Employee cash or near cash income	+	+
Employer's social insurance contribution	0	0
Company car	0	+
Contributions to individual private pension plans	0	0
Cash benefits or losses from self-employment	+	+
Pension from individual private plans	+	+
Unemployment benefits	+	+
Old-age benefits	+	+
Survivor' benefits	+	+
Sickness benefits	+	+
Disability benefits	+	+
Education-related allowances	+	+
Income from rental of a property or land	+	+
Family/children related allowances	+	+
Social exclusion not elsewhere classified	+	+
Housing allowances	+	+
Regular inter-household cash transfer received	+	+
Interests, dividends, etc.	+	+
Income received by people aged under 16	+	+
Regular taxes on wealth	-	-
Regular inter-household cash transfer paid	-	-
Tax on income and social contributions	-	-
Repayments/receipts for tax adjustment	+	+

4.1.2 Validation of incomes inputted into the simulation

Information about income components from the underlying EUROMOD data (Swedish component of EU-SILC) are compared to information on income components (wages and various benefits) from Statistics Sweden. The comparison needs to be done with caution because the units of analysis and the exact income concepts in the survey and in the statistics are not always strictly comparable. Table A3.1 compares the number of recipients of different income components. The number of external statistics that could be gathered w.r.t the number of tax beneficiaries was limited. Both for employment income and private pension income the model approximates the external statistics rather good. Regarding the amounts, we observe that self-employment income is in the aggregate much lower in our model compared to the external statistics, whilst the aggregate amount of employment income almost perfectly matches that of the employed individuals. As no direct external statistic was obtained for the self-employment income, it is likely that part of this discrepancy come from the crudeness of how the aggregate self-employment income was approximated in the external statistics.

4.1.3 Validation of tax and benefit instruments

Tables A3.3 and A3.4 report the validation of tax instruments and social security contributions simulated in EUROMOD. Table A3.5 and A3.6 report numbers and amounts of benefits receipt. We observe often a slight over-estimation of the number of benefit recipients. In 2023, this is most notable for housing allowances for pensioners and the general health benefit. In 2023, the general housing policy overestimates the number of recipients by 72%. The over-estimation is in-line with the expectations and is likely to be related to the non-take-up of benefits. For the

survivors pensions we see however a sever under-estimation of the number of recipients. This might be due to assumptions made in the model due to data scarcity.

In terms of personal income tax, we simulate: Government Tax, County Council Tax, Municipality Tax, funeral tax and Earned Income Tax Credit, but can only validate a limited number of these because of data availability. Other Swedish taxes, such as the funeral tax of the distinction between municipal and government income taxes, is not available in the EUROMOD simulations. For the tax policies that could be macro-validated, the number of tax payers are generally underestimated. This bias represents an underestimate of 16% for income tax. We were unable to get external statistics for the number of capital tax payers for the years 2021-2024, but in previous years EUROMOD has over-estimated the number of capital tax payer by around 26%, possibly because EUROMOD does not account for increases in capital gain and because of the data quality w.r.t financial assets held by the households. We were unable to get external statistics for the number of individuals paying social security contributions. In terms of the amounts of taxes paid, the underestimations represent 37% for income taxes, 24% for property tax and 51% for capital taxes in 2023.Data quality w.r.t financial assets held by the households is most likely to explain the poor performance w.r.t capital taxes.

The social security contributions for employees and employers seems to perform rather good on average, except for the employers special wage tax, where there is an overestimation of 370%.

4.2 Income distribution

All income distribution results presented are computed for individuals according to their household disposable income (HDI) equivalised by the "modified OECD" equivalence scale. HDI are 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 people aged 14+ = 0.5; additional people aged under 14 = 0.3

4.2.1 Income inequality

Table A3.7 shows the main inequality indices from EUROMOD and SILC. Gini coefficient for Disposable income is underestimated in EUROMOD by 4 percentage points for 2022. Similarly the S80/20 ratio is underestimated as well. Looking at the different income deciles, we see that compared to external statistics we are overestimating the income for low-income households, and underestimating it for the highest deciles, which explains the underestimation of the Gini coefficient and S80/20 index.

4.2.2 Poverty rates

The overall relative poverty rate based on disposable income simulated in EUROMOD somewhat underestimates the one based on disposable income reported in EU-SILC (Table A3.8 in Annex 3). The differences are larger with the lowest poverty line (48% of median equivalised household income) and in the case of elderly poverty. The latter can be affected by the over-simulation of the housing allowances and social assistance resulting in lower poverty rates simulated by

EUROMOD.[9] Furthermore, looking at the median of equivalised disposable income in table A3.7, we see that the simulated value is much lower for 2021 and 2022, which leads to a lower poverty threshold and hence leads to an underestimation of households being at risk of living in poverty.

4.3 Validation of minimum wage

Baseline simulations in EUROMOD do not modify gross employment income in any way. However, the user may switch on a policy that 'corrects' employment income by ensuring it is not below the gross minimum wage corresponding to the number of hours the person has worked. In the case of Sweden; however, because there is not statutory minimum wage, the default censoring minimum wage is set at 0 and therefore it does not affect results in any way. The user might choose to modify this.

4.4 Summary of "health warnings"

This final section summarises the main findings in terms of particular aspects of the Swedish part of EUROMOD that should be borne in mind when planning appropriate uses of the model and in interpreting the results. In particular:

- Some aggregated variables available in the survey are very difficult to split without having access to the original source of data (in particular, parents' allowance at birth, income from capital and property income)
- The lack of information related to negative capital income (with the exception of the interests paid on the mortgage for the main house) and other expenditures affects the simulation of some tax credits
- The identification of those subject to self-employment social contributions is problematic as well as the correct definition of the tax base of the self-employment social contributions
- The assumption of 100% take-up of means-test benefit overestimates both recipients and amount of these benefits.
- The simulation of parental benefits is switched off in the baseline (therefore, those observed in the data are used).
- The simulation of monetary compensation schemes (bwkmcee_s and yemmc_s) is triggered by the simulation of labour market transitions defined in policy TransLMA_se. 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 2020 to be higher than disposable income in previous years.

[9] When self-reported Housing allowance and Social assistance are used instead of the simulated amounts, the difference between EUROMOD and SILC poverty rates for the elderly are considerably reduced.

4.5 Avenues for future improvements of the Swedish model in EUROMOD

The current national team made a number of improvements to the Swedish model in EUROMOD after taking over in 2022. They have further identified a number of possible improvements to the policy model that will require more resources than currently available. An evaluation of the anticipated improvement of the simulation, feasibility in terms of input-information, and priorities is required, in addition to extensive testing and evaluation after implementation. We record these suggestions here.

Income concepts IlsDef_se

Identify why *Maintenance Payment* (4.1.10) is subtracted from Original Income and if this is how it should be. Our reasoning is that this procedure results in an income concept (and, by extension, poverty and inequality indicators) that mix income and consumption/expenditure.

Unemployment benefit (contributory) bunct_se

Identify why the unemployment benefit (14.3.1) max-function has been turned off and if it should be turned back on again.

Parental benefit bfapl_se

Consider assigning parental leave benefit (15.20) to the mother instead of to the head of the household. Assigning it to the mother will be more in line with how parental leave is divided in practice (irrespective of who's heading the household).

Housing allowance bho_se

The simulation of this policy calculates housing allowance for families with cohabiting parents. 23.6 concerns 'female partners' and 23.7 concerns 'male partners'. Consider making this gender neutral, i.e. partner 1 and partner 2, irrespective of their sex/gender.

Consider allocating housing allowance on a monthly basis as opposed to on an annual basis, as the amount in 23.9.1 was a temporary covid-19 related add-on paid out for the later half of 2020, 2021 and 2022.

Housing allowance for pensioners bhope_se:

Old-age pensioners and disability pensioners are included in the same calculations. Consider separating the calculations, as these are in fact two separate policies. Housing allowance for old-age pensioners is managed by the Swedish Pension Agency (*Pensionsmyndigheten*), and the housing allowance for disability pensioners is managed by the Swedish Social Insurance Agency (*Försäkringskassan*).

Social assistance bsamt_se

We have included the additional amount received by 19-20-year-olds for the years 2016-20. Identify whether the variable needs to be updated also for years prior to 2016.

5. REFERENCES

EUROSTAT Statistics Database (2020).
http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database

Statistics Sweden (2020) "National Reference Metadata in ESS Standard for Quality Reports Structure". https://circabc.europa.eu/faces/jsp/extension/wai/navigation/container.jsp

- ***Sources for tax-benefit descriptions/rules***

Vår trygghet 2009, Vår trygghet 2010, Vår trygghet 2011, Vår trygghet 2012.
Handledning för beskattning av inkomst vid 2009 års taxering Del 1, Del2, Del 3

Handledning för beskattning av inkomst vid 2010 års taxering Del 1, Del2, Del 3

ANNEX 1. UPRATING FACTORS

Variable name	Factor reference name	2019	2020	2021	2022	2023	2024	Source and explanation
Harmonized consumer price index (index 2015=100)	$HICP	106.93	107.63	110.49	119.39	126.44	128.76	EUROSTAT; the values of 2024 is based on values in September https://ec.europa.eu/eurostat/databrowser/view/prc_hicp_midx/default/table?lang=en&category=prc.prc_hicp
Consumer price index	$f_cpi	334.26	335.92	343.19	371.91	403.70	414,57	SCB; The values of 2024 is based on values in September https://www.scb.se/hitta-statistik/statistik-efter-amne/priser-och-konsumtion/konsumentprisindex/konsumentprisindex-kpi/pong/tabell-och-diagram/konsumentprisindex-kpi/kpi-faststallda-tal-1980100/
HICP - actual rentals for housing (index 2015=100)	$f_house	102.82	104.69	106.61	108.16	113.80	120.32	Eurostat; https://ec.europa.eu/eurostat/databrowser/view/prc_hicp_aind__custom_13540745/default/table?lang=en (annual) https://ec.europa.eu/eurostat/databrowser/view/prc_hicp_midx__custom_13540822/default/table?lang=en (monthly, for 2024)
Average monthly salary, SEK	$f_wage	34000	34700	35600	36800	38300	39900	https://www.statistikdatabasen.scb.se/pxweb/sv/ssd/START__AM__AM0110__AM0110A/LoneSpridSektorYrk4A/table/tableViewLayout1/. In EUROMOD 2.0+ these numbers are the same but the source is not updated as here.
Hourly wage, SEK	$f_xlon	255,6	267,7	276,4	285,4	296,2	307,7	http://prognos.konj.se/PXWeb/pxweb/sv/SenastePrognosen/SenastePrognosen__f30_lonerochkonsumentpriser/F3004.px/table/tableViewLayout1/?rxid=265ee5d8-b549-41b2-81aa-5cecea3bf826 (value for 2024 is a prediction).
Price base amount	$f_xbasm	46500	47300	47600	48300	52500	57300	http://www.statistikdatabasen.scb.se/pxweb/sv/ssd/START__PR__PR0101__PR0101E/Basbeloppet/?rxid=1df81ffb-6943-4796-a5d5-4b5e900d58b3
Income base amount	$f_xbasmi	64400	66800	68200	71000	74300	76200	https://www.regeringen.se/artiklar/2021/11/inkomstbasbelopp-och-inkomstindex-for-ar-2022-faststallt/

Aggregate income from capital, millions of SEK	$f_yiy	143290	141530	141052				Forecast made by the FASIT model
Aggregate income from property, millions of SEK	$f_ypr	2443	2469	2515				Forecast made by the FASIT modell
Unit index	$f_unit	1	1	1	1	1	1	
Pension Index (new)	$f_pen	175.96	182.58	186.52	194.19	203.13	208.41	https://www.regeringen.se/artiklar/2023/11/inkomstbasbelopp-och-inkomstindex-for-ar-2024-faststallt/

ANNEX 2. POLICY EFFECTS IN 2023-2024

Preliminary: Indexation based on projected HICP for 2024

Table A2.1 and Figure A2.1 show the effect of 2024 policies on mean equivalised household disposable income by income component and income decile group. The effect is estimated as a difference between simulated household net income under the 2023 tax-benefit policies (deflating monetary parameters by projected Harmonized Index of Consumer Prices, HICP) and net incomes simulated under 2024 policies, as a percentage of mean equivalised household disposable income in 2023.

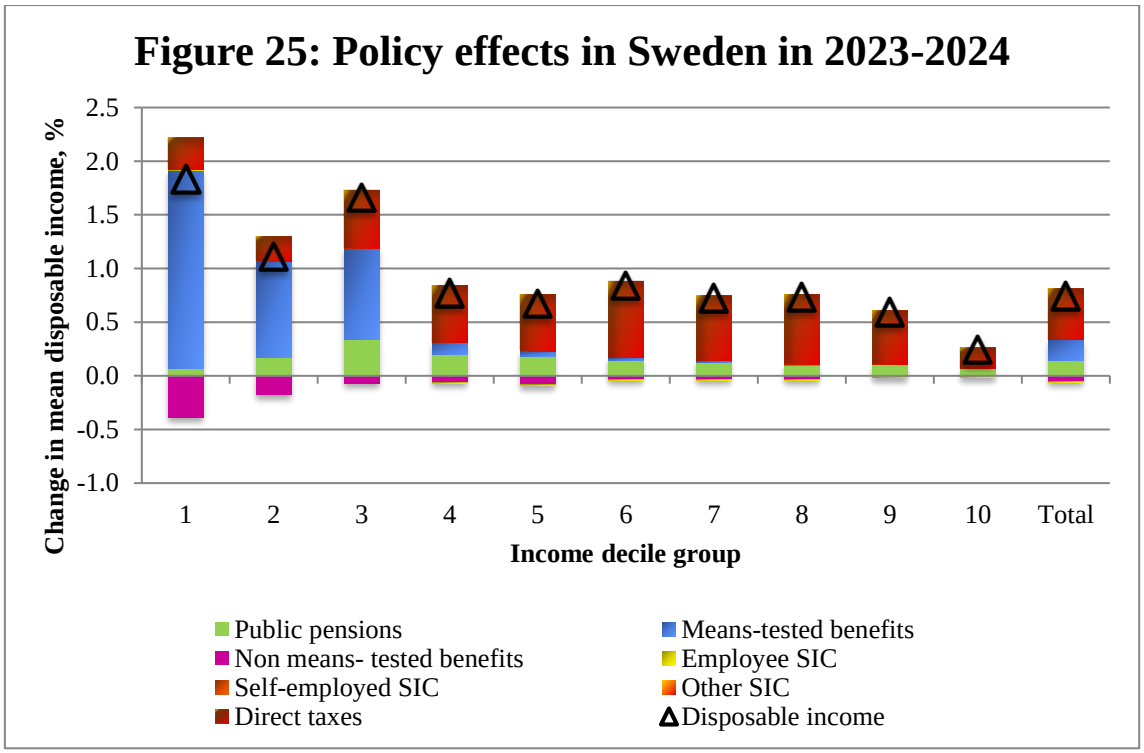
In comparison to 2023 policies, (deflated) 2024 policies increase mean household income by 0.74% in total. The increase is mostly progressive with lower income deciles seeing a stronger increase than the higher ones. The main drivers of this impact are an increase in means-tested benefits and a decrease in direct taxes.

Table A2.1: Policy effects in 2023-2024

Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
0	0.07	1.84	-0.39	0.01	0	0	0.3	1.83
0	0.17	0.9	-0.18	0	0	0	0.23	1.11
0	0.34	0.85	-0.07	0	0	0	0.54	1.66
0	0.2	0.11	-0.06	-0.01	0	0	0.53	0.77
0	0.18	0.05	-0.08	-0.01	0	0	0.53	0.67
0	0.14	0.03	-0.03	-0.01	0	0	0.71	0.84
0	0.12	0.02	-0.03	-0.01	0	0	0.61	0.72
0	0.1	0.01	-0.03	-0.01	0	0	0.65	0.73
0	0.11	0	-0.01	-0.01	0	0	0.5	0.59
0	0.07	0	0	-0.02	0	0	0.19	0.24
0	**0.14**	**0.2**	**-0.05**	**-0.01**	**0**	**0**	**0.47**	**0.74**

Notes: 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 2023 using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2024 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).

Figure A2.1: Policy effects in 2023-2024, using the CPI-indexation



ANNEX 3. VALIDATION TABLES

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

	Simulated	EUROMOD				External				Ratio			
	(Y / N)	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024
Earnings (ils_earns)													
income : employment (yem)	N	5,648	5,648	5,648	5,648	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
income : self employment (yse)	N	797	797	797	797	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
CODIV-19 compensation paid by the firm (yemmc_s)	Y	0	0	0	0	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Other original income (ils_origy - ils_earns)													
Investment income (yiy)	N	5,477	5,477	5,477	5,477	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Other income (yot)	N	662	662	662	662	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Property income (ypr)	N	109	109	109	109	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
private pension (ypp)	N	777	777	777	777	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
private transfers (ypt)	N	497	497	497	497	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
maintenance payment (xmp)	N	1,114	1,114	1,114	1,114	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN

Continued...

	Source	Comments
Earnings (ils_earns)		
income : employment (yem)	https://www.statistikdatabasen.scb.se/pxweb/en/ssd/START__AM__AM0302__AM0302A/LSUMLan/	Gross pay
income : self employment (yse)	https://www.statistikdatabasen.scb.se/pxweb/en/ssd/START__NR__NR0103__NR0103E/NR0103ENS20	labor costs (with SIC and tax) - yem
CODIV-19 compensation paid by the firm (yemmc_s)	-	-
Other original income (ils_origy - ils_earns)		
Investment income (yiy)	-	-
Other income (yot)	-	-
Property income (ypr)	-	-
private pension (ypp)	-	-
private transfers (ypt)	-	-
maintenance payment (xmp)	-	-

Table A3.2. Original income in EUROMOD - Annual amounts (millions)

	Simulated	EUROMOD				External				Ratio			
	(Y / N)	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024
Earnings (ils_earns)													
income : employment (yem)	N	1,960,930	2,015,391	2,098,405	2,184,785	1,996,200	NaN	NaN	NaN	0.98	NaN	NaN	NaN
income : self employment (yse)	N	61,507	61,507	61,507	61,507	1,056,191	NaN	NaN	NaN	0.06	NaN	NaN	NaN
CODIV-19 compensation paid by the firm (yemmc_s)	Y	0	0	0	0	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Other original income (ils_origy - ils_earns)													
Investment income (yiy)	N	120,922	120,922	120,922	120,922	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Other income (yot)	N	1,173	1,173	1,173	1,173	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Property income (ypr)	N	6,029	6,514	6,899	6,987	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
private pension (ypp)	N	32,138	32,138	32,138	32,138	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
private transfers (ypt)	N	19,236	19,236	19,236	19,236	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
maintenance payment (xmp)	N	25,824	25,824	25,824	25,824	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN

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

	Simulated	EUROMOD				SILC				Ratio				External				Ratio			
	(Y / N)	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024
Direct taxes (ils_tax)																					
Income tax (tin_s)	Y	7,330	7,084	7,067	7,049	0	0	0	0	0.00	0.00	0.00	0.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Tax on capital income (tinkt_s)	Y	3,514	3,491	3,454	3,447	0	0	0	0	0.00	0.00	0.00	0.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Property tax (tpr)	N	2,881	2,881	2,881	2,881	2,881	2,881	2,881	2,881	1.00	1.00	1.00	1.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Employee Social Insurance Contributions (ils_sicee)																					
employee SIC (tscee_s)	Y	5,427	5,430	5,420	5,408	0	0	0	0	0.00	0.00	0.00	0.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Self-employed Social Insurance Contributions (ils_sicse)																					
Self-employed sickness SIC (tscsesi_s)	Y	141	138	137	134	0	0	0	0	0.00	0.00	0.00	0.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Self-employed Retirement benefit programme SIC (tscsepi_s)	Y	155	151	149	147	0	0	0	0	0.00	0.00	0.00	0.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Self-employed Life insurance SIC (tscseci_s)	Y	141	138	137	134	0	0	0	0	0.00	0.00	0.00	0.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Self-employed Work injury insurance SIC (tscseac_s)	Y	141	138	137	134	0	0	0	0	0.00	0.00	0.00	0.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Self-employed Labour market contribution SIC (tscseir_s)	Y	141	138	137	134	0	0	0	0	0.00	0.00	0.00	0.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Self-employed Ordinary wage tax (tscseot_s)	Y	141	138	137	134	0	0	0	0	0.00	0.00	0.00	0.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Self-employed Parental leave programme SIC (tscseml_s)	Y	141	138	137	134	0	0	0	0	0.00	0.00	0.00	0.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Employer Social Insurance Contributions (ils_sicer)																					
Employer Sickness insurance SIC (tscersi_s)	Y	5,299	5,303	5,304	5,305	0	0	0	0	0.00	0.00	0.00	0.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Employer Retirement benefit programme SIC (tscerpi_s)	Y	5,620	5,628	5,629	5,631	0	0	0	0	0.00	0.00	0.00	0.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Employer Life insurance SIC (tscerci_s)	Y	5,299	5,303	5,304	5,305	0	0	0	0	0.00	0.00	0.00	0.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Employer Work injury insurance SIC (tscerac_s)	Y	5,299	5,303	5,304	5,305	0	0	0	0	0.00	0.00	0.00	0.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Employer Labour market contribution SIC (tscerir_s)	Y	5,299	5,303	5,304	5,305	0	0	0	0	0.00	0.00	0.00	0.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Employer Special wage tax (tscerot_s)	Y	5,299	5,303	5,304	5,305	0	0	0	0	0.00	0.00	0.00	0.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Employer Parental leave programme SIC (tscerml_s)	Y	5,299	5,303	5,304	5,305	0	0	0	0	0.00	0.00	0.00	0.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Employer SIC reduction (tscerrd_s)	Y	647	647	648	649	0	0	0	0	0.00	0.00	0.00	0.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Credited Contributions (ils_sicct)																					

	Simulated	EUROMOD				SILC				Ratio				External				Ratio			
	(Y / N)	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024
Other Contributions (ils_sicot)																					

Continued...

	Source	Comments
Direct taxes (ils_tax)		
Income tax (tin_s)	https://www.esv.se/press-och-publicerat/publikationer/2023/tidsserier-statens-	-
Tax on capital income (tinkt_s)	https://www.esv.se/press-och-publicerat/publikationer/2023/tidsserier-statens-	line 1311
Property tax (tpr)	https://www.esv.se/press-och-publicerat/publikationer/2023/tidsserier-statens-	line 1350
Employee Social Insurance Contributions (ils_sicee)		
employee SIC (tscee_s)	https://www.esv.se/press-och-publicerat/publikationer/2023/tidsserier-statens-	-
Self-employed Social Insurance Contributions (ils_sicse)		
Self-employed sickness SIC (tscsesi_s)	-	-
Self-employed Retirement benefit programme SIC (tscsepi_s)	-	-
Self-employed Life insurance SIC (tscseci_s)	-	-
Self-employed Work injury insurance SIC (tscseac_s)	-	-
Self-employed Labour market contribution SIC (tscseir_s)	-	-
Self-employed Ordinary wage tax (tscseot_s)	-	values copied from 2023 to 2024
Self-employed Parental leave programme SIC (tscseml_s)	-	-
Employer Social Insurance Contributions (ils_sicer)		
Employer Sickness insurance SIC (tscersi_s)	https://www.esv.se/press-och-publicerat/publikationer/2023/tidsserier-statens-budget-m.m.-2022	changed - to line 1211
Employer Retirement benefit programme SIC (tscerpi_s)	https://www.esv.se/press-och-publicerat/publikationer/2023/tidsserier-statens-budget-m.m.-2022	changed - to line 1214
Employer Life insurance SIC (tscerci_s)	-	-
Employer Work injury insurance SIC (tscerac_s)	https://www.esv.se/press-och-publicerat/publikationer/2023/tidsserier-statens-budget-m.m.-2022	line 1213
Employer Labour market contribution SIC (tscerir_s)	https://www.esv.se/press-och-publicerat/publikationer/2023/tidsserier-statens-budget-m.m.-2022	line 1216
Employer Special wage tax (tscerot_s)	https://www.esv.se/press-och-publicerat/publikationer/2023/tidsserier-statens-	line 1270
Employer Parental leave programme SIC (tscerml_s)	https://www.esv.se/press-och-publicerat/publikationer/2023/tidsserier-statens-budget-m.m.-2022	line 1212
Employer SIC reduction (tscerrd_s)	-	-

Continued...

Source	Comments
Credited Contributions (ils_sicct)	
Other Contributions (ils_sicot)	

Table A3.4. Direct taxes and SIC - Annual amounts (millions)

	Simulated	EUROMOD				SILC				Ratio				External				Ratio			
	(Y / N)	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024
Direct taxes (ils_tax)																					
Income tax (tin_s)	Y	585,122	588,079	592,178	606,810	0	0	0	0	0.00	0.00	0.00	0.00	862,763	905,055	NaN	NaN	0.68	0.65	NaN	NaN
Tax on capital income (tinkt_s)	Y	35,344	35,352	35,321	35,307	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	125,731	112,372	NaN	NaN	0.28	0.31	NaN	NaN
Property tax (tpr)	N	30,018	30,018	30,018	30,018	30,018	30,018	30,018	30,018	1.00	1.00	1.00	1.00	36,084	37,501	NaN	NaN	0.83	0.80	NaN	NaN
Employee Social Insurance Contributions (ils_sicee)																					
employee SIC (tscee_s)	Y	130,504	134,633	140,337	145,386	0	0	0	0	0.00	0.00	0.00	0.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Self-employed Social Insurance Contributions (ils_sicse)																					
Self-employed sickness SIC (tscsesi_s)	Y	1,431	1,402	1,398	1,364	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Self-employed Retirement benefit programme SIC (tscsepi_s)	Y	4,400	4,306	4,292	4,197	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Self-employed Life insurance SIC (tscseci_s)	Y	236	231	230	225	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Self-employed Work injury insurance SIC (tscseac_s)	Y	79	77	77	75	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Self-employed Labour market contribution SIC (tscseir_s)	Y	39	39	38	37	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Self-employed Ordinary wage tax (tscseot_s)	Y	4,568	4,476	4,462	4,354	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Self-employed Parental leave programme SIC (tscseml_s)	Y	1,022	1,002	998	974	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Employer Social Insurance Contributions (ils_sicer)		609,677	627,101	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	629,339	669,426	NaN	NaN	0.97	0.94	NaN	NaN
Employer Sickness insurance SIC (tscersi_s)	Y	69,247	71,224	74,203	77,236	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	68,834	73,103	NaN	NaN	1.01	0.97	NaN	NaN
Employer Retirement benefit programme SIC (tscerpi_s)	Y	203,042	208,841	217,579	226,473	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	207,883	221,389	NaN	NaN	0.98	0.94	NaN	NaN
Employer Life insurance SIC (tscerci_s)	Y	11,704	12,038	12,541	13,054	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Employer Work injury insurance SIC (tscerac_s)	Y	3,901	4,013	4,180	4,351	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	3,878	4,118	NaN	NaN	1.01	0.97	NaN	NaN
Employer Labour market contribution SIC (tscerir_s)	Y	51,497	52,966	55,182	57,438	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	48,300	51,320	NaN	NaN	1.07	1.03	NaN	NaN
Employer Special wage tax (tscerot_s)	Y	226,663	233,132	242,883	252,813	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	51,865	55,137	NaN	NaN	4.37	4.23	NaN	NaN
Employer Parental leave programme SIC (tscerml_s)	Y	50,716	52,164	54,346	56,567	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	50,411	53,537	NaN	NaN	1.01	0.97	NaN	NaN
Employer SIC reduction (tscerrd_s)	Y	7,094	7,275	12,479	12,701	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	131,600	136,100	NaN	NaN	0.05	0.05	NaN	NaN

	Simulated	EUROMOD				SILC				Ratio				External				Ratio			
	(Y / N)	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024
Credited Contributions (ils_sicct)																					
Other Contributions (ils_sicot)																					

Table A3.5. Benefits - Number of recipients (thousands)

	Simulated	EUROMOD				SILC				Ratio				External				Ratio			
	(Y / N)	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024
Pensions (ils_pen)																					
old age pension (poa)	N	2,419	2,419	2,419	2,419	2,419	2,419	2,419	2,419	1.00	1.00	1.00	1.00	2,300	NaN	NaN	NaN	1.05	NaN	NaN	NaN
disability pension (pdi)	N	279	279	279	279	279	279	279	279	1.00	1.00	1.00	1.00	232	221	NaN	NaN	1.20	1.26	NaN	NaN
survivors pension (psu)	N	30	30	30	30	30	30	30	30	1.00	1.00	1.00	1.00	212	NaN	NaN	NaN	0.14	NaN	NaN	NaN
Means-tested benefits (ils_benmt)																					
Housing allowance (bho_s)	Y	316	308	294	279	657	657	657	657	0.48	0.47	0.45	0.43	264	191	NaN	NaN	1.20	1.61	NaN	NaN
Housing allowance for pensioners (bhope_s)	Y	668	683	807	853	0	0	0	0	0.00	0.00	0.00	0.00	346	NaN	NaN	NaN	1.93	NaN	NaN	NaN
Social Assistance (means-tested) (bsamt_s)	Y	430	440	483	510	183	183	183	183	2.35	2.41	2.65	2.79	341	NaN	NaN	NaN	1.26	NaN	NaN	NaN
Non-means-tested benefits (ils_bennt)																					
unemployment benefit simulated (switched off in the baseline) (bunct_s)	Y	0	0	0	0	293	293	293	293	0.00	0.00	0.00	0.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
unemployment benefit data (contributory). Before 2017 ds it actually also contains bunnc because it cannot be separated. (bunct)	N	293	293	293	293	293	293	293	293	1.00	1.00	1.00	1.00	313	242	NaN	NaN	0.94	1.21	NaN	NaN
unemployment benefit data (non-contributory). Before 2017 ds is 0 because it cannot be separated from bunct. (bunnc)	N	277	277	277	277	277	277	277	277	1.00	1.00	1.00	1.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
health benefit (bhl)	N	2,257	2,257	2,257	2,257	2,257	2,257	2,257	2,257	1.00	1.00	1.00	1.00	620,838	619,975	NaN	NaN	0.00	0.00	NaN	NaN
education allowance (bed)	N	622	622	622	622	622	622	622	622	1.00	1.00	1.00	1.00	592	NaN	NaN	NaN	1.05	NaN	NaN	NaN
child benefit (bch_s)	Y	2,089	2,089	2,089	2,089	1,646	1,646	1,646	1,646	1.27	1.27	1.27	1.27	1,659	1,602	NaN	NaN	1.26	1.30	NaN	NaN
Parents' allowance at birth (bpl)	N	924	924	924	924	924	924	924	924	1.00	1.00	1.00	1.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Parental leave benefit (PARBEN) (bfapl_s)	Y	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	824	812	NaN	NaN	0.00	0.00	NaN	NaN
Paternity benefit (PARBEN) (bpa_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
Social Assistance (not means-tested). Before 2017 ds is 0 because it cannot be separated from bsamt. (bsanm)	N	35	35	35	35	35	35	35	35	1.00	1.00	1.00	1.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
COVID-19 compensation paid by the State (bwkmcee_s)	Y	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	42	NaN	NaN	NaN	0.00	NaN	NaN	NaN

Continued...

	Source	Comments
Pensions (ils_pen)		
old age pension (poa)	https://www.statistikdatabasen.scb.se/pxweb/en/ssd/START__NR__NR0110/ESS	2021 from SCB
disability pension (pdi)	https://www.statistikdatabasen.scb.se/pxweb/en/ssd/START__NR__NR0110/ESS	new
survivors pension (psu)	-	-
Means-tested benefits (ils_benmt)		
Housing allowance (bho_s)	https://www.forsakringskassan.se/statistik-och-analys/statistikdatabas#!/	NEW
Housing allowance for pensioners (bhope_s)	https://www.esv.se/press-och-publicerat/publikationer/2023/tidsserier-statens-budget-m.m.-2022	new
Social Assistance (means-tested) (bsamt_s)	-	-
Non-means-tested benefits (ils_bennt)		
unemployment benefit simulated (switched off in the baseline) (bunct_s)	-	-
unemployment benefit data (contributory). Before 2017 ds it actually also contains bunnc because it cannot be separated. (bunct)	https://www.forsakringskassan.se/statistik-och-analys/barn-och-familj/statistik-inom-omradet-barn-och-familj---foraldrapenning	DIFFERENT, sum of establishment compensation and activity support
unemployment benefit data (non-contributory). Before 2017 ds is 0 because it cannot be separated from bunct. (bunnc)	-	-
health benefit (bhl)	https://www.forsakringskassan.se/statistik-och-analys/statistikdatabas#!/	NEW
education allowance (bed)	-	-
child benefit (bch_s)	https://www.forsakringskassan.se/statistik-och-analys/statistikdatabas#!/	-
Parents' allowance at birth (bpl)	-	-
Parental leave benefit (PARBEN) (bfapl_s)	https://www.forsakringskassan.se/statistik-och-analys/barn-och-familj/statistik-inom-omradet-barn-och-familj---foraldrapenning	-
Paternity benefit (PARBEN) (bpa_s)	-	-
Social Assistance (not means-tested). Before 2017 ds is 0 because it cannot be separated from bsamt. (bsanm)	-	-
COVID-19 compensation paid by the State (bwkmcee_s)	-	-

Table A3.6. Benefits - Annual amounts (million)

	Simulated	EUROMOD				SILC				Ratio				External				Ratio			
	(Y / N)	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024
Pensions (ils_pen)																					
old age pension (poa)	N	511,221	532,243	556,746	571,218	511,221	511,221	511,221	511,221	1.00	1.04	1.09	1.12	533,076	NaN	NaN	NaN	0.96	NaN	NaN	NaN
disability pension (pdi)	N	30,345	31,592	33,047	33,906	30,345	30,345	30,345	30,345	1.00	1.04	1.09	1.12	41,853	NaN	NaN	NaN	0.73	NaN	NaN	NaN
survivors pension (psu)	N	1,166	1,214	1,270	1,303	1,166	1,166	1,166	1,166	1.00	1.04	1.09	1.12	725	690	NaN	NaN	1.61	1.76	NaN	NaN
Means-tested benefits (ils_benmt)		57,134	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	34,193	NaN	NaN	NaN	1.67	NaN	NaN	NaN
Housing allowance (bho_s)	Y	8,382	8,209	8,309	8,120	17,751	17,751	17,751	17,751	0.47	0.46	0.47	0.46	5,019	4,126	NaN	NaN	1.67	1.99	NaN	NaN
Housing allowance for pensioners (bhope_s)	Y	25,380	28,175	34,407	38,577	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	10,595	11,899	NaN	NaN	2.40	2.37	NaN	NaN
Social Assistance (means-tested) (bsamt_s)	Y	23,372	25,352	29,469	32,029	12,923	12,923	12,923	12,923	1.81	1.96	2.28	2.48	11,644	10,762	10,387	NaN	2.01	2.36	2.84	NaN
Non-means-tested benefits (ils_bennt)																					
unemployment benefit simulated (switched off in the baseline) (bunct_s)	Y	0	0	0	0	19,571	19,571	19,571	19,571	0.00	0.00	0.00	0.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
unemployment benefit data (contributory). Before 2017 ds it actually also contains bunnc because it cannot be separated. (bunct)	N	19,571	20,473	21,041	21,908	19,571	19,571	19,571	19,571	1.00	1.05	1.08	1.12	20,564	17,558	NaN	NaN	0.95	1.17	NaN	NaN
unemployment benefit data (non-contributory). Before 2017 ds is 0 because it cannot be separated from bunct. (bunnc)	N	17,208	17,208	17,208	17,208	17,208	17,208	17,208	17,208	1.00	1.00	1.00	1.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
health benefit (bhl)	N	49,040	50,402	52,478	54,638	49,040	49,040	49,040	49,040	1.00	1.03	1.07	1.11	34,403	39,397	NaN	NaN	1.43	1.28	NaN	NaN
education allowance (bed)	N	39,353	39,353	39,353	39,353	39,353	39,353	39,353	39,353	1.00	1.00	1.00	1.00	40,481	NaN	NaN	NaN	0.97	NaN	NaN	NaN
child benefit (bch_s)	Y	36,394	36,394	36,394	36,394	35,947	35,947	35,947	35,947	1.01	1.01	1.01	1.01	33,390	33,157	NaN	NaN	1.09	1.10	NaN	NaN
Parents' allowance at birth (bpl)	N	33,256	33,256	33,256	33,256	33,256	33,256	33,256	33,256	1.00	1.00	1.00	1.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Parental leave benefit (PARBEN) (bfapl_s)	Y	0	0	0	0	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	35,180	32,526	NaN	NaN	0.00	0.00	NaN	NaN
Paternity benefit (PARBEN) (bpa_s)	Y	0	0	0	0	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Social Assistance (not means-tested). Before 2017 ds is 0 because it cannot be separated from bsamt. (bsanm)	N	2,089	2,089	2,089	2,089	2,089	2,089	2,089	2,089	1.00	1.00	1.00	1.00	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
COVID-19 compensation paid by the State (bwkmcee_s)	Y	0	0	0	0	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	9,508	NaN	NaN	NaN	0.00	NaN	NaN	NaN

Table A3.7. Distribution of equivalised disposable income

	EUROMOD				External				Ratio			
	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024
Decile 1	3.70	3.74	3.77	3.78	2.80	2.60	NaN	NaN	1.32	1.44	NaN	NaN
Decile 2	5.62	5.68	5.75	5.78	5.40	5.30	NaN	NaN	1.04	1.07	NaN	NaN
Decile 3	6.63	6.68	6.75	6.75	6.50	6.40	NaN	NaN	1.02	1.04	NaN	NaN
Decile 4	7.76	7.79	7.74	7.74	7.70	7.50	NaN	NaN	1.01	1.04	NaN	NaN
Decile 5	8.74	8.75	8.71	8.72	8.70	8.50	NaN	NaN	1.00	1.03	NaN	NaN
Decile 6	9.77	9.79	9.74	9.75	9.80	9.60	NaN	NaN	1.00	1.02	NaN	NaN
Decile 7	10.94	10.95	10.90	10.92	11.00	10.70	NaN	NaN	0.99	1.02	NaN	NaN
Decile 8	12.26	12.25	12.23	12.24	12.40	12.10	NaN	NaN	0.99	1.01	NaN	NaN
Decile 9	14.07	14.03	14.07	14.09	14.40	14.10	NaN	NaN	0.98	0.99	NaN	NaN
Decile 10	20.50	20.33	20.33	20.24	21.30	23.20	NaN	NaN	0.96	0.88	NaN	NaN
Median	269,586	278,602	290,979	302,276	271,298	289,655	NaN	NaN	0.99	0.96	NaN	NaN
Mean	283,453	293,922	309,000	321,224	294,991	319,746	NaN	NaN	0.96	0.92	NaN	NaN
Gini	25.49	25.18	25.08	25.00	27.60	29.50	NaN	NaN	0.92	0.85	NaN	NaN
S80/20	3.71	3.65	3.61	3.59	4.34	4.73	NaN	NaN	0.85	0.77	NaN	NaN

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

	EUROMOD				External				Ratio			
	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024
40% median HDI by sex												
Total	3.18	3.06	2.77	2.83	5.60	5.80	NaN	NaN	0.57	0.53	NaN	NaN
Males	3.31	3.24	2.90	2.95	5.80	5.80	NaN	NaN	0.57	0.56	NaN	NaN
Females	3.06	2.87	2.64	2.72	5.50	5.80	NaN	NaN	0.56	0.50	NaN	NaN
50% median HDI by sex												
Total	7.84	7.65	7.56	7.62	9.30	10.00	NaN	NaN	0.84	0.76	NaN	NaN
Males	7.89	7.74	7.77	7.85	9.30	9.90	NaN	NaN	0.85	0.78	NaN	NaN
Females	7.78	7.55	7.35	7.39	9.30	10.10	NaN	NaN	0.84	0.75	NaN	NaN
60% median HDI by sex												
Total	14.24	13.46	13.11	13.12	16.00	16.10	NaN	NaN	0.89	0.84	NaN	NaN
Males	14.30	13.72	13.26	13.22	15.30	15.30	NaN	NaN	0.93	0.90	NaN	NaN
Females	14.17	13.20	12.95	13.02	16.80	17.00	NaN	NaN	0.84	0.78	NaN	NaN
70% median HDI by sex												
Total	23.29	22.54	20.95	20.60	24.40	24.10	NaN	NaN	0.95	0.94	NaN	NaN
Males	21.40	20.93	20.03	19.88	22.20	21.90	NaN	NaN	0.96	0.96	NaN	NaN
Females	25.21	24.18	21.89	21.33	26.50	26.30	NaN	NaN	0.95	0.92	NaN	NaN
60% median HDI by age group												
0-15 years	15.69	15.73	15.97	16.17	16.20	19.60	NaN	NaN	0.97	0.80	NaN	NaN
16-24 years	27.43	26.53	27.05	27.22	26.20	25.90	NaN	NaN	1.05	1.02	NaN	NaN
25-49 years	14.84	13.82	13.93	14.07	15.10	14.90	NaN	NaN	0.98	0.93	NaN	NaN
50-64 years	11.22	9.58	9.95	9.86	11.30	11.40	NaN	NaN	0.99	0.84	NaN	NaN
65+ years	8.15	7.86	5.12	4.79	15.90	13.90	NaN	NaN	0.51	0.57	NaN	NaN

Table A3.9. Consumption taxes (non-calibrated) - Annual amounts (millions)

	Simulated	EUROMOD				External				Ratio			
	(Y / N)	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024
Consumption-tax-related statistics non-calibrated (ils_extstat_ittncal)													
Aggregate expenditures non-calibrated (ils_extstat_ittncal_il_itt_expnc)													
01 Food and non-alcoholic beverages (il_x01)	Y	196,602	204,442	215,309	223,963	298,165	323,144	323,144	323,144	0.66	0.63	0.67	0.69
02 Alcoholic beverages, tobacco, etc. (il_x02)	Y	21,908	22,761	23,972	24,946	77,387	77,714	77,714	77,714	0.28	0.29	0.31	0.32
03 Clothing and footwear (il_x03)	Y	65,596	68,027	71,708	74,647	94,234	99,824	99,824	99,824	0.70	0.68	0.72	0.75
04 Housing, water and fuel (exc. imputed rent) (il_x04)	Y	347,440	361,711	381,470	397,061	362,837	397,428	397,428	397,428	0.96	0.91	0.96	1.00
05 Furnishings, household equipment, etc. (il_x05)	Y	86,311	89,418	94,011	97,814	160,588	164,161	164,161	164,161	0.54	0.54	0.57	0.60
06 Health (il_x06)	Y	49,649	51,688	54,859	57,118	70,860	73,425	73,425	73,425	0.70	0.70	0.75	0.78
07 Transport (il_x07)	Y	243,913	253,206	265,953	276,599	277,985	322,372	322,372	322,372	0.88	0.79	0.82	0.86
08 Communications (il_x08)	Y	65,742	68,360	71,919	74,824	74,855	76,892	76,892	76,892	0.88	0.89	0.94	0.97
09 Recreation and culture (il_x09)	Y	271,188	281,388	296,184	307,965	265,456	291,973	291,973	291,973	1.02	0.96	1.01	1.05
10 Education (il_x10)	Y	3,143	3,401	3,566	3,717	7,105	7,318	7,318	7,318	0.44	0.46	0.49	0.51
11 Hotels and restaurants (il_x11)	Y	76,508	79,365	83,625	87,017	134,130	176,910	176,910	176,910	0.57	0.45	0.47	0.49
12 Miscellaneous good and services (il_x12)	Y	119,647	124,622	131,242	136,388	258,405	273,073	273,073	273,073	0.46	0.46	0.48	0.50
Revenue from indirect taxes (non calibrated) (ils_extstat_ittncal_il_itt_revnc)													
VAT Total Revenue (il_tva)	Y	200,450	208,084	218,999	229,175	499,361	552,305	552,305	552,305	0.40	0.38	0.40	0.41
Excises Total Revenue (il_tx)	Y	52,485	35,069	42,988	51,020	100,547	NaN	NaN	NaN	0.52	NaN	NaN	NaN
Total excises (non calibrated) (ils_extstat_ittncal_il_itt_excnc)													
Revenues Excises 0211 - Spirits (il_tx0211)	Y	1,845	1,904	1,975	2,046	5,608	NaN	NaN	NaN	0.33	NaN	NaN	NaN
Revenues Excises 02121 - Still Wine (il_tx02121)	Y	2,557	2,596	2,725	2,875	6,501	NaN	NaN	NaN	0.39	NaN	NaN	NaN

	Simulated	EUROMOD				External				Ratio			
	(Y / N)	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024
Revenues Excises 02122 - Sparkling Wine (il_tx02122)	Y	0	0	0	0	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Revenues Excises 0213 - Beer (il_tx0213)	Y	2,033	2,082	2,158	2,330	4,546	NaN	NaN	NaN	0.45	NaN	NaN	NaN
Revenues Excises 022 - Tobacco (il_tx022)	Y	0	0	0	0	8,176	NaN	NaN	NaN	0.00	NaN	NaN	NaN
Revenues Excises 045 - Energy (electricity, natural gas, coal-coke) (il_tx045)	Y	10,034	7,528	10,060	11,829	27,660	NaN	NaN	NaN	0.36	NaN	NaN	NaN
Revenues Excises 0451 - Electricity (il_tx0451)	Y	8,364	6,500	8,889	10,514	27,183	NaN	NaN	NaN	0.31	NaN	NaN	NaN
Revenues Excises 04521 - Natural Gas (il_tx04521)	Y	0	0	0	0	444	NaN	NaN	NaN	0.00	NaN	NaN	NaN
Revenues Excises All Energy (il_tx045_072)	Y	46,050	28,486	36,130	43,768	75,716	NaN	NaN	NaN	0.61	NaN	NaN	NaN

Table A3.10. Consumption taxes (calibrated) - Annual amounts (millions)

	Simulated	EUROMOD				External				Ratio			
	(Y / N)	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024
Consumption-tax-related statistics calibrated (ils_extstat_ittcal)													
Revenue from indirect taxes (calibrated) (il_itt_revc)													
VAT Total Revenue (il_tva_na)	Y	271,358	296,875	314,414	322,056	499,361	552,246	552,364	NaN	0.54	0.54	0.57	NaN
Excises Total Revenue (il_tx_na)	Y	74,254	57,431	68,112	77,375	100,547	NaN	NaN	NaN	0.74	NaN	NaN	NaN
Total excises (calibrated) (il_itt_excc)													
Revenues Excises 0211 - Spirits (il_tx0211_na)	Y	6,517	6,502	6,779	6,884	5,608	NaN	NaN	NaN	1.16	NaN	NaN	NaN
Revenues Excises 02121 - Still Wine (il_tx02121_na)	Y	9,031	8,864	9,357	9,671	6,501	NaN	NaN	NaN	1.39	NaN	NaN	NaN
Revenues Excises 02122 - Sparkling Wine (il_tx02122_na)	Y	0	0	0	0	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Revenues Excises 0213 - Beer (il_tx0213_na)	Y	7,180	7,110	7,410	7,839	4,546	NaN	NaN	NaN	1.58	NaN	NaN	NaN
Revenues Excises 022 - Tobacco (il_tx022_na)	Y	0	0	0	0	8,176	NaN	NaN	NaN	0.00	NaN	NaN	NaN
Revenues Excises 045 - Energy (electricity, natural gas, coal-coke) (il_tx045_na)	Y	10,479	8,272	11,100	12,785	27,660	NaN	NaN	NaN	0.38	NaN	NaN	NaN
Revenues Excises 0451 - Electricity (il_tx0451_na)	Y	8,735	7,142	9,807	11,364	27,183	NaN	NaN	NaN	0.32	NaN	NaN	NaN
Revenues Excises 04521 - Natural Gas (il_tx04521_na)	Y	0	0	0	0	444	NaN	NaN	NaN	0.00	NaN	NaN	NaN
Revenues Excises All Energy (il_tx045_072_na)	Y	51,526	34,955	44,566	52,981	75,716	NaN	NaN	NaN	0.68	NaN	NaN	NaN

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