EUROMOD

COUNTRY REPORT

SWEDEN (SE)

2014-2017

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EUROMOD version H1.0

EUROMOD is a tax-benefit microsimulation model for the European Union (EU) that 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 has been enlarged to cover 28 Member States and is updated to recent policy systems using data from the European Union Statistics on Income and Living Conditions (EU-SILC) as the input database, supported by DG-EMPL of the European Commission.

This report documents the work done in one annual update for Sweden. This work was carried out by the EUROMOD core developer team, based mainly in ISER at the University of Essex, in collaboration with a national team.

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The results presented in this report are derived using EUROMOD version H1.0. EUROMOD is continually being improved and the results presented here may not match those that would be obtained with later versions of EUROMOD.

For more information, see: http://www.euromod.ac.uk/

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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 61-67 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.

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

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

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 65 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 (>= 65 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 don't have earned Swedish pension rights. The benefit is not taxable. The rules are quite 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. However, eligibility for unemployment insurance benefits requires membership for 12 months prior to the first day of unemployment. If a person is not a member of unemployment insurance fund the daily allowance is 223 SEK (2009-2017). However, if the person is not enrolled in the unemployment insurance fund, but has worked for at least 80 hours per month during at least 6 months in the past 12 months, then is entitled to receive 365 SEK per day.

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.

Parental leave insurance (Föräldraförsäkringen) consists of parental leave at birth, temporary parental leave at sickness, maternity allowance, and special days for the father.

Parental leave at birth is the biggest part of the parental leave insurance and which all parents are eligible to. The days can be used from 60 days before the expected birth until the day when the child is 8 years old, or has passed the first year at school. Both parents have the right to half of the days, but can give up all days (up to 90) to the other parent. It is possible to get the benefit full time or part time. The benefit is taxable. If the parents get twins, 90 extra days are paid out according to the 80 per cent rule and 90 days according to the basic level.

Temporary parental leave at sickness. For children under the age of 12 (and in certain cases under 16) temporary parental leave at sickness can be paid. The benefit can be paid for 60 (+ 60 additional days) working days per year, when a parent needs to stay away from work. 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. The benefit is taxable.

Maternity allowance. If the work conditions make it impossible to work, a pregnant woman can apply for maternity allowance during maximum 50 days. The benefit rules are the same as for the sickness benefit. The benefit is taxable.

Special days for the father. The father 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 leave at sickness.

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*50,900 SEK in 2009) 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 2.1814 price basic amounts/year and is reduced with increased supplementary pension. For a married pensioner the maximum is 1.9334 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 61 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 to the month of your 67th 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 65. 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 30-64) or *aktivitetsersättning* (if aged 19- 29). The benefit is taxable.

Disability pension (Sjukersättning (aged 30-64)). The benefit can be income related or a guarantee benefit. The income related benefit is based on 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.

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.

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. Maintenance support is at most SEK 1573 (1/9 2015) per child and month, and is paid to the parent with whom the child lives

Childcare allowance (Vårdbidrag) 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 chose 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 social security contribution, around 7.0 % of the gross salary.

The employer pays social contributions as a proportion of the gross salary. Mostly they are treated together, summing up at almost 33%.

Farmers and self-employed also pay social contributions but as proportion of the net income. Persons below 66 years of age pay all the social contributions: Persons born before 1938 only

pays a special wage tax for elderly and those born 1938 and older than 65 years pays this tax together with the old age pension contribution.

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 and for some goods i.e. food it is 12 % and there is also some goods i.e. books and newspapers with 6 %.

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

14.1   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 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.

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?
		2014	2015	2016	2017	
Unemployment benefit	bun	PS	PS	PS	PS	Unemployment benefit is not simulated in the baseline year and is set to toggle. When simulated, takes as default value the value included in the input data.
Parents' allowance	bpl	I	I	I	I	
Sickness benefit	bhl	I	I	I	I	
Education related allowance	bed	I	I	I	I	Lack of info in input data.
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	bsa_s	S	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?
		2014	2015	2016	2017	
Employee social contributions	tscee_s	S	S	S	S	
Employer social contributions	ils_sicer	S	S	S	S	
Self-employed social contributions	ils_sicse	S	S	S	S	
Personal income tax	tin_s	S	S	S	S	
Tax on capital income	tinkt_s	S	S	S	S	
Tax on real estate	tpr	I	I	I	I	Lack of info in input data. This includes repayment of student loan

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

Structural changes

There were no structural changes in the tax benefit system between 2011 and 2017.

For 2013 if the household have had social assistance for 6 months or more when calculating net income the employment income (yem) shall be reduced with 12,5 % from 2014 the reduction is 25 %.

For 2014 there has been a change for pensioners in the calculations of the reduction income only the part of the employment income + self-employment income above 24 000 is used in the calculations. This is only made for pensioners older than 64 years.

Since the 1 July 2014 families with children in the age 10 to 15 years who have had social assistance for more the 6 months can receive up to 3000 SEK to pay for sport and other activities which the children take part in. This support was removed 2016.

For 2015 the limit of allowances for voluntary private pension contributions is significantly reduced from 12,000 SEK to 1,800 SEK.

In 2016, the allowance for voluntary private pension contributions was abolished. Also, in 2016 the unemployment benefits payments have been increased.

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.

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 is 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_2014	SE_2015	SE_2016	SE_2017	Comment
setdefault_se	on	on	on	on	DEF: SET DEFAULT
uprate_se	on	on	on	on	DEF: UPRATING FACTORS
ConstDef_se	on	on	on	on	DEF: CONSTANTS
ildef_se	on	on	on	on	DEF: INCOME CONCEPTS
tudef_se	on	on	on	on	DEF: ASSESSMENT UNITS
yem_se	off	off	off	off	DEF: minimum wage
neg_se	on	on	on	on	DEF: recode negative self-employment income to zero
bun_se	toggle	toggle	toggle	toggle	BEN: Unemployment benefit
tscee_se	on	on	on	on	SIC: Employee Social Insurance contribution
tscer_se	on	on	on	on	SIC: Employer Social Insurance contribution
tscse_se	on	on	on	on	SIC: Self-employed Social Insurance contribution
tin_se	on	on	on	on	TAX: Personal Income tax
tinkt_se	on	on	on	on	TAX: Tax on Capital Income
bch_se	on	on	on	on	BEN: Child benefit
bho_se	on	on	on	on	BEN: Housing allowance
bhope_se	on	on	on	on	BEN: Housing allowance for pensioners
bsa_se	on	on	on	on	BEN: Social Assistance
output_std_se	on	on	on	on	DEF: STANDARD OUTPUT INDIVIDUAL LEVEL
output_std_hh_se	off	off	off	off	DEF: STANDARD OUTPUT HOUSEHOLD LEVEL

Table 2.3.1 Annual Base amounts

	2014	2015	2016	2017
XBASM	44,400	44,500	44,300	44,800
XBASMI	56,900	58,100	59,300	61,500

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

2.3   Social benefits

2.3.1   Unemployment insurance benefit (bun_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 80 hours per month during at least 6 months during the last 12 months. 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).

If a person is not a member of unemployment insurance fund, instead of the basic amount she receives a daily allowance (5 days per week) equal to 223 SEK (2009-2017). However, if the person is not enrolled in the unemployment insurance fund, but has worked for at least 80 hours per month during at least 6 of the past 12 months, then is entitled to receive 365 SEK per day.

It is possible to get the benefit full-time or part-time. No compensation is paid in the first seven days (the qualifying days). 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 (the amount received is equal to the basic amount or 80% of previous income with a maximum limit).

- *Benefit amount*

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

Table 2.4.1 Unemployment benefits 2009-2015

Days	Basic amount SEK/day	Compensation (as a share of previous income)	Upper limit SEK/day
Year 2009-2015 (parent with child)			
1-200	320	0.8	680
201-450	320	0.7	680
450-	320	0.65	680
Year 2009-2015			
1-200	320	0.8	680
201-300	320	0.7	680
301-	320	0.65	680

Table 2.4.1 Unemployment benefits 2016-2017

Days	Basic amount SEK/day	Compensation (as a share of previous income)	Upper limit SEK/day
Year 2016- (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 2016-			
1-100	365	0.8	910
101-200	365	0.8	760
201-300	365	0.7	760
301-	365	0.65	760

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

Characteristics of the unemployment benefit

		2014	2015	2016	2017
Eligibility	Contribution period	6 out 12 last months	6 out 12 last months	6 out 12 last months	6 out 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	320 SEK/day or 80% of previous earnings (decreasing to 65%)	320 SEK/day or 80% of previous earnings (decreasing to 65%)	365 SEK/day or 80% of previous earnings (decreasing to 65%)	365 SEK/day or 80% of previous earnings (decreasing to 65%)
	Additional amount	N/A	N/A	N/A	N/A
	Floor[a]	320 SEK/day	320 SEK/day	365 SEK/day	365 SEK/day
	Ceiling[a]	680 SEK/day	680 SEK/day	910 SEK/day	910 SEK/day
Duration	Standard (in months)	300 days	300 days	300 days	300 days
	Special cases (in month)	450 days (parent with child)	450 days (parent with child)	450 days (parent with child)	450 days (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.

EUROMOD notes

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, among else 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 or 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).

- For those currently employed (lnu>0), this is used.

- For those currently unemployed (lunmy_s > 0) and in receipt (bunct > 0), this is set at least equal to the minimum qualifying period.

- For those currently unemployed (lunmy_s > 0) and not in receipt (bunct = 0), this is set to zero.

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 months but in case of parents with children it is 450 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.

2.3.2   Child benefit (bch_s)

- *Definitions*

The child benefit is a universal benefit received by parents having children in the age 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 student in a lower secondary school (dec =3), the child benefit is prolonged until he completes the primary school. 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 benefit is not taxable.

Table 2.4.2 Child benefit monthly amounts – 2009-2017

Child number	Basic amount	Extra amount		
	2009-2017	2009	2010-2016	2017
1	1,050	0	0	0
2	1,050	100	150	150
3	1,050	354	454	580
4	1,050	860	1010	1,010
5	1,050	1,050	1,250	1,250
Next child	1,050	1,050	1,250	1,250

- *Allocation of the benefit within the family*

The benefit (basic and extra amount) for children until 18 years is paid to the mother if present in the family otherwise to the person the child lives with. The basic amount for children older than 18 years is paid directly to the children. The extra amount (12 months per year) is always received by the parent.

2.3.3 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 number of children and the housing cost (within certain limits). If the size of the dwelling exceeds a certain area in m^2, the accepted housing cost is proportionally reduced to a minimum value.

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 annual incomes above 58,500 SEK until 2016 and above 63,500 from 2017 for each parent or 117,000 SEK until 2016 and from 2017 127,000 SEK for lone parents the allowance is reduced by 20%. For a lone youngster the allowance is reduced by 33% for annual incomes above 41,000 SEK and for young couples without children, the reduction is 33% above 58,000 SEK.

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 (bun) + 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) + 34% of education allowances (bed) + parents' allowance (bpl) + 15% of wealth (afc00_s, divided by two if there are two partners)

Losses due to self-employment are set to 0.

EUROMOD notes

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.

- *Benefit amount*

<u>Families with children:</u>

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

- The special component for families with children (sin01_s) is given in 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:

Housing allowance parameters – Families with children – 2009-2011

Number of children	Rent component		Special component
	Lower level SEK/month	Upper level SEK/month	SEK/month
1	2,000	5,300	950
2	2,000	5,900	1,325
3 and more	2,000	6,600	1,750

Housing allowance parameters – Families with children – 2012- 2013

Number of children	Rent component		Special component
	Lower level SEK/month	Upper level SEK/month	SEK/month
1	1,400	5,300	1,300
2	1,400	5,900	1,750
3 and more	1,400	6,600	2,350

Housing allowance parameters – Families with children – 2014- 2017

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

Reduction of the housing allowance

The housing allowance is then reduced following the same rules between 2009 and 2017, which vary according to the typology of the recipient:

- 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 – 58,500), 0))

- Lone parents (yearly incomes, sin06_s):
Final Housing allowance = Housing allowance – 0.20(max((il_means_bho – 117,000))

Young families below the age of 29 without children
.

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

Housing allowance parameters – Young families – 2009-2011

Housing cost (xhc) SEK / month	Rent component
< 1,800	0
1,800 – 2,600	(xhc - 1,800) * 0.75)
2,600 – 3,600	(2,600 - 1,800) * 0.75 + (3,600 - xhc) * 0.5
>= 3,600	(2,600 - 1,800) * 0.75+(3,600 - 2,600) * 0.5

Housing allowance parameters – Young families – 2012- 2017

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))

2.3.4 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. 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).

Housing allowance for pensioners below 25 SEK/month is not paid out. 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 or not. Labour income is weighted less than pension income. 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 2009-2017 and deducted from the means:

Housing allowance for pensioners – Reserved amount – 2009-2017

Condition	Reserved amount (ydg01_s)
pdi > 0 and age <= 20	2.1*XBASM
pdi > 0 and 20 < age <= 22	2.15*XBASM
pdi > 0 and 22 < age <= 24	2.2*XBASM
pdi > 0 and 24 < age <= 26	2.25*XBASM
pdi > 0 and 26 < age <= 28	2.3*XBASM
pdi > 0 and 28 < age <= 29	2.35*XBASM
pdi > 0 and age >= 30	2.4*XBASM
Single, age > 65 and pdi = 0	2.17*XBASM
Married or cohabiting, age > 65 and pdi=0	1.935*XBASM

For 2009 - 2013:
Income (il_means_bhope) = Old age pension (poa) + Disability benefit (pdi) + investment income (yiy) + 0.8*(Private pensions (ypp) + fringe benefits (kfb) + Unemployment benefits (bun) + 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) – reserved amount (ydg01_s).

For person younger than 65 years
For 2014 - :
Income (il_means_bhope) = Old age pension (poa) + Disability benefit (pdi) + investment income (yiy) + 0.8*(Private pensions (ypp) + fringe benefits (kfb) + Unemployment benefits (bun) + 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) – reserved amount (ydg01_s).

For persons older than 64 years
For 2014 - :
Income (il_means_bhope) = Old age pension (poa) + Disability benefit (pdi) + investment income (yiy) + 0.8*(Private pensions (ypp) + fringe benefits (kfb) + Unemployment benefits (bun) + Sickness benefit (bhl) + parents' allowance (bpl) + Survivor' pension (psu)) + property income (ypr) + 0.5 *max((Employment income (yem)+ self-employment income (yse))-

24000,0) + 0.15*wealth (afc00_s, divided by two if there are two partners) – reserved amount (ydg01_s).

This Income is calculated independently for the male and female partner in the family. 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 2009
- persons younger than 66 years and receiving disability pensions: 0.91* min((xhc-bho_s), upper level)
- persons older than 65 years: 0.93* min((xhc-bho_s) , upper level)

For 2010-2011:
- persons younger than 66 years and receiving disability pensions: 0.93* min((xhc-bho_s), upper level)
- persons older than 65 years: 0.93* min((xhc-bho_s) , upper level)

For 2012
- persons younger than 66 years and receiving disability pensions: 0.93* min((xhc-bho_s), upper level)
- persons older than 65 years: 0.93* min((xhc-bho_s) , upper level) +12*170

For 2013-2015
- persons younger than 66 years and receiving disability pensions: 0.93* min((xhc-bho_s), upper level)
- persons older than 65 years and married: 0.93* min((xhc-bho_s) , upper level) +12*170
- persons older than 65 years and single: 0.93* min((xhc-bho_s) , upper level) +12*340

For 2016
- persons younger than 66 years and receiving disability pensions: 0.93* min((xhc-bho_s), upper level)
- persons older than 65 years and married: 0.95* min((xhc-bho_s) , upper level) +12*170
- persons older than 65 years and single: 0.95* min((xhc-bho_s) , upper level) +12*340

For 2017-
- persons younger than 66 years and receiving disability pensions: 0.95* min((xhc-bho_s), upper level)
- persons older than 65 years and married: 0.95* min((xhc-bho_s) , upper level) +12*170
- persons older than 65 years and single: 0.95* min((xhc-bho_s) , upper level) +12*340

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 is part of the housing cost).

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

Housing allowance for pensioners – Housing costs limits – 2009-2017

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
2009	4,500	91	5,000	93
2010	5,000	93	5,000	93
2011	5,000	93	5,000	93
2012	5,000	93	5,000	93
2013	5,000	93	5,000	93
2014	5,000	93	5,000	93
2015	5,000	93	5,000	93
2016	5,000	93	5,000	95
2017	5,000	95	5,000	95

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:

Housing allowance for pensioners – Amounts – 2009-2017

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)

* The maximum housing allowance is calculated at individual level (sin01_s).

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

2.3.5   Social assistance(bsa_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 important 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 2012:

1,710 (Child age 4) + 2,390 (child age 8) + 5,270 (Married couple) + 1,480 (family size=4)

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

Personal needs – Monthly amounts (SEK) – 2009-2017

Year \ Age	0	1-2	3	4-6	7-10	11-14	15-18	Single	Married/ cohabiting
2009	1,520	1,710	1,370	1,640	2,100	2,410	2,710	2,800	5,060
2010	1,520	1,710	1,370	1,640	2,100	2,410	2,710	2,800	5,060
2011	1,540	1,730	1,390	1,660	2,130	2,440	2,740	2,830	5,120
2012	1,590	1,780	1,530	1,710	2,390	2,810	3,220	2,920	5,270
2013	1,610	1,800	1,550	1,730	2,410	2,840	3,250	2,950	5,320
2014	1,610	1,800	1,550	1,730	2,410	2,840	3,250	2,950	5,320
2015	1,610	1,800	1,550	1,730	2,410	2,840	3,250	2,950	5,320
2016	1,710	1,900	1,650	1,830	2,660	3,090	3,500	2,950	5,320
2017	1,730	1,920	1,670	1,850	2,690	3,120	3,540	2,980	5,370

Common needs – Monthly amounts (SEK) – 2009-2017

Number of family members	1	2	3	4	5	6	7+
2009	880	990	1,240	1,420	1,620	1,850	2,020
2010	880	990	1,240	1,420	1,620	1,850	2,020
2011	890	1,000	1,260	1,440	1,640	1,870	2,040
2012	920	1,030	1,300	1,480	1,690	1,930	2,100
2013	930	1,040	1,310	1,490	1,710	1,950	2,120
2014	930	1,040	1,310	1,490	1,710	1,950	2,120
2015	930	1,040	1,310	1,490	1,710	1,950	2,120
2016	940	1,050	1,320	1,500	1,720	1,960	2,130
2017	950	1,060	1,330	1,520	1,740	1,980	2,150

- *Benefit amount*

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

For 2013 if the household have had social assistance for 6 months or more when calculating net income the employment income (yem) shall be reduced with 12,5 %

For 2014 and on, the employment income (yem) shall be reduced with 25 %,

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

From the 1 July 2014 to the 31 of December 2015 families with children in the age 10 to 15 years who have had social assistance for more the 6 months can receive up to 3000 SEK to pay for sport and other activities which the children take part in. In order to receive the additional benefit, the family needs to prove the payment of the leisure activity.

2.4 Social contributions

2.4.1 Employee social contributions(tscee_s)

- *Liability to contributions*

All individuals residents in Sweden and born after 1937 with employment income (yem), fringe benefits (kfb), sickness benefit (bhl) or unemployment benefit (bun) 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+bun)*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).

2.4.2 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.

Employer social contributions – Persons younger than 66 years old - 2009-2017

	2009	2010	2011	2012	2013	2014	2015	2016	2017
Health insurance (tscersi_s)	0.0671	0.0595	0.0502	0.0502	0.0435	0.0435	0.0435	0.0615	0.0615
Old age pension (tscerpi_s)	0.1021	0.1021	0.1021	0.1021	0.1021	0.1021	0.1021	0.1021	0.1021
Survivors pension (tscerci_s)	0.0170	0.0170	0.0117	0.0117	0.0117	0.0117	0.0117	0.0117	0.0070
Occupational injuries (tscerac_s)	0.0068	0.0068	0.0068	0.0030	0.0030	0.0030	0.0030	0.0030	0.0020
Labour market (tscerir_s)	0.0243	0.0465	0.0291	0.0291	0.0291	0.0291	0.0264	0.0264	0.0264
General wage fee (tscerot_s)	0.0749	0.0603	0.0923	0.0921	0.0988	0.0988	0.1015	0.0965	0.1072
Parental insurance (tscerml_s)	0.0220	0.0220	0.0220	0.0260	0.0260	0.0260	0.0260	0.0260	0.0260

Since 2007 there is a reduction of the employer social contributions (except old age pension) for persons younger than 26 years old This has been abolished since 2016.

Reduction of Employer social contributions excep old age pension – Persons younger than 26 years old - 2009-2016

	2009	2010	2011	2012	2013	2014	2015	2016
Reduction (tscerrd_s)	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0

Employer social contributions – Persons older than 65 years old and born after 1937 - 2009-2017

	2009	2010	2011	2012	2013	2014	2015	2016	2017
Old age pension (tscerpi_s)	0.1021	0.1021	0.1021	0.1021	0.1021	0.1021	0.1021	0.1021	0.1021

Employer social contributions – Persons older than 65 years 2016-

	2016	2017
Special wage tax for elderly	0.0615	0.0615

2.4.3   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 65 years).The rates are specified in the following tables.

Self-employed social contributions – 2009-2017 for persons 0-65 years of age

	2009	2010	2011	2012	2013	2014	2015	2016	2017
Health insurance (tscsesi_s)	0.0693	0.0641	0.0511	0.0511	0.0444	0.0444	0.0444	0.0494	0.0444
Old age pension (tscsepi_s)	0.1021	0.1021	0.1021	0.1021	0.1021	0.1021	0.1021	0.1021	0.1021
Survivors pension (tscseci_s)	0.0170	0.0170	0.0117	0.0117	0.0117	0.0117	0.0117	0.0117	0.0070
Occupational injuries (tscseac_s)	0.0068	0.0068	0.0068	0.0030	0.0030	0.0030	0.0030	0.0030	0.0020
Labour market (tscseir_s)	0.0050	0.0211	0.0037	0.0037	0.0037	0.0037	0.0010	0.0010	0.0010
General wage fee (tscseot_s)	0.0749	0.0603	0.0923	0.0921	0.0988	0.0988	0.1015	0.0965	0.1072
Parental insurance (tscseml_s)	0.0220	0.0220	0.0220	0.0260	0.0260	0.0260	0.0260	0.0260	0.0260

Self-employed contributions – Persons older than 65 years old and born after 1937:

Self-employed contributions – Persons older than 65 years old and born after 1937	2009	2010	2011	2012	2013	2014	2015	2016	2017
Age	66 – 70	66 – 71	66- 72	66- 73	66- 74	66- 75	66- 76	66- 77	66 – 78
Special wage tax (tscseot_s)	0	0	0	0	0	0	0	0	0
Old age pension (tscsepi_s)	0.1021	0.1021	0.1021	0.1021	0.1021	0.1021	0.1021	0.1021	0.1021

Self-employed contributions – Persons older than 65 years:

	2016	2017
Special wage tax for elderly	0.0615	0.0615

EUROMOD Notes

A special wage tax should be paid by persons older than 65 year, but the base which is a small part of self-employment income (yse) cannot be created in EUROMOD.

2.5 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.

2.5.1 Tax unit

Personal income tax is assessed at individual level.

2.5.2 Exemptions

Child benefits, social assistance, housing allowance, housing allowance for pensioners and social assistance for elderly are exempted from income tax.

2.5.3 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 (bun), Old age pension (poa), Disability benefit (pdi), Sickness benefit (bhl) and Survivor' pension (psu).

2.5.4   Tax allowances

Two tax allowances are simulated.

Allowance for voluntary Private Pension contributions (tintapv_s).

The allowance is for contributions for private pension (xpp). For employees it is limited to 0,5 basic amount (XBASM) for 2007. In the period 2008 to 2014 it is limited to 12,000 SEK. For 2015 the limit is significantly reduced to 1800 SEK. For 2016 and onwards there is no allowance. For self-employed the rules are more generous.

EUROMOD Notes

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).

Basic Allowance - 2009-2017

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

In 2009 an additional basic allowance for pensioners (over 65 years) was introduced (tintape_s):

Additional Basic Allowance for pensioners (over 65 years) – 2009-2017

Taxable income minus allowance for Private pension		Allowance
Lower level	**Upper level**	
2009		
0	0.99*XBASM	min(il_taxabley_ppta, 0.425*XBASM)
0.99*XBASM	2.72*XBASM	0.623*XBASM-0.2* il_taxabley_ppta
2.72*XBASM	3.11*XBASM	0.078*XBASM
3.11*XBASM	7.88*XBASM	0.372*XBASM-0.1* il_taxabley_ppta
7.88*XBASM	8.49*XBASM	0.061*XBASM
8.49*XBASM		0.849*XBASM-0.1* il_taxabley_ppta

2010

0	0.99*XBASM	min(il_taxabley_ppta, 0.5094*XBASM)
0.99*XBASM	2.72*XBASM	0.7074*XBASM-0.2* il_taxabley_ppta
2.72*XBASM	3.11*XBASM	0.1624*XBASM
3.11*XBASM	3.90*XBASM	-0.1486*XBASM+0.1* il_taxabley_ppta
3.90*XBASM	7.88*XBASM	0.2219*XBASM+0.005* il_taxabley_ppta
7.88*XBASM	9.1568*XBASM	1.0099*XBASM-0.095* il_taxabley_ppta
9.1568*XBASM		0.14*XBASM

2011-2012

0	0.98*XBASM	min(il_taxabley_ppta, 0.557*XBASM)
0.98*XBASM	0.99*XBASM	0.459*XBASM+0.1* il_taxabley_ppta
0.99*XBASM	2.72*XBASM	0.657*XBASM-0.1* il_taxabley_ppta
2.72*XBASM	3.11*XBASM	0.112*XBASM+0.1* il_taxabley_ppta
3.11*XBASM	3.85*XBASM	-0.199*XBASM+0.2* il_taxabley_ppta
3.85*XBASM	4.80*XBASM	0.186*XBASM+0.1* il_taxabley_ppta
4.80*XBASM	7.88*XBASM	0.619*XBASM+0.01* il_taxabley_ppta
7.88*XBASM	12.21*XBASM	1.407*XBASM-0.09* il_taxabley_ppta
12.21*XBASM		0.307*XBASM

2013

0	0.99*XBASM	min(il_taxabley_ppta, 0.567*XBASM)
0.99*XBASM	1.01*XBASM	0.785*XBASM-0.2* il_taxabley_ppta
1.01*XBASM	2.72*XBASM	0.674*XBASM-0.09* il_taxabley_ppta
2.72*XBASM	3.11*XBASM	0.129*XBASM+0.11* il_taxabley_ppta
3.11*XBASM	3.75*XBASM	-0.182XBASM+0.21* il_taxabley_ppta
3.75*XBASM	4.77*XBASM	0.233*XBASM+0.1* il_taxabley_ppta
4.77*XBASM	7.88*XBASM	0.660*XBASM+0.01* il_taxabley_ppta
7.88*XBASM	12.12*XBASM	1.448*XBASM-0.09* il_taxabley_ppta
12.12*XBASM		0.357*XBASM

2014-2015

0	0.99*XBASM	min(il_taxabley_ppta, 0.682*XBASM)
0.99*XBASM	1.105*XBASM	0.880*XBASM-0.2* il_taxabley_ppta
1.105*XBASM	2.72*XBASM	0.753*XBASM-0.085* il_taxabley_ppta
2.72*XBASM	3.11*XBASM	0.208*XBASM+0.115* il_taxabley_ppta
3.11*XBASM	3.69*XBASM	-0.103XBASM+0.215* il_taxabley_ppta
3.69*XBASM	4.785*XBASM	0.322*XBASM+0.1* il_taxabley_ppta
4.785*XBASM	7.88*XBASM	0.753*XBASM+0.01* il_taxabley_ppta
7.88*XBASM	12.43*XBASM	1.541*XBASM-0.09* il_taxabley_ppta
12.43*XBASM		0.422*XBASM

2016-2017

0	0.99*XBASM	min(il_taxabley_ppta, 0.687*XBASM)
0.99*XBASM	1.1*XBASM	0.885*XBASM-0.2* il_taxabley_ppta
1.1*XBASM	2.72*XBASM	0.609*XBASM+0.049* il_taxabley_ppta
2.72*XBASM	3.11*XBASM	0.741*XBASM+0* il_taxabley_ppta
3.11*XBASM	3.77*XBASM	0.430*XBASM+0.1* il_taxabley_ppta
3.77*XBASM	5.4*XBASM	0.807*XBASM+0* il_taxabley_ppta
5.4*XBASM	7.88*XBASM	0.753*XBASM+0.01* il_taxabley_ppta
7.88*XBASM	12.43*XBASM	1.541*XBASM-0.09* il_taxabley_ppta
12.43*XBASM		0.422*XBASM

2.5.5   Tax base

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

2.5.6   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).

The county council tax rate is different for different counties in Sweden. It varies between 9.42% and 12.27% of the tax base.

The municipality tax rate varies between 17.58 % and 23.79 % of the tax base.

The funeral tax rate varies between 0.07 % and 1.04 % of the tax base.

Since we do not have any information of the region persons are living in, those taxes are simulated according to the average value for Sweden, as reported in the following table.

Table 1. **Income tax rates – 2009-2017**

	Municipality tax	**County council tax**	**Funeral tax**
2009	20.72 %	10.86 %	0.22 %
2010	20.74 %	10.87 %	0.22 %
2011	20.73 %	10.88 %	0.22 %
2012	20.59 %	11.07 %	0.22 %
2013	20.61 %	11.17 %	0.22 %
2014	20.65 %	11.26 %	0.22 %
2015	20.70 %	11.35 %	0.22 %
2016	20.75 %	11.35 %	0.22 %
2017	20.75 %	11.36 %	0.23 %

The government income tax schedule is based on three income bands as reported in the following table.

Table 2. **Government income tax schedule – 2009-2017**

Band	Tax rate	2009	2010	2011	2012
1st	0 %	0 – 367,599	0-372,099	0-382,999	0-401,099
2nd	20 %	367,600 – 526,199	372,100-532,699	383,000-548299	401,100-574,299
3rd	25 %	526,200	532,700	548,300	574,300

Band	Tax rate	2013	2014	2015	2016
1st	0 %	0 – 413,199	0-420,799	0-430,199	0-430,199
2nd	20 %	413,200 –591,599	420,800-602,599	430,200-616,099	430,200-625,799
3rd	25 %	592,600	602,600	616,100	625,800

Band	Tax rate	2017
1st	0 %	0 – 438,899
2nd	20 %	438,900 –638,499
3rd	25 %	638,500-

2.5.7 Tax credits

There are six 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. Other (non-simulated) tax credits are on real estate tax, seafarer's income.

Tax credit for general social security contributions.

The general social security contribution (see 2.3.1 – tscee_s) is 100 % deductable 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

In 2007 an Earned Income Tax credit was introduced. It has been enhanced four times, in 2008, 2009, 2010 and 2014. 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:
2007: yem + yse + kfb -min(xpp,0.5*XBASM)
2008-2014: yem + yse + kfb -min(xpp,12000)

 2015: yem + yse + kfb -min(xpp,1800)

2016-: yem + yse + kfb .

Earned Income Tax credit 2009

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	2.72*XBASM	(0.91*XBASM+0.25*(tintc00_s -0.91*XBASM)-BA)*MT
2.72*XBASM	7*XBASM	(1.363*XBASM+0.065*(tintc00_s -2.72*XBASM)-BA)*MT
7*XBASM		((1.642*XBASM)-BA)*MT

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		30,000

BA = Basic Allowance, see chapter 2.4.4.2

Earned Income Tax credit – 2010-2013

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	2.72*XBASM	(0.91*XBASM+0.304*(tintc00_s -0.91*XBASM)-BA)*MT
2.72*XBASM	7*XBASM	(1.461*XBASM+0.095*(tintc00_s -2.72*XBASM)-BA)*MT
7*XBASM		(1.868*XBASM)-BA)*MT

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		30,000

BA = Basic Allowance, see chapter 2.4.4.2
MT = Municipality tax rate and County council tax rate

Earned Income Tax credit – 2014- 2015

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		(2.155*XBASM)-BA)*MT

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		30,000

BA = Basic Allowance, see chapter 2.4.4.2
MT = Municipality tax rate and County council tax rate

Earned Income Tax credit – 2016-2017

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 2.4.4.2
MT = Municipality tax rate and County council tax rate

Due to lack of data, two tax credits cannot be simulated. However they are presented below and an overview of their total amounts is reported in the Table 44 below.

Seafarer's income (2007-2017)

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.

Domestic and reconstruction services (2007-2017)

In 2007 a tax reduction for domestic services is introduced and in 2009 reconstruction services is also included. The tax reduction is 50 percent of the labour cost, maximum 50,000 SEK per year. For 2016 and onwards the reduction is 30 percent for reconstruction services and the maximum is 25,000 SEK for domestic services.

Non-simulated tax credits 2009-2017, in millions SEK

Tax credit	2009	2010	2011	2012	2013	2014	2015	2016	2017
Domestic and reconstruction services	10,355	13,733	15,043	15872	17,531	19,168	23,695	10,910	11,739

Estimates for 2016 and 2017

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

Tax on real estate

Type of property	Municipal property charge 2009-2017
Municipal property charge 2009-2017	
House/land, 0-5 years	0
House/land, 6-10 years	min((0.00375* assessed value), (0.00375*800,000*KPIyear))
House/land older than 10 years	min((0.0075*assessed value), (0.0075*800,000*KPIyear))

*KPIyear = XBASMI/XBASMI 2008

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). This is sorted by age and covers the entire population according to the national registration. Such sample is regarded as simple random sample; the table below illustrates the main characteristic for the 2015 sample. In general, 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*. At the moment, no detailed official information from Eurostat Quality Reports is available on the EU-SILC 2015, therefore this section will be updated in the following country report.

Table 3.1 EUROMOD database description

EUROMOD database	SE_2015_a1
Original name	UDB version 2015-1
Provider	EUROSTAT
Year of collection	2015
Period of collection	2015.01.01—2015.11.31
Income reference period	2014
Sample size	5859 households, 14183 individuals
Response rate	50.9%

For the estimation procedure the sample from each panel is divided into 2 x 8 stratums by sex and age-groups. Post-stratification refers to sex, age 16-23, 24-33, 34-43, 44-53, 54-63, 64-73, 74-83 and 84+ years. Within each post strata the design-weights are computed as the inverse of the probability of inclusion after that the design-weights are adjusted according to the over-coverage. The final cross sectional weight are computed as the adjusted population-size in each post strata divided by the number of respondents for each panel and finally divided by 4.

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 2014 – 31 December 2014). The variables are recorded at the time the person receives it, i.e. when the payment is done this means that a person could for example have been unemployed during the last part of December 2013 but receiving the payment in January 2014, this will then be part of the income for 2014.
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 2014) have been dropped from the dataset.

3.3.2 Gross incomes

The incomes used are gross incomes.

3.3.3   Disaggregation of harmonized variables

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

EUSILC 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) 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 updating 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. The list of uprating factors as well as the sources used to derive them can be found in Annex 1.

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 2. 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. Factors that may explain the observed differences are also discussed.

Usually the external source for macro validation comes from the registry with the estimates restricted to the sample of the survey (EU-SILC). Due to the lack of availability of estimates from the survey related to 2014-2015, the external figures for 2014 to 2015 sources refer to the estimates from the register related to the persons living at the end of 2014 to 2015, respectively.

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 2014-2017	EU-SILC 2015
	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	+	0
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

Table 4.2 in Annex 2 shows the number of employed and unemployed in the dataset used for EUROMOD simulations against external benchmarks. The number of people in work matches well the external benchmark. On the other hand, the number of unemployed individuals is considerably underestimated, by around 32 percentage points.

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 the administrative source (STAR-register – Statistics Sweden) which is the direct source of the survey as well. The comparison needs to be done with caution because the units of analysis and the exact income concepts in the survey and in the administrative statistics are not always strictly comparable. Table 4.3 compares the number of recipients of different income components. In general the survey matches quite well the administrative sources, except for property income (in this case the number of recipients is overestimated by more than 70%) and, to a minor extent, private transfers (underestimated by less than 20%). In the case of property income, this can happen since the data are aggregated at household level in the survey. However, in EUROMOD, property income is allocated to both partners (if present), which results in an overestimation of the number of recipients. In terms of annual amounts (Table 4.4), employment income is overestimated by 10%, self-employment income and private pensions by around 20%, property income by 30%,while investment income is underestimated by around 20%.

Tables 4.5 and 4.6 report the validation of benefits included in EUROMOD but not simulated. In general, the aggregate number of recipients of non-simulated benefits matches well the external benchmarks. Parent's allowances have been disaggregated from the EU-SILC variable HY050g and attributed to both parents (if present). As a consequence, the number of recipients results overestimated by around 40%. Some underestimation exists for the recipients of survivors' pensions (27%) and for disability pensions (36%). In terms of aggregate annual amounts, the survey matches quite well the external statistics in 2014, the baseline year, with the exception of underestimation of disability pensions (37%).

4.1.3 Validation of outputted (simulated) incomes

Tables 4.7 and 4.8 report the validation of tax and benefits instruments simulated in EUROMOD. Because of data restrictions, the external statistics for 2014 and following years are those from the administrative register related to the persons living at the end of the year. In terms of benefits recipients, comparison with external statistics is not feasible due to lack of data, except for child benefit for which our simulations in 2014 match well the number of recipients from the external benchmark. Comparison with EU-SILC data yields an important overestimation of recipients of social assistance benefits (more than double in size) and an underestimation of housing allowance benefits recipients by 37%.

In terms of benefits amount, over the years considered, we simulate Child benefit, Housing allowance, Housing allowance for pensioners and Social Assistance. The simulation of social assistance matches quite well the external statistics. Aggregate amounts of Child Benefit and the Child Benefit and Educational support (received by children aged 16+ in upper secondary school) are overestimated by around 15%, while Housing allowance is oversimulated by 30%. Housing allowance for pensioners is, on the other hand, underestimated by 14%. The main reasons for these discrepancies can be i) non complete take-up of the benefits and ii) approximation, due to the data available, of the means test used to assign benefits.

Tables 4.7 and 4.8 include the validation of the main components of the income tax. In terms of personal income tax, we simulate: government tax, county council tax, municipality tax and funeral tax. The simulations represent the external statistics fairly well in the baseline year 2014. Among the components of the personal income tax, Basic Allowances is overestimated by 17% in terms of taxpayers but underestimated by 26% in terms of amounts. The Municipal Income Tax and County Council Tax, as well as the Funeral Tax match fairly well the external statistics both in terms of taxpayers and in terms of amounts (the latter are slightly overestimated). Government income tax is, on the other hand, overestimated by around 20% both in terms of taxpayers and aggregated amounts. The tax credit for negative capital income is largely underestimated, both in terms of recipients and expenditure, given that in the data the only source of negative capital income are the interests paid on the mortgage on the main house and other forms of mortgages are not included. Taxes on capital incomes excluding capital gains are on the other hand overestimated in terms of tax payers by around 70%. The number of individuals paying the tax on capital income is overestimated because the investment income in the data is aggregated at household level and we split it among the partners in the household. However, the same tax is largely underestimated in terms of amounts, by more than 60%.

The tables report also the validation of the Earned Income Tax Credit introduced in 2007 and enhanced in the following years. The simulation matches very well the external statistics both in terms of aggregate number of individuals and amount (the latter is slightly overestimated). Moreover, the tables report the total number of tax payers and total revenue for the Income tax as a whole (given by the sum of the four components) as simulated by EUROMOD once we subtract the simulated tax credits.

The tables also report the validation of the social insurance contributions for employees, employers and self-employed individuals. However, due to data limitation, comparison with

external statistics is not possible for the number of payers of Employers Social insurance contributions. Employee social insurance contributions match very well the external statistics in terms of payers and aggregate amounts. As far as Social insurance contributions for the self-employed, the number of contributors is in general largely underestimated, by around 40%, for all type of contributions. On the contrary, the total amounts of Social insurance contributions matches very well external statistics for the self-employed (with an oversimulaton below 5%). A fairly good match is observed for Employers, whose Social insurance contributions are in general oversimulated by around 18%.

4.2 Income distribution

All income distribution results presented here are computed for individuals according to their household disposable income (HDI) equivalised by the "modified OECD" equivalence scale. HDI 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 4.9 shows the main inequality indices from EUROMOD and SILC. Gini coefficient for Disposable income and S80/S20 ratio are just slightly underestimated in EUROMOD. Overall, disposable equivalised income median) at different income deciles simulated by EUROMOD matches quite well the median equivalised income reported in SILC, and this is also the case for the mean and median income simulated by EUROMOD. A minor exception is the bottom decile, which presents a slight overestimation of the share of equivalised disposable income by 14%.

4.2.2 Poverty rates

The overall relative poverty rate based on disposable income simulated in EUROMOD approximates quite well the one based on disposable income reported in EU-SILC (Table 4.10 in Annex 2). The differences are larger only with the lowest poverty line (40% of median equivalised household income) and in the case of elderly poverty. The latter can be affected by the oversimulation of the Housing allowance resulting in lower poverty rates simulated by EUROMOD.[2]

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 well. Table 4.11 presents a series of figures comparing results obtained under the two simulation scenarios. Changing employment income so as to incorporate the minimum hourly gross wage does not affect results in any way.

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[2] 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.

4.4 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.

5. REFERENCES

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- ***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	2014	2015	2016	2017	Source and explanation
Harmonized consumer price index (index 2005=100)	$HICP	99.3	100	101.14	102.52	Eurostat (http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=prc_hicp_aind&lang=en); 2017 - IMF forecasts (WEO April 2014, tp://www.imf.org/external/pubs/ft/weo/2014/01/weodata/index.aspx)
Consumer price index	$f_cpi	313.49	313.35	316.13	321.21	http://www.scb.se/sv_/Hitta-statistik/Statistik-efter-amne/Priser-och-konsumtion/Konsumentprisindex/Konsumentprisindex-KPI/33772/33779/Konsumentprisindex-KPI/272151/
HICP - actual rentals for housing (index 2005=100)	$f_house	120.37	122.327	123.4123	123.4123	Eurostat (http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=prc_hicp_aind&lang=en); 2017 - IMF forecasts (WEO April 2014, http://www.imf.org/external/pubs/ft/weo/2014/01/weodata/index.aspx)
Average monthly salary, SEK	$f_wage	33164	33618	34425	34425	Special calculation for other purpose (no official data available).
Hourly wage, SEK	$f_xlon	217.2	224.3	230.1	237.2	http://www.konj.se/757.html
Price base amount	$f_xbasm	44400	44500	44300	44800	http://www.statistikdatabasen.scb.se/pxweb/sv/ssd/START__PR__PR0101__PR0101E/Basbeloppet/?rxid=1df81ffb-6943-4796-a5d5-4b5e900d58b3
Income base amount	$f_xbasmi	56900	58100	59300	61500	https://secure.pensionsmyndigheten.se/AktuellaBelopp.html
Aggregate income from capital, millions of SEK	$f_yiy	104236.8	112284.5	110546.9	113503.4	
Aggregate income from property, millions of SEK	$f_ypr	1277.8	1491.5	1519.4	1551.8	
Unit index	$f_unit	1	1	1	1	
Pension Index (new)	$f_pen	146.84	150.55	159.37	166.39	*https://www.riksdagen.se/.../forordning-2016944-om-balansindex-for-ar-2017_sfs-20...*

ANNEX 2. VALIDATION TABLES

Table 4.2-Number of employed and unemployed (in thousands)

	EUROMOD	External				Ratio			
	2014	2014	2015	2016	2017	2014	2015	2016	2017
Number of employed	4753.4	4772.1	4836.8	4909.9	N/A	1.00	0.98	0.97	N/A
Number of unemployed	275.4	412.4	388.3	369.0	N/A	0.67	0.71	0.75	N/A

Notes: the external figures for 2014 sources refer to the estimates from the register related to the persons living at the end of 2014. N/A – not available

Table 4.3-Market income in EUROMOD -Number of recipients (in thousands)

	EUROMOD	External				Ratio			
	2014	2014	2015	2016	2017	2014	2015	2016	2017
Employment income	5669.0	5329.3	5412.1	N/A	N/A	1.06	1.05	N/A	N/A
Fringe benefits	1313.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Self- employment income	725.8	727.1	721.8	N/A	N/A	1.00	1.01	N/A	N/A
Investment income	5878.5	5815.7	5538.8	N/A	N/A	1.01	1.06	N/A	N/A
Property income	84.8	47.9	51.7	N/A	N/A	1.77	1.64	N/A	N/A
Private pensions	833.6	748.1	771.9	N/A	N/A	1.11	1.08	N/A	N/A
Private transfers	152.2	185.9	173.6	N/A	N/A	0.82	0.88	N/A	N/A

Notes: the external figures for 2014 to 2015sources refer to the estimates from the register related to the persons living at the end of 2014 to 2015, respectively. N/A – not available
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Table 4.4-Market income in EUROMOD -Annual amounts (in mil.)

	EUROMOD				External				Ratio			
	2014	2015	2016	2017	2014	2015	2016	2017	2014	2015	2016	2017
Employment income	1,635,272	1,688,727	1,732,394	1,785,849	1,484,014	1,547,978	N/A	N/A	1.10	1.09	N/A	N/A
Fringe benefits	21,522	21,512	21,703	22,052	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Self- employment income	59,456	60,270	61,716	61,716	48,356	49,789	N/A	N/A	1.23	1.21	N/A	N/A
Investment income	81,341	87,621	86,265	88,573	101,897	109,342	N/A	N/A	0.80	0.80	N/A	N/A
Property income	1,653	1,930	1,966	2,008	1,247	1,422	N/A	N/A	1.33	1.36	N/A	N/A
Private pensions	31,628	31,614	31,894	32,407	26,582	28,352	N/A	N/A	1.19	1.12	N/A	N/A
Private transfers	2,913	2,913	2,913	2,913	3,071	3,471	N/A	N/A	0.95	0.84	N/A	N/A

Notes: the external figures for 2014 to 2015 sources refer to the estimates from the register related to the persons living at the end of 2014 to 2015, respectively. N/A – not available

Table 4.5-Tax benefit instruments included but not simulated in EUROMOD -Number of recipients/ payers (in thousands)

	EUROMOD	External				Ratio			
	2014	2014	2015	2016	2017	2014	2015	2016	2017
Benefits									
Old-age pension	2274.6	2266.6	2286.5	N/A	N/A	1.00	0.99	N/A	N/A
Disability pensions	268.4	421.6	410.6	N/A	N/A	0.64	0.65	N/A	N/A
Survivor's pension	48.6	66.7	61.8	N/A	N/A	0.73	0.79	N/A	N/A
Sickness benefits	1455.3	1290.6	1350.0	N/A	N/A	1.13	1.08	N/A	N/A
Unemployment benefits	402.9	457.8	435.6	N/A	N/A	0.88	0.92	N/A	N/A
Education related allowance	582.1	537.2	535.0	N/A	N/A	1.08	1.09	N/A	N/A
Parent's allowance	1099.9	766.9	788.2	N/A	N/A	1.43	1.40	N/A	N/A
Taxes and Social Insurance contributions									
Property tax	2888.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes: the external figures for 2014 to 2015 sources refer to the estimates from the register related to the persons living at the end of 2014 to 2015, respectively. N/A – not available

Table 4.6-Tax benefit instruments included but not simulated in EUROMOD -Annual amounts (in mil.)

	EUROMOD				External				Ratio			
	2014	2015	2016	2017	2014	2015	2016	2017	2014	2015	2016	2017
Benefits												
Old-age pension	414,938	425,422	450,345	470,182	388,814	404,283	N/A	N/A	1.07	1.05	N/A	N/A
Disability pensions	26,591	27,263	28,860	30,131	42,098	41,659	N/A	N/A	0.63	0.65	N/A	N/A
Survivor's pension	2,543	2,607	2,760	2,881	2,764	2,528	N/A	N/A	0.92	1.03	N/A	N/A
Sickness benefits	38,182	39,430	40,449	41,698	35,661	40,269	N/A	N/A	1.07	0.98	N/A	N/A
Unemployment benefits	25,991	26,841	27,535	28,385	26,897	26,040	N/A	N/A	0.97	1.03	N/A	N/A
Education related allowance	29,679	29,746	29,612	29,947	30,033	28,478	N/A	N/A	0.99	1.04	N/A	N/A
Parent's allowance	30,805	31,812	32,634	33,641	27,146	27,960	N/A	N/A	1.13	1.14	N/A	N/A
Taxes and Social Insurance contributions												
Property tax	30,520	30,520	30,520	30,520	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes: the external figures for 2014 to 2015 sources refer to the estimates from the register related to the persons living at the end of 2014 to 2015, respectively. N/A – not available

Table 4.7-Tax benefit instruments simulated in EUROMOD -Number of recipients/ payers (in thousands)

	EUROMOD				SILC	Ratio	External				Ratio			
	2014	2015	2016	2017	2014	2014	2014	2015	2016	2017	2014	2015	2016	2017
Benefits														
Child benefit	1172.9	1172.9	1172.9	1172.9	0.0	N/A	1176.5	1265.0	N/A	N/A	1.00	0.93	N/A	N/A
Child benefit and educational support	1295.0	1295.0	1295.0	1295.0	1260.3	1.03	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Housing allowance	341.4	328.6	317.8	318.7	507.4	0.67	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Housing allowance for pensioners	410.9	393.6	360.4	330.7	0.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Social assistance	265.3	260.9	263.5	261.2	115.5	2.30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Taxes and Social Insurance contributions														
Personal income tax														
Basic Allowance	8753.4	8753.4	8753.4	8753.4	0.0	N/A	7479.0	7577.1	N/A	N/A	1.17	1.16	N/A	N/A
Allowance for voluntary Private Pension contributions	2222.0	2222.0	0.0	0.0	0.0	N/A	1931,6	1381.2	N/A	N/A	1.15	1.61	N/A	N/A
Municipal income tax and county council tax	7295.0	7301.4	7310.8	7312.8	0.0	N/A	7131.2	7230.0	N/A	N/A	1.02	1.01	N/A	N/A
Government income tax	1321.3	1377.2	1499.7	1554.2	0.0	N/A	1062.1	1120.0	N/A	N/A	1.24	1.18	N/A	N/A
Funeral tax	7293.6	7301.4	7309.2	7311.1	0.0	N/A	7087.0	7181.8	N/A	N/A	1.03	1.02	N/A	N/A
Tax credit for negative capital income	1919.7	1903.5	1908.8	1906.4	0.0	N/A	3917.6	3924.1	N/A	N/A	0.49	0.49	N/A	N/A
Earned income tax credit	5489.0	5502.4	5490.3	5493.5	0.0	N/A	5059,6	5149.4	N/A	N/A	1.08	1.07	N/A	N/A
Income tax	7062.5	7071.1	7088.9	7094.2	0.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tax on capital income excluding Capital Gain	4263.8	4279.9	4274.7	4277.1	0.0	N/A	2518.5	2421.0	N/A	N/A	1.69	1.76	N/A	N/A

Table 4.7 (continued).-Tax benefit instruments simulated in EUROMOD -Number of recipients/ payers (in thousands)

	EUROMOD				SILC	Ratio	External				Ratio			
	2014	2015	2016	2017	2014	2014	2014	2015	2016	2017	2014	2015	2016	2017
Employees SIC														
Employees SIC	5275.1	5286.5	5299.5	5305.3	0.0	N/A	5222.1	5301.2	N/A	N/A	1.01	1.00	N/A	N/A
Employers SIC														
Employers - Work injury insurance contribution	5282.8	5285.0	5285.0	5286.8	0.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Employers - Life insurance	5282.8	5285.0	5285.0	5286.8	0.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Employers - Labour market contribution	5282.8	5285.0	5285.0	5286.8	0.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Employers - Parental leave programme	5282.8	5285.0	5285.0	5286.8	0.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Employers - Ordinary wage tax and Special wage tax	5282.8	5285.0	5629.8	5631.5	0.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Employer - Retirement benefit programme	5562.3	5579.5	5591.2	5598.1	0.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Employers - Sickness insurance	5282.8	5285.0	5285.0	5286.8	0.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Reduction of Employer contributions	928.1	930.3	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Self-employed SIC														
Self-employed - Work injury insurance contribution	161.4	161.4	160.8	158.3	0.0	N/A	266.6	261.5	N/A	N/A	0.61	0.62	N/A	N/A
Self-employed - Life insurance	161.4	161.4	160.8	158.3	0.0	N/A	267.0	261.5	N/A	N/A	0.60	0.62	N/A	N/A
Self-employed - Labour market contribution	161.4	161.4	160.8	158.3	0.0	N/A	266.9	260.5	N/A	N/A	0.60	0.62	N/A	N/A
Self-employed - Parental leave programme	161.4	161.4	160.8	158.3	0.0	N/A	267.0	261.5	N/A	N/A	0.60	0.62	N/A	N/A
Self-employed - Ordinary wage tax and Special wage tax	161.4	161.4	172.9	168.8	0.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Self-employed - Retirement benefit programme	172.9	172.9	171.3	167.8	0.0	N/A	324.3	321.8	N/A	N/A	0.53	0.54	N/A	N/A
Self-employed - Sickness insurance	161.4	161.4	160.8	158.3	0.0	N/A	267.0	261.5	N/A	N/A	0.60	0.62	N/A	N/A

Notes: the external figures for 2014 to 2015 sources refer to the estimates from the register related to the persons living at the end of 2014 to 2015, respectively. N/A – not available.

Table 4.8-Tax benefit instruments simulated in EUROMOD –Annual amounts (Mil.)

	EUROMOD				SILC				Ratio				External				Ratio			
	2014	2015	2016	2017	2014	2015	2016	2017	2014	2015	2016	2017	2014	2015	2016	2017	2014	2015	2016	2017
Benefits																				
Child benefit	29,514	29,514	29,514	29,852	0	0	0	0	N/A	N/A	N/A	N/A	25,166	25,702	N/A	N/A	1.17	1.15	N/A	N/A
Child benefit and educational support	32,411	32,411	32,411	32,749	30,427	30,641	30,991	31,413	1.07	1.06	1.05	1.04	28,293	28,758	N/A	N/A	1.15	1.13	N/A	N/A
Housing allowance	7,032	6,780	6,587	6,639	12,872	12,963	13,111	13,290	0.55	0.52	0.51	0.50	5,402	5,344	N/A	N/A	1.30	1.27	N/A	N/A
Housing allowance for pensioners	11,041	10,347	9,093	8,372	0	0	0	0	N/A	N/A	N/A	N/A	12,832	13,085	N/A	N/A	0.86	0.79	N/A	N/A
Social assistance	11,652	11,444	11,698	11,774	7,065	7,115	7,196	7,294	1.65	1.61	1.63	1.61	11,157	11,234	N/A	N/A	1.04	1.02	N/A	N/A

Notes: the external figures for 2011 to 2014 sources refer to the estimates from the register related to the persons living at the end of 2011 to 2014, respectively. N/A – not available.

Table 4.8 (continued)-Tax benefit instruments simulated in EUROMOD –Annual amounts (Mil.)

	EUROMOD				External				Ratio			
	2014	2015	2016	2017	2014	2015	2016	2017	2014	2015	2016	2017
Taxes and Social Insurance contributions												
Personal income tax												
Basic Allowance	153,993	151,989	148,219	148,222	209,089	210,567	N/A	N/A	0.74	0.72	N/A	N/A
Allowance for voluntary Private Pension contributions	14,026	3,873	0	0	12,763	3,428	N/A	N/A	1.10	1.13	N/A	N/A
Municipal income tax and county council tax	658,553	687,197	713,174	738,443	598,848	631,581	N/A	N/A	1.10	1.09	N/A	N/A
Government income tax	56,666	60,519	66,309	69,981	47,052	50,354	N/A	N/A	1.20	1.20	N/A	N/A
Funeral tax	4,540	4,717	4,888	5,289	4,117	4,375	N/A	N/A	1.10	1.08	N/A	N/A
Tax credit for negative capital income	13,573	13,424	13,585	13,781	21,226	18,015	N/A	N/A	0.64	0.75	N/A	N/A
Earned income tax credit	109,820	112,185	109,395	111,188	99,694	103,481	N/A	N/A	1.10	1.08	N/A	N/A
Income tax	490,032	517,272	549,101	572,795	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tax on capital income excluding Capital Gain	21,486	23,310	22,926	23,555	63,669	80,561	N/A	N/A	0.34	0.29	N/A	N/A
Employees SIC												
Employees SIC	107,090	110,282	113,007	116,664	103,565	107,918	N/A	N/A	1.03	1.02	N/A	N/A

Notes: the external figures for 2011 to 2014 sources refer to the estimates from the register related to the persons living at the end of 2011 to 2014, respectively. N/A – not available.

Table 4.8 (continued)-Tax benefit instruments simulated in EUROMOD –Annual amounts (Mil.)

	EUROMOD				External				Ratio			
	2014	2015	2016	2017	2014	2015	2016	2017	2014	2015	2016	2017
Employers SIC												
Employers - Work injury insurance contribution	4,881	5,039	5,168	3,551	4,131	4,401	N/A	N/A	1.18	1.14	N/A	N/A
Employers - Life insurance	19,037	19,652	20,156	12,429	16,143	17,187	N/A	N/A	1.18	1.14	N/A	N/A
Employers - Labour market contribution	47,349	44,342	45,479	46,875	40,154	38,799	N/A	N/A	1.18	1.14	N/A	N/A
Employers - Parental leave programme	42,305	43,670	44,790	46,164	35,885	38,207	N/A	N/A	1.18	1.14	N/A	N/A
Employers - Ordinary wage tax and Special wage tax	160,760	170,482	168,170	192,327	136,373	149,193	N/A	N/A	1.18	1.14	N/A	N/A
Employer - Retirement benefit programme	168,888	174,444	178,969	184,476	154,347	161,220	N/A	N/A	1.09	1.08	N/A	N/A
Employers - Sickness insurance	70,780	73,064	105,946	109,197	60,031	63,929	N/A	N/A	1.18	1.14	N/A	N/A
Reduction of Employer contributions	16,654	17,197	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Self-employed SIC												
Self-employed - Work injury insurance contribution	108	110	112	74	113	115	N/A	N/A	0.96	0.95	N/A	N/A
Self-employed - Life insurance	422	428	437	258	441	451	N/A	N/A	0.96	0.95	N/A	N/A
Self-employed - Labour market contribution	134	37	37	37	139	38	N/A	N/A	0.96	0.96	N/A	N/A
Self-employed - Parental leave programme	938	951	972	957	981	1,002	N/A	N/A	0.96	0.95	N/A	N/A
Self-employed - Ordinary wage tax and Special wage tax	3,565	3,713	3,813	4,136	4,071	3,913	N/A	N/A	0.88	0.95	N/A	N/A
Self-employed - Retirement benefit programme	4,006	4,061	4,119	4,043	4,594	4,680	N/A	N/A	0.87	0.87	N/A	N/A
Self-employed - Sickness insurance	1,602	1,624	1,847	1,634	1,677	1,717	N/A	N/A	0.96	0.95	N/A	N/A

Notes: the external figures for 2011 to 2014 sources refer to the estimates from the register related to the persons living at the end of 2011 to 2014, respectively. N/A – not available.

Table 4.9-Distribution of equivalised disposable income

	EUROMOD				External				Ratio			
	2014	2015	2016	2017	2014	2015	2016	2017	2014	2015	2016	2017
D1	4.0	3.9	3.9	3.9	3.5	3.1	N/A	N/A	1.14	1.27	N/A	N/A
D2	5.7	5.7	5.7	5.7	5.6	5.4	N/A	N/A	1.02	1.06	N/A	N/A
D2	5.7	5.7	5.7	5.7	5.6	5.4	N/A	N/A	1.02	1.06	N/A	N/A
D3	6.9	6.8	6.9	6.9	6.8	6.5	N/A	N/A	1.01	1.05	N/A	N/A
D4	7.9	8.0	8.0	8.0	7.9	7.6	N/A	N/A	1.01	1.05	N/A	N/A
D5	8.9	8.9	8.9	8.9	8.9	8.7	N/A	N/A	1.00	1.02	N/A	N/A
D6	9.9	9.9	9.9	9.9	9.9	9.7	N/A	N/A	1.00	1.02	N/A	N/A
D7	11.0	10.9	11.0	11.0	11.0	10.9	N/A	N/A	1.00	1.00	N/A	N/A
D8	12.2	12.3	12.2	12.3	12.3	12.3	N/A	N/A	1.00	1.00	N/A	N/A
D9	14.0	14.0	14.0	14.0	14.1	14.2	N/A	N/A	0.99	0.99	N/A	N/A
D10	19.5	19.6	19.4	19.4	20.1	21.8	N/A	N/A	0.97	0.90	N/A	N/A
Median	240,013	245,602	251,256	258,592	242,388	235,373	N/A	N/A	0.99	1.04	N/A	N/A
Mean	255,907	261,842	266,909	274,383	259,220	255,791	N/A	N/A	0.99	1.02	N/A	N/A
Gini	23.9	24.1	23.8	23.9	25.2	27.6	N/A	N/A	0.95	0.87	N/A	N/A
S80/S20	3.4	3.5	3.5	3.5	3.8	4.3	N/A	N/A	0.91	0.81	N/A	N/A

Notes: Based on 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; computed at the individual level.
Sources: EUROMOD calculations; External figures are taken from the EUROSTAT statistics database:
 http://ec.europa.eu/eurostat/web/income-and-living-conditions/data/main-tables

Table 4.10-Poverty rates by gender and age

	EUROMOD				External				Ratio			
	2014	2015	2016	2017	2014	2015	2016	2017	2014	2015	2016	2017
40% median HDI												
Total	3.1	3.3	3.5	3.6	4.1	5.1	N/A	N/A	0.75	0.65	N/A	N/A
Males	3.5	3.7	3.8	3.9	4.2	5.7	N/A	N/A	0.83	0.65	N/A	N/A
Females	2.7	2.9	3.1	3.2	4.0	4.6	N/A	N/A	0.67	0.64	N/A	N/A
50% median HDI												
Total	7.1	7.4	7.6	7.7	8.0	9.4	N/A	N/A	0.89	0.78	N/A	N/A
Males	7.1	7.4	7.7	7.9	7.8	9.7	N/A	N/A	0.91	0.76	N/A	N/A
Females	7.2	7.4	7.4	7.5	8.2	9.2	N/A	N/A	0.87	0.80	N/A	N/A
60% median HDI												
Total	14.2	14.6	14.6	14.7	14.5	16.2	N/A	N/A	0.98	0.90	N/A	N/A
Males	13.1	13.3	13.4	13.4	13.2	15.2	N/A	N/A	0.99	0.88	N/A	N/A
Females	15.2	15.8	15.8	16.0	15.9	17.3	N/A	N/A	0.96	0.91	N/A	N/A
70% median HDI												
Total	22.3	22.5	22.4	22.4	22.7	24.4	N/A	N/A	0.98	0.92	N/A	N/A
Males	20.0	20.1	20.0	20.0	20.2	22.1	N/A	N/A	0.99	0.91	N/A	N/A
Females	24.7	24.8	24.8	24.8	25.2	26.7	N/A	N/A	0.98	0.93	N/A	N/A
60% median HDI												
0-15 years	12.1	12.1	12.3	12.5	12.1	18.0	N/A	N/A	1.00	0.67	N/A	N/A
16-24 years	28.5	28.8	29.6	29.7	28.0	28.4	N/A	N/A	1.02	1.01	N/A	N/A
25-49 years	12.4	12.5	12.8	12.9	12.5	13.9	N/A	N/A	0.99	0.90	N/A	N/A
50-64 years	8.6	9.0	9.4	9.4	8.3	10.7	N/A	N/A	1.04	0.84	N/A	N/A
65+ years	16.4	17.8	16.2	16.5	18.2	16.8	N/A	N/A	0.90	1.06	N/A	N/A

Notes: Based on 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; computed at the individual level. Sources: EUROMOD calculations; External figures are taken from the EUROSTAT statistics database: http://ec.europa.eu/eurostat/web/income-and-living-conditions/data/main-tables

Table 4.11-Minimum wage validation

	Baseline				Min Wage Incl.				Ratio			
	2014	2015	2016	2017	2014	2015	2016	2017	2014	2015	2016	2017
Equivalised disposable income	1783220.00	1824866.00	1862239.00	1915190.00	1783221.00	1824866.00	1862239.00	1915191.00	1.00	1.00	1.00	1.00
Employment income	1635272.00	1688727.00	1732394.00	1785849.00	1635272.00	1688727.00	1732395.00	1785850.00	1.00	1.00	1.00	1.00
Total income tax	490032.20	517271.50	549101.20	572794.70	490032.30	517271.60	549101.30	572794.80	1.00	1.00	1.00	1.00
Employee social insurance contributions	107090.10	110282.40	113006.90	116664.40	107090.20	110282.40	113006.90	116664.40	1.00	1.00	1.00	1.00
Social Assistance	11651.74	11444.05	11698.25	11773.70	11651.74	11444.05	11698.25	11773.70	1.00	1.00	1.00	1.00
Gini coeficient	23.93	24.08	23.82	23.85	23.93	24.08	23.82	23.85	1.00	1.00	1.00	1.00
Poverty rate (60% median HDI)	14.18	14.56	14.53	14.65	14.18	14.56	14.53	14.65	1.00	1.00	1.00	1.00

Notes: The baseline is calculated without making any adjustments to employment income; the 'minimum wage included' columns adjust employment income to reflect the minimum gross hourly wage; see section II for a description of the implementation of the minimum hourly wage.
Source: EUROMOD calculations.

ANNEX 3. POLICY EFFECTS IN 2016-2017

Preliminary: Indexation based on projected HICP for 2017

Table A3.1 and Figure A3.1 show the effect of 2017 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 2017 tax-benefit policies (deflating monetary parameters by projected Harmonized Index of Consumer Prices, HICP) and net incomes simulated under 2016 policies, as a percentage of mean equivalised household disposable income in 2016.

In comparison to 2016 policies, (deflated) 2017 policies increase mean household income only by 0.46% in total. Changes in public pensions accounted for most of the increase in household disposable income (0.66%), reflecting that pensions indexation was higher than growth in CPI. The distribution of gains across income deciles reflects where recipients of pensions are located. Direct taxes accounted for a 0.22% decrease in household disposable income, which is likely due to the small increase in County council and funeral tax rates. All other tax and benefit instruments have only a very minor distributional impact.

Table A3.1: Policy effects in 2016-2017, using the CPI-indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Direct taxes	Disposable income
1	0.0	0.70	-0.26	0.21	-0.01	0.0	-0.28	0.36
2	0.0	1.52	-0.41	0.16	-0.01	0.0	-0.57	0.68
3	0.0	1.16	0.02	0.15	-0.01	0.0	-0.45	0.87
4	0.0	0.94	0.0	0.17	-0.02	0.0	-0.37	0.71
5	0.0	0.72	0.0	0.13	-0.03	0.01	-0.26	0.57
6	0.0	0.55	0.0	0.12	-0.03	0.0	-0.20	0.43
7	0.0	0.48	0.0	0.09	-0.05	0.0	-0.14	0.38
8	0.0	0.40	0.0	0.07	-0.05	0.0	-0.09	0.32
9	0.0	0.45	0.0	0.04	-0.07	0.0	-0.09	0.33
10	0.0	0.56	0.0	0.02	-0.08	0.0	-0.15	0.35
Total	0.0	0.66	-0.03	0.09	-0.04	0.0	-0.22	0.46

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 2016, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2017 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).

Figure A3.1: Policy effects in 2016-2017, using the CPI-indexation, % [alfa = 1.01364]