

EUROMOD

COUNTRY REPORT



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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 27 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 Finland. 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 G2.0. 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.iser.essex.ac.uk/research/euromod>

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This programme is managed by the Directorate-General for Employment, social affairs and equal opportunities of the European Commission. It was established to finally support the implementation of the objectives of the European Union in the employment and social affairs area, as set out in the Social Agenda, and thereby contribute to the achievement of the Lisbon Strategy goals in these fields.

The seven-year Programme targets all stakeholders who can help shape the development of appropriate and effective employment and social legislation and policies, across the EU-27, EFTA-EEA and EU candidate and pre-candidate countries.

PROGRESS mission is to strengthen the EU contribution in support of Member States' commitment. PROGRESS is instrumental in providing analysis and policy advice on PROGRESS policy areas; monitoring and reporting on the implementation of EU legislation and policies in PROGRESS policy areas; promoting policy transfer, learning and support among Member States on EU objectives and priorities; and relaying the views of the stakeholders and society at large

For more information see: <http://ec.europa.eu/progress>

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

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1. BASIC INFORMATION¹

1.1 Basic information about the tax-benefit system

- The Finnish tax-benefit system is largely a uniform national system. The main exceptions are local tax rates which differ across municipalities and Churches and housing benefits which differ in different parts of the country.
- The “fiscal year” in taxation is the calendar year.
- The personal income tax system is individual with spouses being assessed independently. However, in some cases, it is possible to transfer tax deduction between spouses.
- Compulsory school starts at the age of seven. The age when obligatory schooling ends is normally 17 year.
- Dependent child is generally defined as being less than 18 years old. In some systems the dependent children are defined as below 17 years old.
- There are two complementary pension systems, a national pension based on the residence and an earnings-related pension based on the employment history.
- The earnings-related pension system allows a person to choose the retirement flexibly between the age of 63 and 68 years. It is also possible to continue working after 68 years or retire earlier. In the first case the amount of pension increases and in the second case decreases permanently. The retirement age for national pension is 65 years for both men and women.
- For benefit purposes lone parents are defined as parents with dependent child and not co-habiting with another person in a marriage-like relationship.
- The benefit schemes are basically divided into two types depending on how they are financed. With some exceptions the basic (minimum) social security benefits are financed by the state and earnings-related contributory benefits by employees, self-employed and employers.
- Earnings-related benefits are calculated on the basis of annual or monthly income. They are usually paid out on a daily basis except pensions which are paid on a monthly basis. Unemployment benefits are paid out on a working day basis (from Monday to Friday) whereas other daily allowances are paid out on a weekday basis (from Monday to Saturday).
- Almost all social benefits are adjusted annually either by price index or by “mixed” indices. From March 2011 only student benefits and general housing benefits are not adjusted by any index. None of the social benefits are adjusted by earnings index.
- Means-testing is defined as testing against spouse’s, household’s or person’s own income.
- Earnings-related benefits are not means-tested except the survivor’s pension, which is means-tested against person’s other pensions.

¹ All sources referred in this chapter (and this report) with the available websites, are listed in chapter 5.

- Taxable benefits are paid to individuals. Non-taxable benefits are paid to individuals and households or, in case of local income support (social assistance), to individuals and families.
- Eligibility considerations for unemployment benefits can entail means-testing if a person is partly-employed. Partly employed persons may receive unemployment benefits and wage income at the same time if certain conditions are met (so-called conciliated adjustable allowance). In this case the unemployment benefit is cut by half of the wage income.
- Minimum benefits may be means-tested or not. Family benefits are generally not means-tested with an exception of child home care allowance.
- Most of the benefits are subject to income tax. The most important non-taxable benefits are housing allowances, child benefit and local authority income support. Some disability benefits are also non-taxable.
- Tax liability is based on annual income and tax allowances and thresholds are referred to in annual terms.
- Personal income taxation is based on a dual income tax system where all incomes are divided into earned and capital income. Both income types are taxed separately with different rates. Earned income includes employment, pension and other benefit incomes. Capital income includes e.g. return on deposit, property and investment as well as gains from sale of property. Only net incomes are taxed meaning that expenses directly related to the income are deductible in both capital and earned taxation.
- Income from self-employment is divided into earned and capital income in personal taxation. This is to address the fact that income is generated both from labour and capital inputs committed by the self-employed. Two main types of self-employed are entrepreneurs and farmers.
- Monetary tax parameters are not automatically indexed with an exception of pension deduction parameters in state and local taxation. These deductions are based on full national pension which is adjusted by price index. All other possible changes in tax rules (deductions, income limits in the schedule, marginal rates etc.) are decided annually.
- Three taxes based on earned income are described in this report: state tax, municipal tax and church tax. The latter is based on voluntary membership of Church.
- The earned income subject to tax is the same in state and local taxation but tax allowances, and thus tax bases, differ.
- Municipal and church tax rates are flat and applied to local tax base. They are decided independently by municipalities and parishes.
- A progressive tax schedule is applied to earned income tax base in state taxation.
- Although earned income and capital income are taxed separately there are links between them. Some tax credits are subtracted both from earned and capital income taxes. Some interests are deductible in capital taxation but may also be deductible (a share of them) from earned income taxes.

1.2 Social Benefits

Social security benefits can be divided into three different categories: The first consists of *contributory* earnings-related benefits. Entitlements to these benefits are usually based on contributions paid by employees, self-employed and employers. The second type of benefits is *non-contributory, non-means-tested* benefits. These benefits depend on specific conditions such

as disability or parenthood. The third type of benefits is *means-tested benefits* which depend on a range of personal or family circumstances and on own, spousal or family incomes.

1.2.1 Contributory benefits

All the contributory benefits (incl. pensions) are earnings-related. The contributions depend on the size of earnings with an exception of earnings-related unemployment allowance where the fee to the fund may be a flat amount. Most of the contributory schemes are statutory for employees. The contributory benefits, as all other earnings replacement benefits, are taxable and usually not subject to any means-testing. There is no upper limit for employee, self-employed or employer contributions. Neither there is any ceiling in any of the contributory benefits. The main such benefits are the following.

Earnings-related unemployment allowance (*ansiopäiväraha*) is a benefit for unemployed persons aged between 17–64 years who are registered as full-time job seekers at the local employment office. The claimant must be a member of unemployment fund and meet the working condition. For person with dependent child a supplement is paid. The allowance is payable for a maximum of 500 working days.

Sickness leave benefit (*sairauspäiväraha*) is paid from the sickness insurance. Eligible are 16–67 year-old (from 2011) employees and self-employed. The benefit is normally paid for maximum of 300 weekdays. The benefit amount is based on person's previous employment income reported to the tax authorities or on the last 6 months average employment income. For self-employed the benefit is based on the estimated employment income which is the base for all their contributory benefits.

Maternity leave benefit (*äitiysraha*) is paid for 105 weekdays. The minimum amount of the benefit equals the minimum amount of sickness leave benefit. **Parental leave benefit** (*vanhempainraha*) is paid either to a mother or to a father when the maternity leave period has expired. The benefit is paid for 158 weekdays to the parent who stays at home and takes care of the child. Both parents cannot receive the parental leave benefit at the same time. Increased parental leave benefit is paid for the first 30 days of paternal leave. **Paternity leave benefit** (*isyyssraha*) is paid to a father for 18 days. The benefit can be divided into maximum of four distinct periods during the maternity or parental leave periods. The standard amount of paternity leave benefit equals the standard parental leave benefit.

Earnings-related old-age pension (*vanhuuseläke*) scheme is flexible. A person may choose to retire between 63–68 years of age. There is an incentive to carry on working in the sense that the employment income accrues more pension income in the old ages. An early old-age pension is possible at the age of 62 years. In this case the pension is permanently reduced by 0.6 per cent for each predated month. The pension may also be deferred beyond the age of 68. In this case the pension is increasing by 0.4 per cent for every postponed month.

Part-time pension (*osa-aikaeläke*) is designed for an employee or self-employed who wants to work less and retire (partly) earlier. The age limits when it is possible to retire are the following: a) 58–64 if born before 1947, 58–67 if born in 1947–1952 and 60–67 if born later than 1952. To be eligible to the benefit, earnings must also be reduced by 35–70 per cent from full-time work to part-time work. The amount of the part-time pension is 50 per cent of the difference between the full-time and part-time earnings, but at most 75 per cent of that old-aged pension which is accrued up to the start of the part-time pension. The full time earnings are calculated as the mean of the previous five years monthly wage.

Earnings-related unemployment pension (*työttömyyseläke*) is awarded to a long-term unemployed who have been born before 1950 and whose unemployment allowances have expired after the maximum period of 500 days. The age criterion means that the unemployment

pension is being faded out, because after 2013 all persons born before 1950 are at least 63 years old. A further criterion is that the applicant has been working at least 5 years during the last 15 years.

Disability pension (*työkyvyttömyyseläke*) is awarded to a person aged between 18–62 years and who is incapable to work because of illness, handicap or injury. Depending on the reduction in work ability the disability pension is paid either as a full or partial pension. Often a temporary **rehabilitation subsidy** (*kuntoutustuki*) is paid before the disability pension benefit. The amount of the rehabilitation subsidy is the same as disability pension. It is also paid either as full or partial benefit.

Survivors' pension (*perhe-eläke*) can be paid to a surviving spouse, former spouse (in some cases) and to a child of the deceased. The pension is divided into two types: surviving spouse's pension and orphan's pension.

Workers' compensation pension (*tapaturmaeläke*) is paid to all employees and farmers in case of accident at work or on the journey between home and work. The pension is paid to the injured after the daily allowance period has expired (maximum one year). The full work injury pension amounts to 85 per cent of annual earnings if a person is less than 65 years and 70 per cent if at least 65 years. The pension may be paid as full or partial.

Basically all contributory benefits are paid as non-contributory minimum benefits if a person has no work history and is thus not entitled to employment pension.

1.2.2 Non-contributory, non-means-tested benefits

Basic unemployment allowance (*peruspäiväraha*) is payable to a person aged between 17–64 years who is registered as full-time job-seeker at the local employment office and meets the employment condition. The claimant must also be available to the labour market. The benefit is payable for a maximum of 500 working days. It is taxable.

Child benefit (*lapsilisä*) is a universal flat-rate benefit paid for every child under 17 years of age and resident in Finland. The benefit is paid regardless of any other benefits (or any other reasons). The amount of child benefit per child is larger if there are more children in household, up to the fifth child. Parents may choose which one of them receives the benefit. The child benefit is not taxable.

Disability allowance (*vammaistuki*) is designed to provide financial support to disabled persons in everyday life. There are two types of disability allowances with different conditions and amounts: one paid to disabled persons between 16–64 years and another paid to children aged less than 16 years. Both types of benefit are in three categories depending on the nature of the illness or handicap. Full-time pensioners are not entitled to disability allowance. The disability allowance is not taxable.

Pensioners' care allowance (*eläkkeensaajien hoitotuki*) is designed to give financial support to long-time sick or disabled pensioners. Pensioners' care allowance is scaled into three groups based on the need for assistance and the size of special costs. The allowance is not taxable.

Home care allowance (*omaishoidon tuki*) is a compensation paid to a person who takes care of an elderly, disabled or ill person at their home. It is possible to pay the allowance to a family member or relative. Home care allowance can also be provided in the form of services (e.g. food or transport services). The benefit is arranged by municipalities. It is taxable if paid in cash.

1.2.3 Means-tested benefits

The national pension (*kansaneläke*) is a basic minimum pension. It is means-tested against person's other contributory pension income. Pensioner's other income or the wealth does not affect the national pension, neither spouse's income or wealth. The national pension is paid as disability pension (at the age of 16–64 years), unemployment pension (at the age of 60–64 years) and old age pension (from the age of 65 years or 62 year if early old-age pensioner). The age limit for old-age pension is 65 year which is different from the contributory earnings-related pension where retirement age is flexible between 63–68 years. The amount of national pension is different for single persons and couples who may be married or co-habiting. The national pension is subject to tax but because of pension deductions no taxes are paid if there is no other taxable income. If a person has lived abroad long enough, the national pension is reduced in relation to the time lived abroad.

In 2011 a **guarantee pension** (*takuueläke*) was introduced. It guarantees a certain level of pension to all pensioners (738.82 euro/month in 2013). It is equal for singles and spouses and it is means-tested only against other pension income. Earned income or wealth does not affect it. Unlike the national pension, it is not relative to the time lived in Finland.

Labour market subsidy (*työmarkkinatuki*) is granted to an unemployed person aged between 17–64 years who is registered as a job seeker at the employment office. The benefit is designed for people who do not meet the working condition or have received basic or earnings-related allowance the maximum of 500 benefit days. In the latter case the labour market support is not means-tested for the first 180 days. The size of the benefit depends on the income of the unemployed person, the income of his or her partner (until 2012) and parents (if a person is living together with them). There is no time limit for the labour market subsidy. The benefit is taxable.

Child home care allowance (*kotihoidon tuki*) is designed to support the child care of small children at home. The child home care allowance includes two components: an allowance and a supplement. The first is a flat-rate benefit and the second is means-tested against other family income. Municipalities may pay additional supplements and decide the rules applied to them. The partial home care allowance may be paid out if parents reduce their working hours due to childcare. The benefit is taxable.

General housing allowance (*yleinen asumistuki*) decreases the housing costs of low-income households. Housing allowance can be paid to households living in rented, right-to-occupancy or owner-occupied dwellings. The allowance is admitted only to the reasonable housing costs. The size of the benefit depends on the number of persons living in the household, the monthly household income and the location of the dwelling (the country is divided into four areas). The household is defined as all persons living in the same dwelling. General housing allowance is not taxable.

Housing allowance for pensioners (*eläkkeensaajien asumistuki*) is paid to pensioners with low income. The size of the benefit depends on housing costs and family relations as well as the income and wealth of a pensioner and the spouse. The age of the pensioner has no significance. The pensioner's housing allowance is not taxable.

Student housing supplement (*opintotuen asumislisä*) is designed to cover a share of students housing costs. Students may live in a rented or in a right-of-occupancy dwelling in order to be eligible for the benefit. The benefit is paid only for "the study months". It is means-tested against student's all income and, if under 18-years, also against parents' income. Until 2009 also spouse's income decreased the benefit. The student housing supplement is not taxable.

Study grant (*opintoraha*) is a benefit paid for full-time studies after comprehensive school, i.e. for upper secondary school studies or vocational, supplementary and higher degree education. It

is one component of the student's financial aid, which consists of study grant, housing supplement and student loan as well as certain subsidies, such as meal and travel subsidy. The study grant is taxable.

Local authority income support (*toimeentulotuki*) is the last resort income security. It ensures the minimum subsistence to all persons and families regardless of any preconditions. Anyone (any family) whose income and wealth are insufficient to meet the subsistence needs is entitled to the income support. The benefit includes two components: a) a basic component which covers basic needs (e.g. costs of food, clothing, transport and minor health care costs) and b) a supplementary component which covers certain other expenses (e.g. housing costs and child day care fee). The income support is means-tested against all personal or family income after taxes, contributions and costs due to working (e.g. commute costs). The benefit is paid by the local authority. It is not taxable.

1.2.4 Not strictly benefits

There are elements in the Finnish social security which are not strictly benefits. Sometimes these payments may be seen as substitutes for benefits. The most important such payments are:

Municipal child day-care fee (*lasten päivähoidomaksu*) is a service charge paid by families for child day care. The public child day-care is an alternative to the child home care and to the private day care. All children under school age (7 years) are entitled to municipal childcare. In other words all families have a "subjective right" to public child day care. Entitlement begins when the period of parental allowance ends. In some cases, e.g. if the child participates in pre-school education before starting the comprehensive school, the day-care may be arranged on a part-time basis. The day care fee is based on the family income. For low-income families the day care is free of charge.

Private day-care compensation (*yksityisen hoidon tuki*) is paid for families whose children are in private day-care. The compensation is paid directly to the day-care center or private babysitter. As in public day-care the fee can be paid when the parental allowance period ends and until the child begins the comprehensive school. The private day-care compensation is paid as a flat care allowance and as a means-tested care supplement. Both are paid for each child. The care supplement is means-tested against all family income in the same way as the child home care supplement.

1.3 Social contributions

Social insurance contributions are used to finance contributory pensions and other contributory benefits, public health care and to some extent national pensions (up to 2010). Employees have four statutory social security contributions. Three of them, *earnings-related pension contribution*, *unemployment insurance contribution* and *daily allowance contribution*, are based on gross wage (incl. taxable in-kind-benefits). They are all deductible in personal taxation.

Entrepreneurs have two statutory social security contributions: earnings-related pension contribution and daily allowance contribution. In addition farmers have to pay accident and group life insurance contributions. Self-employed persons, entrepreneurs and farmers, may pay and deduct their pension contributions either in their business and farming activity or in their personal taxation. In the first case the contributions are not anymore deductible in personal taxation. The daily allowance contributions are deductible only in personal taxation. Farmers subtract accident insurance and group life insurance contributions in their farming activity.

The base for all social insurance contributions of self-employed persons is a "hypothetical" YEL-income (entrepreneurs) and MYEL-income (farmers). These are not actual incomes received from self-employment but estimated employment incomes. Ideally they correspond to

the income paid to a person who would do the same work as the self-employed and with the equal professional skill.

The medical care contribution is based on local tax base and is paid by all individuals who have positive tax base. The contribution of self-employed persons is not based on the actual local tax base but on the “hypothetical” tax base. In this tax base the actual self-employment income is replaced by YEL- or MYEL-income and the local tax deductions are subtracted from this income, except the pension contribution. We may call this as the “adjusted” local tax base.

Employers finance the same contributory benefits as employees and self-employed. In addition they have to pay some other contributions. On average the employer contribution rate is approximately five times higher than the employee contribution rate.

Individual contributions

Earnings-related pension contribution (*työeläkevakuutusmaksu*) is statutory for all employees and self-employed. The employee contribution is based on the gross wage and the self-employed contribution on the estimated employment income (YEL- or MYEL-income). The contribution rate is the same for all individuals with certain exceptions. People aged at least 53 years have higher contribution rate than younger persons. In addition self-employed have higher contribution rate than employees. Farmers’ contribution rate depends to some extent on the size of the income from farming.

National pension contribution for individuals was abolished in 1996.

Unemployment insurance contribution (*työttömyysvakuutusmaksu*) is statutory for all employees but voluntary for self-employed. The contribution rate is the same for all employees. The employee unemployment contribution is an exception among social contributions in the sense that it is based on wage but is not directly connected to the contributory benefit. To be entitled to the contributory earnings-related unemployment benefit another “contribution” is required, **the fee to the unemployment fund**. The membership of the fund is voluntary. The fee may be either as a percentage share of wage or a flat-rate fee. To be entitled to the earnings-related unemployment benefit the wage earner must be a member of the unemployment fund for at least eight months (34 weeks) before the unemployment.

Daily allowance contribution (*päivärahamaksu*) is statutory for all employees and self-employed. The base for the employee contribution is the gross wage. For self-employed the base is the estimated employment income (YEL- and MYEL-income). The contribution rate is the same for wage and farming income but higher for entrepreneur income.

Medical care contribution (*sairaanhoitomaksu*) is based on the local tax base. This means that people with very low income do not pay the contribution. For benefit and pension income the contribution rate is higher than for employment income – the contribution rate is higher if daily allowance contribution is not paid from that income. As described above for self-employed the calculation of the contribution is based on the “adjusted” local tax base where employment income is replaced by the estimated YEL- or MYEL-income. Medical care contribution and daily allowance contribution make together **the health insurance contribution** (*sairausvakuutusmaksu*).

Employer contributions

All employers’ contributions are based on gross wage but the contribution rates differ depending on e.g. the number and age of employees, the institutional sector, the wage sum and responsibilities to pay disability or unemployment pensions. This means that contributions are different for most of the employers. Only the health insurance contribution rate is the same for all employers. Employers, as employees, pay earnings-related pension contribution, unemployment insurance contribution and health insurance contributions. In addition they have to pay the following contributions:

Accident insurance contribution (*tapaturmavakuutusmaksu*) covers all employees. The size of the contribution is determined according to different criteria, which may be slightly different in each insurance company. The accident insurance contribution is statutory also for farmers but voluntary for entrepreneurs.

Group life insurance contribution (*henkivakuutusmaksu*) is not based on legislation but on trade union agreements. Nevertheless it includes most of the employees and all farmers.

National pension contribution (*kansaneläkemaksu*) is not a contribution to any contributory benefit because the national pension is a flat-rate minimum benefit. The minimum benefits are usually financed by taxes but employers were also obliged to contribute to national pension scheme until the end of 2009.

1.4 Taxes

Excluding tax on deposit interest, corporate income tax, inheritance tax, gift tax, real estate tax and indirect taxes, the EUROMOD covers nearly 60 per cent of the total tax and social contribution revenue. A short outline of all taxes is presented in this chapter.

Direct taxes

Income taxes (*tuloverot*) are the most important direct taxes. The corporate and individual taxation is based on net income (“pure income”), which is defined as income after all expenses related to that income are subtracted. In the dual tax system all personal incomes are divided into capital and earned income and taxed separately.

Corporate income is taxed with a flat tax rate 24.5% in 2012 and 2013. In years 2007–2011 the corporate income tax rate was 26 %.

The tax rate of personal *capital income* is 30 % for incomes up to 50 000 euros and 32 % for incomes exceeding 50 000 euros. In years 2007–2011 the personal capital income tax rate was a flat rate 28 %. Interests paid to individuals from domestic bank deposits or from bonds offered to the public are also capital income and taxed with the flat same rate: 30 % in 2012 and 28 % in years 2007–2011. As an exception to other capital incomes these interests are taxed at source. The capital income tax is levied by the state.

A progressive tax schedule is applied to personal *earned income* in state taxation and flat tax rates in local taxation. There are two kinds of local taxes: a municipal tax and “a church tax”. Municipalities and churches decide the tax rates independently before the end of the year. The same local tax base is applied also to the medical care contribution. Tax bases in state and local taxation are different because tax allowances in state and local taxation are different.

To divide income into capital and earned income on the basis of income source is not always straightforward. As described, income from self-employment is divided into capital and earned income in personal taxation. Also dividends from non-listed companies may be capital or earned income. Dividends from publicly listed companies are always capital income. Neither earned income nor capital income dividends are fully taxable. Different rules concerning the tax liability are applied to dividends from publicly listed and from non-listed companies.

The taxation of capital and earned income is not totally separated. Some tax credits are subtracted both from capital and earned income taxes. Neither is the personal tax system entirely individual. There are tax credits which are possible to subtract from spouse’s taxes if own taxes would become negative.

Inheritance tax (*perintövero*) is a tax on wealth received either as bequest or through testament. A progressive schedule on wealth is applied. The tax is levied by the state.

Gift tax (*lahjaverot*) is applied to the value of the gifts according to the same principles as bequests.

Real estate tax (*kiinteistövero*) is levied on property. The most important exemptions are forests and agricultural land. The tax is based on taxable value of the property. It is paid to the municipality where the property is located. Municipalities decide the tax rates annually within certain limits that are decided in legislation.

Indirect taxes

Value added tax (*arvonlisävero*) is a general consumption tax on goods and services. There are three rates: a general rate of 24 per cent (22% before 1.7.2010 and 23 percent before 1.1.2013) is applied to most of the consumption goods, a reduced rate of 14 per cent (earlier 13 or 12%) is applied to food and fodder and a reduced rate of 10 per cent (correspondingly 9% or 8%) is applied to medicine, books, passenger transportation, accommodation, culture, sports, small repair services etc. The zero rate has been levied on subscribed newspapers and magazines up to 2011, but now the general rate is applied also in this case.

Excise duties (*valmisteverot*) are levied on e.g. alcohol and alcoholic beverages, tobacco products, liquid fuels, electricity and certain fuels, sweets, ice cream and soft drinks.

Taxes on special services (*veronluonteiset maksut*) consist of fees, which are in principal mandatory but are not enacted as taxes. These include pharmacy fee, television license, fire protection charge, etc.

Car tax (*autovero*) is applied to cars registered in Finland for the first time. **Vehicle tax** (*ajoneuvovero*) is collected on annual basis.

Customs duties

Customs duties (*tullimaksut*) levied in Finland are based on a common customs tariff. EU-member states are entitled to a commission of 25 per cent of the customs revenue.

2. SIMULATION OF TAXES AND BENEFITS IN EUROMOD

2.1 Scope of simulation

The most important taxes, social contributions and benefits are described in the previous section. All of them are not simulated by EUROMOD (see Tables 1 and 2). The main reason for this is that there is no information in the database or it is insufficient for simulation. In the latter case the available information is chosen directly from the database and used as output variable. The most important benefits which are not simulated are pensions, disability benefits, sickness benefit and general housing allowance.

Table 1. Simulation of taxes and social contributions in EUROMOD

	Treatment in EUROMOD	Variable name(s)	Why not fully simulated?
Direct taxes			
State tax on capital income	S	tinny_s	
Tax on deposit interest	E		No data
Corporate income tax	E		No data
National state income tax	S	tinna_s	
Municipal income tax	PS	tinmu_s	Average rate is applied
Church income tax	PS	tincr_s	Voluntary but simulated as compulsory. Average rate is applied.
Inheritance tax	E		No data
Gift tax	E		No data
Real estate tax	I	tpr	Lack of information
Indirect taxes			
Value added tax	E		No data
Excise duties	E		No data
Taxes on specific services	E		No data
Car tax and vehicle tax	E		No data
Custom duties	E		No data
Social contributions			
Employee contributions	S	tscee_s	
Entrepreneur contributions	S	tscse_s	Assumed: self-empl.income=YEL-income
Farmer contributions	S	tscfr_s	Assumed: self-empl.income=MYEL-income
Employer contributions	PS	tscer_s	Average tax rates are applied
Medical care contributions	S	thl_s	

Notes:

“E” policy is *excluded* from the model’s scope as it is neither included in the microdata nor simulated by EUROMOD;

“I”: *included* in the micro-data but not 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.

Table 2. Simulation of benefits in EUROMOD

	Treatment in EUROMOD	Variable name(s)	Why not fully simulated?
BENEFITS			
Old-age pensions	I	poa00	Lack of information. Incl. in variable <i>py100</i>
Part-time pensions	I	poa00	Lack of information. Incl. in variable <i>py100</i>
Unemployment pensions	I	bunot	Lack of information. Incl. in variable <i>py090</i>
Disability pensions	I	pdi00	Lack of information. Incl. in variable <i>py130</i>
Survivor's pensions	I	psu	Lack of information. Incl. in variable <i>py110</i>
Workers' compensated pension	E		No data
Other pensions	E		No data
Basic unemployment allowance	PS	bunnc_s	Eligibility is based on data
Earnings-related unempl. allow.	PS	bunct_s	Eligibility is based on data
Labour market subsidy	PS	bunmt_s	Eligibility is based on data
Other unemployment benefits	I	bunot	Lack of information. Incl. in variable <i>py090</i>
Sickness leave benefit	I	bhl00	Lack of information. Incl. in variable <i>py120</i>
Work injury benefit	E		No data
Other sickness benefits	I	bhlot	Lack of information. Incl. in variable <i>py120</i>
Disability allowances	I	pdida	Lack of information. Incl. in variable <i>py130</i>
Rehabilitation subsidy	I	poa00	Lack of information. Incl. in variable <i>py100</i>
Pensioner's care allowance	I	poaca, pdica	Lack of information. Incl. in variable <i>py100 and py130</i>
Home care allowance	I	poa00	Lack of information. Incl. in variable <i>py100</i>
Parental benefits	I	bma	Lack of information. Incl. in variable <i>hy050</i>
Child benefit	S	bch_s	
Child home care allowance	PS	bcc_s	Eligible families are based on data
Private day-care compensation	E		No data
Child day-care fee	E		No data
General housing allowance	I	bho00	Lack of information. Incl. in variable <i>hy070</i>
Pensioner's housing allowance	S	bhope_s	Asset test is not simulated
Student housing supplement	S	bhosd_s	Test of parental income is not simulated
Other housing benefits	I	bhoot	Lack of information. Incl. in variable <i>hy070</i>
Study grant	S	bed00_s	
Other education benefits	I	bedot	Lack of information. Incl. in variable <i>py140</i>
Local authority income support	S	bsa00_s	
Other social assistance benefits	I	bsaot	Lack of information. Incl. in variable <i>py060</i>

Notes:

“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.

2.2 Order of simulation and interdependencies

Benefits, taxes and social contributions which are simulated in EUROMOD, are shown in Table 3. The level of accuracy in simulation varies with different taxes and benefits. One of the reasons is that some of the variables are imputed from aggregate variables and the information is inaccurate. However, these imputed variables are needed to make the simulation framework operational.

The employee, employer and self-employed social contributions are simulated first. The medical care contribution is an exception: it is calculated simultaneously with local taxes because it is based on the local tax base. Taxable benefits are simulated before income taxes and non-taxable benefits so that changes in benefits affect the tax base and means-tested benefits. There is one exception to this principle. The non-taxable student housing supplement is simulated simultaneously with the taxable student grant. This is for practical reasons: the calculation process, including the means-test, is similar in both benefits. The last to be simulated is the local authority income support where incomes after taxes are tested.

Two changes took place in the spine in 2007–2013. In 2011 a guarantee pension was introduced. It is simulated as the first policy tool (before social insurance contributions). In 2013 a new broadcasting tax was implemented. It is simulated after all other taxes.

Table 3. EUROMOD Spine: order of simulation

Policy	2007-2013	Description	Main output
uprate_fi	on	DEF: UPGRATING FACTORS	
ConstDef_fi	on	DEF: CONSTANTS	
ildef_fi	on	DEF: INCOME CONCEPTS	
tundef_fi	on	DEF: ASSESSMENT UNITS	
BTA_fi	switch	SWITCH: Benefit Take-up Adjustment (default = ON)	
yem_fi	off	DEF: Minimum wage	
neg_fi	on	DEF: Recode negative income to zero	
pmmtu_fi	on (since 2011)	BEN: Guarantee pension	pmmtu_s
tscee_fi	on	TAX: Employee social contributions	tscee_s
tscer_fi	on	TAX: Employer social contributions	tscer_s
tscse_fi	on	TAX: Self-employed contributions for entrepreneurs	tscse_s
tscfr_fi	on	TAX: Self-employed contributions for farmers	tscfr_s
bed00_fi	on	BEN: Study Grant	bed00_s
bhosd_fi	on	BEN: Student housing supplement	bhosd_s
bunnc_fi	on	BEN: Basic unemployment allowance	bunnc_s
bunct_fi	on	BEN: Earnings-related unemployment allowance	bunct_s
bunmt_fi	on	BEN: Labour market subsidy	bunmt_s
bcc_fi	on	BEN: Child home care allowance	bcc_s
tiniy_fi	on	TAX: Capital income tax	tiniy_s
tinna_fi	on	TAX: National income tax	tinna_s (gross)
tinmu_fi	on	TAX: Local income tax	tinmu_s, tincr_s, thl_s (gross)
tindcwk_fi	on	TAX: Low income credit	
tindc_fi	on	TAX: Income tax deficit credit	
tindcsp_fi	on	TAX: Income tax special deficit credit	tinna_s, tinmu_s, tincr_s, thl_s (net)
tbr_fi	on (Since 2013)	TAX: Broadcasting tax	tbr_s
bhope_fi	on	BEN: Pensioner housing allowance	bhope_s
bch_fi	on	BEN: Child benefit	bch_s
bsa00_fi	on	BEN: Local authority income support	bsa00_s
output_std_fi	on	DEF: STANDARD OUTPUT INDIVIDUAL LEVEL	
output_hh_fi	off	DEF: STANDARD OUTPUT HOUSEHOLD LEVEL	

It is convenient to simulate capital income taxes before earned income taxes because some interests are subtracted as natural deductions from capital income. If there is a deficit in the capital income source, the rest of these interests (multiplied by capital income tax rate) are deducted from earned income taxes.

Taxable benefits are always earned income. Thus changes in these benefits affect only to taxable earned income and personal taxes on earned income.

Changes in benefits do not usually affect social contributions paid by employees, self-employed or employers since the basis of these contributions is usually gross earnings from work. As described above there is an exception, the medical care contribution, which is based on the local tax base in earned income taxation.

2.3 Policy switches

Policy switches are marked in the spine with the word “switch” for the years when they are defined (see Table 3). Switchable policies can be conveniently turned ON or OFF through the run dialog box without changing the model itself. The Finnish model has one switchable policy: BTA_fi (defined for all policy years). This is adjustment for take-up of local authority income support. The policy is ON in the baseline by default, i.e. correction for take-up is implemented.

Take-up correction is necessary, because some individuals and families do not apply for local authority income support (although they satisfy income test and other eligibility conditions). Often these are self-employed individuals or adult children living with their parent (who can apply for the benefit individually but do not do so). If the take-up adjustment is ON these individuals are excluded from eligibility (see Section 2.4.9 for more details). If the adjustment is OFF, then full take up is assumed. The latter is used, for example, in the calculation of Marginal Effective Tax Rates.

2.4 Social benefits

2.4.1 Study grant (bed00_s)

Brief description

The studies are classified into two categories: a) higher level (university) studies and b) middle level studies (e.g. upper secondary school, vocational and supplementary studies). The study grant is paid only for a “customary” period which is usually needed for studies. For higher level studies the benefit is paid for a maximum of 70 “study months”. The study months are defined as months a person is receiving the study grant or the student housing supplement.

Eligibility conditions

Eligible for the study grant are full-time students. Studying at higher-level is always considered as full-time studies. General conditions for the study grant are sufficient progress in studies and the need for economic assistance.

Benefit amount 2007 – 2013

The size of the study grant depends on the educational institution, age, economic circumstances, marital status and on whether the student lives alone or with parents. The basic amounts are different for middle and higher level studies. These are summarized in Table 4. The study grant is paid only for study months.

Table 4. The basic amount of study grant in 2007–2013, euro/month

	2007–2008*		2009–2013	
	Middle level	Higher level	Middle level	Higher level
18+ years, living alone, married or have child	213.60	259.01	246.00	298.00
Under 18 years, living alone	84.09	126.14	100.00	145.00
20+ years, living with parents	63.91	105.96	80.00	122.00
Under 20 years, living with parents	21.86	38.68	38.00	55.00

*The basic amounts changed on 1.8.2008. Since in EUROMOD the policy date is June 30, the changed parameters are applied from policy year 2009.

Means-testing and taxation

The study grant is affected by student’s own and parents’ income. Spouse’s income has no effect on the study grant. The number of months the student receives study grant is affected by student’s own income. Parents’ incomes affect only at middle level and only if a student is less

than 20 years old, not married and has no children. Parents' income has no effect at higher level. The wealth of the student, spouse or parents has no effect on the study grant (or housing supplement).

Own income

The study months and the corresponding income limits are shown in Table 5. Same income limits are applied to the student housing supplement.

Table 5. Free income limits of student grant and housing supplement in 2007–2013

Study months	Free income limits 2007	Free income limits 2008–2013*,
	euro/year	euro/year
1	17,170	22,330
2	16,160	21,020
3	15,150	19,710
4	14,140	18,400
5	13,130	17,090
6	12,120	15,780
7	11,110	14,470
8	10,100	13,160
9	9,090	11,850
10	8,080	10,540
11	7,070	9,230
12	6,060	7,920

*The income limits changed 1.1.2008.

The amount of study grant is means-tested against student's all annual taxable income (excl. study grant) and scholarships. The means-testing affects the months the student can receive the benefit. A student has personal income limit, "free income", which is based on the number of months the student has received the grant. The annual free income limit is defined as 660 euro for every study months and 1,970 euro for every "unsupported" month (2013). The respective figures in 2007 are 505 euro and 1,515 euro. The student may have income whenever during the calendar year. If the annual taxable income exceeds the free income, the student must pay back the benefit for equivalent amount of months. Assuming that student has received the benefit for nine months, annual earnings can be at most 10,455 euro (9 x 660+3 x 1,970) without having to repay the benefit. If the amount to be paid back is less than 220 euro (170 euro in 2007), the student is not obliged to pay back any part of the study grant.

Parents' income

Parents' income may *decrease* the amount of study grant if the student a) is at middle level institute; b) is less than 20 years old and c) is not married or responsible for a dependent child. In 2013 the study grant is paid in full if parent's annual earned and capital income, gross income minus natural deductions, is less than 40,800 euro (31,400 euro before 1.11.2007²). The study grant is decreased by 5 per cent for every 1,010 euro (780 euro before 1.11.2007) the parent's income exceeds the limit.

Parents' low incomes may also *increase* the amount of study grant if a) the student lives with parents or b) lives alone but is less than 18 years old. The full increase of the study grant is shown in Table 6. In 2013 the increase is paid in full if parent's annual earned and capital income, gross income minus natural deductions, do not exceed 20,700 euro (15,900 euro before 1.11.2007). The full increase is decreased by 10 per cent for every 2070 euro/year (1,590 euro before 1.11.2007) the parent's income exceeds the limit. The total study grant is the basic amount plus the increase. The increased part of study grant is not simulated in the model.

² The new rules are implemented in EUROMOD in 2008.

Table 6. Increase in study grant due to low income of parents in 2007–2013

	2007–2008*		2009–2013	
	Middle level	Higher level	Middle level	Higher level
Under 18 years, living alone, basic amount	84.09	126.14	100.00	145.00
- increase	84.09	126.14	100.00	145.00
20+ years, living with parents, basic amount	63.91	105.96	80.00	122.00
- increase	84.09	126.14	100.00	145.00
17-19 years, living with parents, basic amount	21.86	38.68	38.00	55.00
- increase	42.05	58.87	58.00	75.00

*The amounts changed on 1.8.2008. Since in EUROMOD the policy date is June 30, the changed parameters are applied from policy year 2009.

Relations to other benefits

The study grant is not paid if a person receives unemployment benefit, pension, disability benefit or sickness benefit. A student may receive maternal, paternal or parental benefits simultaneously with study grant, but only the minimum amount of these benefits is paid. These relationships of simultaneously received benefits are not possible to simulate in the model. If a student is younger than 17 years and eligible for child benefit, the study grant is not allowed.

Taxation

The study grant is taxable income. If there is no other taxable income except the study grant, no income taxes is paid because of the study grant deduction in taxation.

Changes in benefit rules 2008 – 2013

No structural change has been done on rules during the policy years. Since March 2011 study grant and student housing supplement are the only benefits which are not indexed by legislation.

2.4.2 Student housing supplement (bhosd_s)

Eligibility conditions

A student is eligible for student housing supplement if he or she lives in a rented apartment, a “right-to-live” apartment or a partially owned apartment. A student living with parents, with own child or spouse’s child in a same household or in own apartment, is not eligible for the housing supplement. Thus eligible for the benefit are single students and married or co-habiting students without children who live in a rented dwelling. If not eligible for the supplement, the student is eligible for the general housing allowance.

Benefit amount

The student housing supplement equals 80 per cent of the reasonable (accepted) housing costs. The supplement cannot exceed 201.60 euro/month. In other words the maximum rent taken into account is 252 euro/month. This parameter has not changed in 2007–2013. The case when a student lives in an apartment rented from parents is not simulated in the model because of insufficient information in the data.

Income test and taxation

The student housing supplement is affected by student’s, spouse’s and parent’s income. Own income is taken into account in the same way as in student grant: the number of benefit months depends on own income. The income limits are shown in Table 5.

In 2007-2008 the spouse’s income decreases the student supplement by 10 per cent for each 680 euro which exceeds 15,200 euro/year. No housing supplement was paid if spouse’s annual income was 22,000 euro or more. The test was abolished in 2009.

Parents' incomes affect the student housing supplement if the student is less than 18 years old (20 years in study grant), not married and has no child. This income test is not applied to higher level students. This is not implemented in the model because of insufficient information.

The income test of the housing supplement and the study grant are convenient to calculate simultaneously in the model. Student has to pay back both the study grant and housing supplement if income exceeds the income limit.

The student housing supplement is not taxable income.

Changes in benefit rules 2008 – 2013

The spouse's income test was abolished 1.1. 2009.

2.4.3 Basic unemployment allowance (bunnc_s)

Brief description

Basic unemployment allowance is a non-contributory minimum benefit for unemployed persons who have enough work history but are not members of an unemployment fund. Students are not eligible for the allowance.

Eligibility conditions

Persons are entitled to the basic unemployment allowance if they are 17-64 years of age, available for work, registered at the employment office, seek full-time employment and satisfy the working condition. It is also required that no suitable job or training has been found.

Working condition

The working condition is satisfied when a person has worked at least 34 weeks (43 weeks in 2007–2009) within the 28 months immediately preceding the unemployment and the working time has been at least 18 hours per week. The 28 month period may be extended e.g. because of illness, military service and studies. A self-employed person must have running the business for at least 1.5 years (2 years in 2007–2009) in the last 4 years preceding the unemployment.

If the work income is very small or the weekly working hours are too few the working condition will not be fulfilled.

Benefit amount

The amount of basic unemployment allowance consists of a flat amount and a child supplement. The amount of child supplement depends on the number of dependent children (below 18 years old). It is paid to both spouses if both are unemployed. The benefit is paid only for working days (5 days in a week). It is assumed that there is 21.5 working days in a month. So, if an unemployed has one dependent child, the monthly benefit (in 2013) is 810.55 euro (21.5x(32.46+5.24)).

Table 7. Basic unemployment allowance in 2007–2013, euro/day

Year:	2007	2008	2009	2010	2011	2012	2013
Basic amount	23.91	24.51	25.63	25.63	25.74	31.36	32.46
Child supplement, 1 child	4.53	4.64	4.86	4.86	4.88	5.06	5.24
2 children	6.65	6.82	7.13	7.13	7.16	7.43	7.69
3+ children	8.58	8.79	9.19	9.19	9.23	9.58	9.92

The basic allowance is adjusted annually according to the so called national pension index (KEL-index). This index is the change of consumer prices from the previous year's third quarter

to present year's third quarter. The next year's benefits are then adjusted according to KEL-index.

It is possible that an unemployed person receives wage and benefit at the same time. In this case the unemployed benefit is cut by 0.5 euro for each earned euro. This *conciliated adjustable unemployment benefit* is not possible to simulate because of insufficient information in the data.

In some cases, benefit amount can be increased with fixed sum (4.75 euros/day in 2013). This fixed sum is granted to the unemployed, who have long working history or who are participating in labour market training. The spell of increased sum is 20–200 working days depending on the grounds of increase. Nevertheless, the increased benefits are not possible to simulate because there is no information in the data about the people receiving the supplementary amount.

Means-testing and taxation

The basic unemployment allowance is not means-tested. It is taxable income.

Changes in benefit rules 2008 – 2013

From 1.1.2010 the working condition for both employees and self-employed shortened. Employees need to have only 34 week-long work history (instead of 43 week) during the last 28 months preceding the unemployment. Self-employed persons need to have 1.5 years (instead of 2 years) work history in the last 4 years preceding the unemployment.

2.4.4 Earnings-related unemployment allowance (bunct_s)

Brief description

The earnings-related unemployment allowance is a contributory benefit for unemployed persons. The contribution to unemployment fund, in fact a membership fee, is voluntary.

Eligibility conditions

Eligible for the benefit are unemployed who fulfill both the criteria of unemployment fund membership and the working condition. They must be between 17–64 years of age, available for work, registered at the employment office and seek full-time employment. It is also required that no suitable job or training has been found. Students are not eligible for the benefit.

Benefit amount

The amount of daily benefit consists of four components:

- a) *The basic component*, which is the same as the basic unemployment allowance
- b) *The earnings-related component 1*, which is 45 % of the difference between daily wage and the basic allowance. The maximum previous daily wage (when calculating this component) is the basic allowance times 105 divided by 21.5 (the 105-limit)
- c) *The earnings-related component 2*, which is 20 % of the difference between the previous daily wage and the 105-limit
- d) *The child supplement*, which depends on the number of dependent children. The amount is the same as in basic unemployment allowance

The base for calculation is the regular monthly wage preceding the unemployment. Bonuses and holiday pays are not included. 60 per cent of employee's pension and unemployment insurance and daily allowance contributions (together 3.89 % in 2013) are deducted from the gross wage.

Table 8. Parameters of earnings-related unemployment allowance

Year:	2007	2008	2009	2010	2011	2012	2013
Deduction from gross wage, %	4,88	4,44	4,5	3,50	3,67	3,94	3,89
Earnings related component 1, %	45	45	45	45	45	45	45
Earnings related component 2, %	20	20	20	20	20	20	20
Income limit (coefficient: x times basic amount)	90	90	90	105	105	105	105

The benefit is calculated on daily basis. Wages are transformed into daily wages assuming that there are 21.5 working days in a month.

Example (2013): A person has 2 dependent children and the preceding wage has been 3,800 euro/month. After deduction of 3.89 % the monthly wage is 3,652 and the daily wage is 169.87. The 105-fold limit is 158.53 (105 * 32.46/21.5).

<u>Preceding daily wage</u>	169.87
Basic allowance	32.64
Earnings-related component 1: $0.45 \cdot (158.53 - 32.64)$	56.65
Earnings-related component 2: $0.20 \cdot (169.87 - 158.53)$	2.27
<u>Child supplement (2 children)</u>	7.69
Earnings-related allowance/day	99.25

The earnings-related unemployed allowance cannot be less than the basic allowance. The maximum amount of daily benefit is 90 per cent of the previous daily wage (after the contribution deduction).

Similarly to basic unemployment allowance, in some cases an increased benefit is paid. In earnings-related unemployment allowance the increase is not fixed sum, but the percentages to calculate the amount are increased. The percentages can be increased to two different levels, from 45/20 to 55/32.5 or to 65/37.5 depending on the grounds of increase. The spell of increased sum is 20–200 working days depending also on the grounds of increase. Increased benefits are not possible to simulate because there is no information in the data about the people receiving these benefits.

There is also no information in the data about the preceding wage of the unemployed. However, the wage is possible to calculate “backwards” using the information of the earnings-related unemployment allowance in the data, benefit months and benefit rules. It should be noted that wages (obtained in this way) are overestimated for the unemployed with increased benefit amounts.

The basic allowance is adjusted annually according to the national pension index (KEL-index). According to the formula, the earnings-related benefit will also increase along the KEL-index.

It is possible and somewhat common for an unemployed to receive part-time wage during the unemployment spell. In this case the unemployment benefit is cut by 0.5 euro for each earned euro. This conciliated adjustable benefit is not possible to simulate in the model.

Means-testing and taxation

The earnings-related unemployment allowance is not means-tested. It is taxable income.

Changes in benefit rules 2008 – 2013

In 1.1.2010 the coefficient used to determine the upper limit of earnings-related component 1 (the 90-limit) is increased from 90 to 105.

In 1.1.2010 the rules for contribution deduction from wage were changed. Before only employee's pension and unemployment insurance contributions were taken into account (full

amount). From 2010 also daily allowance contribution was included (but only 60% of their sum was deducted).

In 1.1.2010 the percentages of second level increased amount were risen from 55/32.5 to 57.5/35 (not implemented in the model).

2.4.5 Labour market subsidy (bunmt_s)

Brief description

The labour market subsidy is designed for unemployed people who do not meet the working condition. It is also paid when a person has received basic or earnings-related unemployment allowance and the maximum of 500 days has expired. In these cases the labour market subsidy is not means-tested for the first 180 days. There is no time limit for the labour market subsidy.

Eligibility conditions

Persons are entitled to the labour market support if they are 17–64 years of age, available for work, registered at the employment office and seek full-time employment. It is also required that no suitable job or training has been found. Students are normally not entitled to the benefit during the time they are studying.

All unemployed who are not entitled to basic allowance or earnings-related allowance are in principle eligible for labour market support. However, there are some specific conditions for young people. It is required that persons under 25 years of age have completed vocational training or are in labour market training or on-job training. A six-week benefit suspension can be imposed if a person repeatedly refuses job training or education.

Full benefit amount

The full amount of labour market subsidy equals the basic unemployment allowance (see Table 7). Also the child supplement is the same as in basic unemployment allowance and earnings-related allowance schemes.

Means-testing and taxation

Labour market subsidy is means-tested against person's own and until 2012 also against spouse's income. The subsidy is also means-tested against the income of the parents of the unemployed person if he resides in their household, but this is not simulated (as there are exceptions). The calculation is done on basis of monthly income. Basically all income is taken into account except child benefit, local authority income support, housing allowances, pensioner's care allowance and some injury-related benefits. Also capital income is taken into account. Until 2012 spouse's earned and capital income was taken into account, but only for the part exceeding 660 euros per month. For the unemployed with a spouse or dependent children the subsidy is decreased by 50 per cent of income exceeding 1 044 euros. Income limit is increased by 130 euro for every dependent child. For a single person without dependent children the full labour market subsidy is decreased by 75 per cent of (capital) income exceeding 311 euro (for the calculation with the earned part-time wage of the unemployed person, see the end of the section). After 2012 the means-testing against the own income of the unemployed person is still valid.

Table 9. Means-testing parameters of labour market subsidy.

Year:	2007	2008	2009	2010	2011	2012	2013
Limit / with family	848	848	848	848	1044	1044	1044
Increase of limit per child	106	106	106	106	130	130	130
Reduction from spouse's income	536	536	536	536	660	660	-----
Reduction rate / with family	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Limit / single	253	253	253	253	311	311	311
Reduction rate / single	0.75	0.75	0.75	0.75	0.75	0.75	0.75

Example (2012): A married person who has 2 dependent children. The spouse's income is 2,160 euro/month.

Spouse's monthly income	2,160.00
Income taken into account after reduction	1,500.00
– income limit $1044 + 2 \times 130 =$	-1,304.00
Monthly income exceeding the limit	196.00
Full daily benefit $31.36 + 7.43 =$	38.79
Full monthly benefit $21.5 \times 38.79 =$	833.99
– deduction from full benefit 0.50×196	98.00
<u>Benefit/month $833.99 - 98$</u>	<u>735.99</u>
Benefit/day (divided by 21,5)	34.23

Labour market subsidy is adjusted annually according to the national pension index (KEL-index). It is taxable income.

It is possible that an unemployed person receives wage and labour market subsidy at the same time. In this case the labour market support is cut by 0.5 euro for each earned euro. This conciliated adjustable benefit is not possible to simulate in the model.

Changes in benefit rules 2008 – 2013

On 1.1.2010 the increased amount was introduced also to labour market subsidy (e.g. for unemployed who participate in labour market training). The logic and amount of increase is the same as in basic unemployment allowance. The increased benefits are not possible to simulate because there is no information in the data about the people receiving these benefits.

On 1.1.2011 most parameters of means-testing were increased.

On 1.1.2013 means-testing against the spouse's income was abolished.

2.4.6 Child home care allowance (bcc_s)

Brief description

The purpose of the child home care allowance is to give parents the possibility to arrange the child care as they want without significant economic consequences. The child home care allowance is "integrated" with the day care system in the sense that parents can choose whether to put their small children to municipal day care, arrange a private care or stay at home with them. The private care may be arranged by private day care centre or by private child-minder accepted by the municipalities. The families may choose separately for each child the type of child care they prefer.

Eligibility conditions

Parents are entitled to the child home care allowance if at least one child is less than 3 years. The allowance is paid for any other children under age of 7 years who are not in any subsidised

day care. The child home care allowance is not available if the child is in municipal or private day care centre or at private child-minder.

The allowance is usually paid immediately after parental leave benefit. It is paid until the youngest child reaches the age of 3 years or moves into subsidised day care. The child home care allowance is paid if a parent or any other person (e.g. private baby-sitter) takes care of the child at home. The benefit is always paid to one of the parents.

Parents may choose which one of them is receiving the benefit. It is usually paid to the parent who is staying home with the children.

In EUROMOD the benefit is given to the parent with lowest income - which is a reasonable assumption in most cases.

Benefit amount

The child home care allowance consists of basic amount and a supplement. The basic allowance is a lump sum benefit and is different for the first child under 3 years, other children under 3 years and other children between 3-6 years. The child home care supplement is means-tested and paid only for one child. In Table 10 the benefit amounts for years 2007–2013 are summarized.

Table 10. Child care benefits in 2007–2013

Year	Allowance	Full Supplement	Amount for each additional child under 3 years	Amount for each child over 3 and under 7 years
2007–2008	294,28	168,19	94,09	60,46
2009–2010	314,28	168,19	94,09	60,46
2011* (average)	315,54	168,75	94,41	60,66
2012	327,46	175,24	98,04	63,00
2013	336,67	180,17	100,79	64,77

Note: Rules changed in March 2011.

Example (2013): A basic amount for a family with three children (aged 1, 2 and 4 years). Euro/month.

First child (1 year old)	336.67
Second child (2 years old)	100.79
<u>Third child (4 years old)</u>	<u>64.77</u>
Basic amount/month	502.23

Means testing and taxation

The amount of the child home care supplement depends on family monthly income and the size of the family. "The family" is in this case parents and children under 7 years but maximum two of them. Thus, the minimum family size is two (1 parent, 1 child) and the maximum four (2 parents, 2 children).

The full supplement is paid if the family monthly income is below an income limit which varies with family size. When income exceeds the limit the supplement is reduced by a certain percentage of the exceeding amount. The limits and percentages are shown in Table 11 and are the same in all policy years 2007–2012.

Table 11. The income limits and percentages of child home care supplement in 2007–2013

Size of the family	Income level that entitles to a full supplement, euro/month	Reduction rate, %
2	1,160	11.5
3	1,430	9.4
4	1,700	7.9

The family income concept is the gross monthly earned and capital income subject to tax as well as some non-taxable incomes (not e.g. child benefit and housing benefits).

Example (2013): 2 parents and 2 children (1 and 3 years), family income 2,000 euro/month. Euro/month.

Basic amount (336.67+100.79)	437.46
Supplement	
- full supplement	180.17
- subtracted 7.9 % of (2,000–1,700)	23.70
- supplement 180.17 – 23.7	156.47
Home care allowance/month	593.93

The child home care allowance is subtracted from unemployment benefit regardless of which one of the parents is receiving the allowance. Students can also receive child home care allowance. In this case the allowance is regarded as income when determining the eligibility for student's financial support. However, such simultaneously received benefits are not possible to take into account in simulations.

Some municipalities pay additional child home care subsidies. These municipalities decide themselves the type, size and entitlement conditions of the subsidy. These additional payments can't be simulated.

The child home care allowance is taxable income.

Changes in benefit rules 2008 – 2013

There were no changes except for changes in parameters.

2.4.7 Pensioner's housing allowance (bhope_s)

Brief description

The pensioner's housing allowance is paid to pensioners with low incomes. All households must pay their own share of the housing costs. This share consists of three parts: a) costs exceeding the reasonable (accepted) housing costs, b) a flat "basic own responsibility" and c) a means-tested "additional own responsibility".

Eligibility conditions

To the benefit are entitled pensioners who are 16–64 years old and who receive national pension, survivor's pension, unemployment pension, disability pension or workers' compensation pension. All persons who have reached the age of 65 years are entitled to the benefit. If spouses, or co-habiting persons, are both entitled to the housing benefit for pensioners, they apply for it together. In this case the allowance is equally divided to both pensioners. If in the same household lives other persons than spouse or co-habiting, it is

possible to receive the general housing allowance instead. However, this is usually not as favourable as the housing benefit for pensioners.

Benefit amount

The amount of pensioner’s housing allowance is 85 per cent of accepted housing costs exceeding the basic own responsibility and the additional own responsibility. The formula is

$$B = 0,85 \times (c - r - a), \text{ where}$$

B = benefit
 c = reasonable housing costs
 r = basic own responsibility
 a = additional own responsibility

There are limits for the accepted annual housing costs. They differ in different areas and the country is divided into four municipal groups. While there are no data about the municipality groups, the parameters of the third municipal group are used in simulations. In 2013 the limit is 6,810 euro/year. This is an approximation of the average in country. The amounts are increased by 20 per cent if there are one or two children aged less than 16 years (less than 18 years in 2008–2013) in the household and by 40 per cent if there are more such children.

The basic own responsibility for all pensioners is 607,40 euro/year (2013).

Means-testing

The pensioner’s housing allowance is means-tested against all own and spouse’s earned and capital income. The non-taxable incomes are usually not taken into account. The wealth, except own dwelling, is also included in means-testing but due to lack of information it is not taken into account in simulations. Means-testing is included in the additional own responsibility component. Additional own responsibility is 40 per cent of the income exceeding the following income limits for different households types. Before 2008 the income limits were different for persons receiving survivor’s pensions, but now there are no differences.

The minimum amount of the benefit is 6.65 euro/month (2013). If the calculation results in a benefit which is smaller than this minimum amount, it is not paid.

In Tables 12 and 13 the parameters of the pensioners’ housing allowance are summarized.

Table 12. Parameters of pensioners’ housing allowance in 2007–2013

	2007	2008	2009	2010	2011	2012	2013
Benefit as a percentage	85	85	85	85	85	85	85
Coefficient for additional own responsibility, %	40	40	40	40	40	40	40
Limit to housing costs, euro/year	5,406	5,557	5,812	6,103	6,323	6,562	6,810
Basic own responsibility, euro/year	528.88	542.10	567.01	567.01	569.28	590.79	607.40
Increase in the limit, when 1–2 children, %	20	20	20	20	20	20	20
Increase in the limit, when three or more children, %	40	40	40	40	40	40	40
Minimum amount of allowance, euro/month	7,79	5.93	6.21	6.23	6.23	6.47	6.65

Table 13. The income limits of pensioner's housing allowance in 2007–2013, euro/year

	2007	2008	2009	2010	2011	2012	2013
Single	7,517	7,705	8,059	8,059	8,091	8,397	8,663
Married; spouse is not eligible for allowance	11,019	11,294	11,813	11,813	11,860	12,308	12,655
Married; spouse is eligible for allowance	12,074	12,376	12,945	12,945	12,996	13,448	13,867
Single, receiving survivor's pension	6,462	7,505	8,059	8,059	8,091	8,397	8,663
Married, receiving survivor's pension	9,962	11,294	11,813	11,813	11,860	12,308	13,867

Example (2013): A single person with annual housing costs of 5,250 euro and annual income of 9,500 euro. Euro/year.

Flat rate basic own responsibility	607.40
Additional own responsibility 0.40 x (9,500–8,663)	334.80
<u>Own responsibility, total</u>	<u>942.20</u>
Annual benefit 0.85 x (5,250–942.20)	3661.63

The monthly benefit is the annual benefit divided by 12 (329.23 euro in the example).

Pensioner's housing allowance is not taxable income.

Changes in benefit rules 2008 – 2012

In 2008 differences between persons receiving survivor's pensions and normal pensions were abolished and the age limit for children was increased from 16 to 18 years.

2.4.8 Child benefit (bch_s)

Eligibility conditions

Child benefit is a universal flat-rate benefit paid for every child under 17 years of age and residing in Finland. The benefit is paid regardless of any other benefits (or any other reasons). Spouses may choose which one of them receives the benefit.

Benefit amount

The amount of child benefit depends on the number of dependent children and the number of parents in family. It is larger per child if there are several children in the family (up to 5).

Table 14. The child benefit in 2007–2013, euro/month

	2007	2008	2009	2010	2011	2012	2013
1st child	100.00	100.00	100.00	100.00	100.40	104.19	104.19
2nd child	110.50	110.50	110.50	110.50	110.94	115.13	115.13
3th child	131.00	131.00	141.00	141.00	141.56	146.91	146.91
4th child	151.50	151.50	161.50	161.50	162.15	168.27	168.27
5th and so on	172.00	172.00	182.00	182.00	182.73	189.63	189.63
Single parent supplement	36,60	46,60	46,60	46,60	46,79	48.55	48.55

Single parents are entitled to child benefit supplement for each dependent child. Co-habiting but not married persons are not entitled to the supplement.

Example (2013): A single person with 3 children. Euro/month.

1st child (104.19+48.55)	152.74
2nd child (115.13+48.55)	163,68
<u>3rd child (146.91+48.55)</u>	<u>195,46</u>
Benefit/month	511.88

Means-testing and taxation

The child benefit is not means-tested. It is usually not taken into account when calculating means-tested benefits with the exception of local authority income support.

The child benefit is not taxable income.

Changes in benefit rules 2008 – 2013

During the years 2008-2013 the child benefit and the single parent supplement has increased (Table 14).

Since 1.3.2011 the child benefit is adjusted by consumer price index (KEL-index), but for years 2013–2015 the index adjustments have been cancelled.

2.4.9 Local authority income support (bsa00_s)

- *Brief description*

Local authority income support is the last resource safety net for all persons and families whose net-of-tax income is less than a certain minimum level. This minimum income level consists of *basic amount* and *additional expenditures*. The basic amount is designed to cover the costs of e.g. food, cloths, transport and minor health care costs. Additional expenditures may consist of reasonable housing costs, child day care fee etc. For income support a separate judgement on the claimant's whole economic situation is always done.

- *Eligibility conditions*

The units of entitlement and income assessment are single persons and families. The right to claim the benefit does not depend on the marital or socioeconomic status with the exception of students. Students are in principal entitled to the benefit only if their income is low enough when also the student loan - realized or not - is taken into account. During the period when they are not studying, they are entitled to the benefit like all other people.

The need for income support is determined as expenditures minus net income. Expenditures consist of basic amount and additional (accepted) expenditures. The net income consists of earned and capital income after taxes, contributions and costs due to working (e.g. commute costs) as well as non-taxable income, including also housing allowances and child benefit. There are only few exceptions when income is not taken into account when the eligibility for income support is reviewed. For example, disability allowances are not taken into account. In addition, at least 20 per cent but max 150 euro per month of income from work after taxes and contributions is not taken into account (advantaged work income).

According to the law every family unit within a household can apply to income support separately (e.g. adult children can apply to income support separately from their parents). In practice, however, this is rarely realized. Therefore, in the baseline the eligibility is modelled at the household level. Moreover, the households where the head of the household is self-employed are excluded from eligibility. This is done in order to avoid over-simulation (that probably stems from imprecision of the input data and non-take-up). Full simulation of income support can be switched on if needed. Switching between take-up adjustment and full simulation is done via switchable policy BTA_fi.

- *Benefit amount*

The full basic amount of income support is 477.26 euro/month in 2013. The full basic amount is paid to single persons (2007–2012) and to single parents (2007–2011). Beginning from 2012 the basic amount for single parents is increased by 10 per cent. For other persons the basic amount

is defined as a share of the full amount. While there is no information in data about municipal groups, average monthly basic amounts are used in simulations in 2007. The income support is calculated on monthly basis.

Table 15. Income support, basic amount 2013, euro/month

	Share, %	Basic amount
Single	100	477.26
Single parent	110	524.99
Other person 18 years or older (e.g. spouse)	85	405.67
Child 18 years or older	73	348.40
Child 10–17 years , first child	70	334.08
Child under 10, first child	63	300.67

If there is more than one child under 18 year old in the household, the basic amount for the second child is 5 percentage units less and for the third child or more 10 percentage units less than for the first child.

Example (2013): 2 parents, 3 children (3, 16 and 18 years). Euro/month.

Parents (2 x 0.85 x 477.26)	811.34
1st child (18 years) (0.73 x 477.26)	348.40
2nd child (16 years), 0.70 x 477.26	334.08
3rd child (3 years), (0.63 – 0.05) x 477.26	276.81
Basic amount/ month	1,770.63

Table 16. Income support parameters 2007–2013

	2007	2008	2009	2010	2011	2012	2013
Full basic amount (singles), euro/month	381.00	399.10	417.44	417.44	419.11	461.05	477.26
Share of single parents, %	100	100	100	100	100	110	110
Share of other person 18 years or older (e.g. spouse), %	85	85	85	85	85	85	85
Share of child 18 years or older, %	73	73	73	73	73	73	73
Share of child 10–17 years , first child , %	70	70	70	70	70	70	70
Share of child under 10, first child, %	63	63	63	63	63	63	63
Deduction for second child under 18 years, %-points	5	5	5	5	5	5	5
Deduction for third and subsequent child under 18 years, %-points	10	10	10	10	10	10	10

Note: for 2007 average of full basic amount for 1st and 2nd municipality group. Since 2008 the categorization of municipalities was abolished.

- ***Income test and taxation***

While the income support is basic amount plus accepted additional expenditures minus net income, increase in net income decreases the benefit by the same amount (except for disability allowances and advantaged work income).

Example (2013): 2 parents, 2 children (14 and 8 years), rent 500 euro, net unemployment benefit 800 euro, housing benefit 300 euro, child benefit 219.32 euro. Euro/month.

Expenditures:

a) Basic amount	
– Parents (2 x 0.85 x 477.26)	811.34
– 1st child (14 years), 0.7 x 477.26	334.08
– 2nd child (8 years), (0.63 – 0.05) x 477.26	276.81
Total basic amount	1,422.23
b) Additional expenditures	
– Housing costs	500.00
Accepted expenditures/month	1, 922.23
Incomes:	
Net benefit income	800.00
Housing benefit	300.00
Child benefit	219.32
Income/month	1,319.32
Income support (1,922.23 – 1,319.32)	602.91

The income support is not taxable.

- ***Changes in benefit rules 2008 – 2013***

In 1.1.2008 the categorization of municipalities was abolished and the basic amounts in the second category municipalities increased to the same level as in the first category municipalities. Since 1.1.2012 the basic amount for the single parent has been 10 per cent higher than the basic amount for the single person. Since 1.1.2013 the supplementary amount of unemployed benefit has not been taken into account when the eligibility for income support is reviewed (this can't be modelled because of the lack of data). There is an index adjustment for the full basic amount in every year, but for the year 2010 the index adjustment was cancelled.

2.4.10 Guarantee pension (pmmtu_s)

- ***Brief description***

The guarantee pension was introduced in 2011. It guarantees a certain level of pension to all pensioners.

- ***Eligibility conditions***

A person is eligible if he or she lives in Finland and:

- 1) Receives a pension which entitles him/her to guarantee pensions. These pensions include: old age pension or anticipated old age pension (at least 62 years old if born before 1952³), disability pension (16-64 years old), and unemployment pension.
- 2) Is an immigrant and is over 65 years old (if disabled, then 16-64 years old).

Part-time pensioners are not eligible for the guarantee pension. In EUROMOD they are identified as pensioners with positive number of months in work.

- ***Benefit amount***

The maximum amount of the guarantee pension is 738.82 euro/month in 2013. It is equal for singles and spouses and it is means-tested only against other pension income. Earned income or wealth does not affect it.

If a person receives anticipated old-age pension (or did so in the past), then the guarantee pension is paid at a reduced rate. The maximum guarantee pension is reduced by 0.4% for every

³ At least 63 years old if born after 1951 (this condition doesn't apply in 2007-2013).

month a person spent in early retirement. For example, if a person retires at 62 (and official retirement age is 65), the maximum guarantee pension is reduced by $14.4\% = (65-62)*12*0,4\%$. This reduced maximum is fixed for the rest of the life. This condition can be simulated only for those who currently receive anticipated old-age pension. For all of them we assume that they retired in 62.

In case the calculated guarantee pension is below the minimum threshold, then it is not paid out.

Table 17. Guarantee pension parameters 2011–2013

	2011	2012	2013
Full guarantee pension, euro/month	687.74	713.73	738.82
Minimum amount, euro/month	6.23	6.47	6.69
Percentage withdraw every month for anticipated pensions, %	0.4	0.4	0.4

- **Income test and taxation**

Guarantee pension is means-tested against other pension income: old-age, disability and survivors pensions. Disability allowance and care allowance are excluded from the test. Pension income is taken into account on annual basis and divided by the number of months in retirement. Payable amount of guarantee pension is obtained by subtracting pension income from the full (maximum) guarantee pension. Social contributions

2.5 Social contributions

2.5.1 Employee social contributions (tscee_s and thl_s)

Brief description

Employees are subject to social contributions on their gross wage (incl. taxable benefits-in-kind) and on their local tax base in earned income taxation. There are three contributions which are based on the gross wage:

- Earnings-related pension contribution (18–67 years old)
- Unemployment insurance contribution (17–64 years old)
- Daily allowance contribution (16–67 years old from 2011)

There is one contribution based on the local tax base: medical care contribution.

All the contributions are statutory. The wage-based contributions are fully deductible in personal taxation while the medical care contribution is “a tax-like payment” itself and is not deductible. The medical care contribution is paid on all earned income, e.g. on wage, pension and other benefit income. The medical care contribution and the daily allowance contribution are both health insurance contributions.

The earnings-related pension contribution must be paid if an employee is 18–67 years old. The monthly wage must be above the threshold: 55,59 (in 2013). Responsible to pay the unemployment insurance contribution is an employee at the age of 17–64 years. For the daily allowance contribution there is no income or age limits (untill 2011). The medical care contribution must always be paid regardless of the age or the size of local tax base.

The same income and age limits are applied to respective employer contributions.

Rates and amounts

The amounts of employee contributions are calculated as a percentage share of the gross taxable wage and the local tax base. In principal the same percentages are applied to all individuals and they are not depending on e.g. employee’s pension insurance regimes. But there are two

Rates and amounts

The base for all employer contributions is the gross wage paid to employees, including taxable benefits-in-kind.

The earnings-related pension contribution rates of employers differ depending on e.g. the number of employees, the age of employees, employer responsibilities to pay disability and unemployment pensions, the institutional sector and the wage sum paid by employer. The rates also differ in private, state and municipal sectors. Similarly national pension contribution differed in private, state and municipal sectors. In private sector the contribution is classified into three categories based on the wage sum and the depreciated value of fixed assets.

The unemployment insurance contribution rate depends on the wage sum paid by employer. Also the accident insurance contribution and the group life insurance contribution differ across employers. Only health insurance contribution rate is the same for all employers.

In EUROMOD database there is no information on employer contribution rates, which would be necessary to model the contributions accurately. There is no information on whether the employer is in private, state or municipal sector. To model the employer contributions average weighted contribution rates are used. These are calculated in three steps. Firstly there are average contribution rates for employers in different sectors. They are usually calculated by insurance corporations (see Table 18). Secondly the relative size of private, state and municipal sectors based on the number of employees in each sector are taken into account (see Table 19). Finally, based on these, the weighted average contribution rates across sectors are estimated (see Table 20).

Table 19. Employer social contribution rates in 2007–2013, %

	2007	2008	2009	2010	2011	2012	2013
Earnings-related pension contribution							
Private sector, average, %	16.7	16.8	16.8	16.9	17.1	17.35	17.35
State, %	19.8	19.4	20.1	20.7	19.8	19.5	19.29
Municipalities, %	23.9	23.8	23.6	23.6	23.6	23.6	23.9
National pension contribution							
Private sector, average, % ^[1]	1.58	1.48	0.68	0.00	0.00	0.00	0.00
State, %	1.951	1.851	1.05	0.00	0.00	0.00	0.00
Municipalities, %	1.951	1.851	1.05	0.00	0.00	0.00	0.00
Unemployment insurance contribution							
Wage sum limit, euro/year	840,940	1,686,000	1,788,000	1,846,500	1,879,500	1,936,500	1,990,500
Contribution under the wage sum limit, %	0.75	0.70	0.65	0.75	0.80	0.80	0.80
Contribution over the wage sum limit, %	2.95	2.90	2.70	2.95	3.20	3.20	3.20
Contribution, average, % ^[2]	2,29	2,09	1,92	2,12	2,27	2,32	2,32
Health insurance contribution	2.05	1.97	2.00	2.23	2.12	2.12	2.04
Accident insurance contribution, average, % ^[3]	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Group life insurance contribution, average, % ^[3]	0.08	0.08	0.07	0.07	0.07	0.07	0.07

Notes:

^[1] 1.4.2009 the national pension contribution decreased by 0.801 percentage units. The decreased rates of year 2009 are estimated by making this subtraction from 2008 rates.

^[2] Average in all sectors. The state employer is not obligated to pay the unemployment contribution.

^[3] Average rate in private sector.

Sources: Työttömyysvakuutusrahasto, Unemployment Insurance Fund and Insurance Companies.

Table 20. Number of employees by sectors (1000) and as % of all employees in 2007–2012

	2007	2008	2009	2010	2011	2012
Employees (thousands of persons)						
Private sector	1,592	1,644	1,569	1,572	1,595	1,602
State	154	153	155	153	152	150
Municipalities	456	461	461	459	463	462
Total	2,201	2,259	2,185	2,184	2,219	2,214
Share of all employees, %						
Private sector	72.3	72.8	71.8	72.0	72.2	72.4
State	7.0	6.8	7.1	7.0	6.9	6.8
Municipalities	20.7	20.4	21.1	21.0	21.0	21.0
Total	100,0	100,0	100,0	100,0	100,0	100

Table 21. Average estimated employer social contribution rates in 2007–2012, %

	2007	2008	2009	2010	2011	2012	2013
Earnings-related pension contribution	18.4	18.4	18.5	18.6	18.6	18.8	18.8
National pension contribution	1.68	1.57	0.28	0.00	0.00	0.00	0.00
Unemployment insurance contribution	2.29	2.06	1.92	2.12	2.27	2.32	2.32
Health insurance contribution	2.05	1.97	2.00	2.23	2.12	2.12	2.04
Accident insurance contribution	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Group life insurance contribution	0.08	0.08	0.07	0.07	0.07	0.07	0.07
Contribution, total	25.51	25.11	23.76	24.01	24.17	24.33	24.23

Changes in employer social contribution rules in 2008 – 2013

In 1.4.2009 the employer national pension contribution was decreased. It was abolished in 1.1.2010.

From 2011 employers, as employees, are obligated to pay the health insurance contribution only for employees who are 16-67 year-old.

2.5.3 Self-employed social contributions (tscse_s and tscfr_s)

Brief description

The base for all social insurance contributions of self-employed persons is "the YEL-income" (entrepreneurs) and "the MYEL-income" (farmers). These are not real incomes but "hypothetical" corresponding the work income of self-employed. The size of this income is an estimation of what should be paid to an employee who would do the same work as the self-employed. In simulations YEL- and MYEL-incomes are assumed to be the same as the actual earned income received from self-employment.

There are three statutory contributions which all self-employed have to pay:

- Earnings-related pension contribution (18-67 years old)
- Daily allowance contribution (16–67 years old from 1.1.2011)
- Medical care contribution

For farmers the *accident insurance contribution* and *group life insurance contribution* are also statutory. The group life insurance contribution is a very small fixed amount (e.g. 12 euro in 2012) and is not simulated in the model. Other insurance schemes, like unemployment insurance contribution, are voluntary for self-employed, and therefore are not simulated in EUROMOD.

The earnings-related pension contribution is possible to pay and deduct either personally or alternatively in business or farming. If paid in business or farming, the contribution is not anymore deductible in personal taxation. Even if this is the usual case, it is assumed in EUROMOD that self-employed and farmers pay their earnings-related pension contribution personally and are entitled to deduct them in their personal taxation. The reason for these assumptions is the lack of information in the data about the treatment of the earnings-related pension contribution. Same assumptions are applied to all contributions of self-employed.

To be obligated to pay the earnings-related pension contribution a self-employed must be 18-67 years old. The annual income must exceed a limit, which is in Table 21 for the years 2007–2013. The limit is lower for farmers than for other self-employed persons (entrepreneurs).

Table 22. Annual income limits for pension contributions of the self-employee, 2007–2013, euro/month

Year	2007	2008	2009	2010	2011	2012	2013
Limit for entrepreneurs	6,054	6,186	6,560	6,775	6,896	7,106	7,304
Limit for farmers	3,027	3,093	3,280	3,387	3,448	3,523	3,652

The base for daily allowance contribution is also the YEL- and MYEL-income. In case a self-employed person has wage income from other sources (than self-employment) the daily allowance contribution must also be paid from this income. The contribution rate from this wage income is the same as employee’s rate. To the YEL-income an increased daily allowance rate is applied, e.g. 0.91% instead of 0.75% in 2007 (see Table 21). Farmers have the same contribution rate as employees.

The base for medical care contribution is “a hypothetical” local tax base. To calculate this tax base the taxable earned work income is replaced by YEL- or MYEL-income and then tax deductions - except the pension contribution deduction - are subtracted from this income. As mentioned before, YEL- and MYEL-incomes are assumed to be the same as actual taxable earned self-employment income.

For daily allowance contribution and medical care contribution of self-employed the same age limits are applied as for employees.

Rates and amounts

If a self-employed person is less than 53 years old, the earnings-related pension contribution rate is 22.5 per cent (2013). For person at least 53 years old the rate is 23.85 per cent. For farmers both of these contribution rates are the same but are used only if the annual income exceeds 40,209 euro. If income is less than 25,587 euro, the contribution rates are 10.2 and 10.7 presents. Between 25,587 euro and 40,209 euro the farmer’s contribution rate is increased linearly, e.g. from 12.15 per cent to 23.85 per cent.

For the first four years as an entrepreneur the earning-related pension contribution rate is decreased by 25 per cent. This is not possible to simulate in the model.

Example (2013): Earned income from self-employment is 22,000 euro, the wage from other activity 5,000 euro and the YEL-income 20,000 euro.

The “standard” daily allowance contribution is based on the YEL-income plus the wage (20,000+5,000) and the contribution is 185.00 euro (0.0.74 x 25,000). The increased contribution from YEL-income is 28.00 euro (0.14 x 20,000) and the contribution totally 213.00 euro.

The base for medical care contribution is the YEL-income plus the wage income (25,000) from which the local tax deductions, except pension contribution, are subtracted. If the local tax base is 21,000 euro, the medical care contribution is 273.00 euro (1.3 x 21,000).

Table 23. Social contribution rates and income limits of self-employed in 2007–2013, %

	2007	2008	2009	2010	2011	2012	2013
Earnings-related pension insurance contribution							
Self-employed, less than 53 years, %	20.8	20.6	20.8	21.2	21.6	22.5	22.5
, at least 53 years, %	21.9	21.7	21.9	22.4	22.9	23.85	23.85
Farmers, less than 53 years, until 1 st limit, %	10.2	10.1	10.2	10.4	10.6	11.2	12.15
, after 2 nd limit, %	20.8	20.6	20.8	21.2	21.6	22.5	22.5
Farmers, at least 53 years, until 1 st limit, %	10.7	10.6	10.7	10.9	11.2	11.7	12.879
, after 2 nd limit, %	21.9	21.7	21.9	22.4	22.9	23.85	23.85
Farmers, 1 st income limit, euro/year	21,210	21,673	22,984	23,736	24,160	24,893	25,587
, 2 nd income limit, euro/year	33,330	34,058	36,118	37,300	37,966	39,118	40,209
Sickness insurance contribution							
Medical care contribution, %	1.28	1.24	1.28	1.47	1.19	1.22	1.30
Daily allowance contribution, entrepreneurs, %	0.91	0.81	0.79	1.05	0.92	0.97	0.88
Daily allowance contribution, farmers, %	0.75	0.67	0.70	0.93	0.82	0.82	0.74
Accident insurance contribution for MYEL-income; %	1.47	1.20	1.20	1.50	1.65	1.65	1.65

Changes in social contribution rules of self-employed in 2008 – 2013

From 1.1.2011 the daily allowance contribution must be paid only if a self-employed is 16–67 years old.

2.6 Personal earned income taxes (tinna_s, tinmu_s and tincr_s)

2.6.1 Tax unit

In income taxation the tax unit is individual, with some exceptions.

2.6.2 Tax allowances

Personal taxation is based on net income. This means that all expenses related to each income source, so called natural allowances, are deductible from gross income. This “pure income” is the base for other tax allowances. In other words all tax allowances are deducted from this pure income. Tax allowances are deducted either a) in state and local taxation, b) only in state taxation or c) only in local taxation.

Tax allowances simulated in EUROMOD are the following (all figures are annual in 2013):

Allowances in state and local taxation

Standard allowance for wage expenses is 100% of the wage income up to 620 euro, but not more than the gross wage. The allowance is deducted as natural allowance from wage income. Standard allowance is the only natural deduction simulated in the model. Others are travel expenses to work, trade union dues, fee of unemployment fund and other natural expenses. Other natural expenses are deductible only on that part which exceeds the standard allowance.

Pension contribution allowance is based on employee and self-employed statutory pension contribution. For employees the contribution equals 5.15 per cent of gross wage. If the age is 53 years or more the contribution is increased by 1.35 percentage units.). For self-employed the contribution rates are higher and different for YEL-income and MYEL-income. Contributions are fully deductible. However, when calculating the medical care contribution of self-employed the contribution is not deducted. This exception is not taken into account in the model. It is

assumed in simulations that entrepreneurs and farmers pay personally this contribution, and thus are entitled to deduction in personal taxation.

Unemployment contribution allowance is based on employee statutory unemployment contributions. The contribution equals 0.6 per cent of gross wage (2013). It is fully deductible. The contribution is voluntary for self-employed.

Daily allowance contribution deduction is based on an employee and self-employed statutory sickness daily allowance contribution. The contribution equals 0.74 per cent of work income which covers all income based on work, e.g. wage, salary as well as earned self-employment income and earned dividend income (2013). A higher percentage is applied for YEL-income. The contribution is fully deductible.

Allowances in state taxation

Pension income allowance is at the maximum the full national pension in the first municipal category multiplied by a coefficient of 3.8 minus the lowest income level in the state tax schedule (16,100 euro in 2013). The result is rounded up to the nearest 10 euro. The maximum allowance is thus 12,630 euro. The deduction cannot be more than the amount of pension income. If pure earned income exceeds the maximum the allowance is decreased by 44 per cent of the exceeding amount.

Example (2013): Full pension allowance in state taxation

The full national pension/year 12×630.02	7,560
The full allowance $(3.8 \times 7,560) - 16,100$	12,630

Allowances in local taxation

Low earned income allowance is 51 per cent of gross work income which exceeds 2,500 euro up to limit of 7,230 euro. From income exceeding 7,230 euro the allowance is 28 per cent. The maximum amount is 3,570 euro. The allowance starts to decrease by 4.5 per cent when pure earned income exceeds 14,000 euro (2013).

Pension income allowance is different for single person and spouses. The maximum amount is the full national pension (in the first municipal category until 2007) times 1.37 minus maximum amount of basic allowance. While the full national pension is different for single persons and spouses, also the maximum allowance was until 2008. In 2009 the different treatment of spouses was abolished. In 2010 the deduction linked to basic allowance was replaced with fixed deduction 1,480 euros. The allowance cannot be more than pension income. If pure earned income exceeds the maximum allowance, the allowance is decreased by 55 per cent of the exceeding income (in 2013).

Student grant allowance is at the maximum 2,500 euro (2013) but cannot be more than the amount of student grant. The allowance is reduced by 50 per cent for every euro the pure earned income exceeds the full allowance.

Basic allowance equals earned income after all other local tax allowances if this income does not exceed 2,880 euro (2013). If the income after other tax allowances exceeds 2,880 euro the basic allowance is reduced by 20 per cent of the exceeding income.

Changes of parameters of deductions in local taxation are shown in Table 23. Changes in pension income allowances are shown separately in Table 24. The income limit in state tax schedule can be picked up from Tables 25–31.

Table 24. Parameters of allowances in local taxation in 2007–2013

	2007	2008	2009	2010	2011	2012	2013
Low earned income allowance, maximum, euro	3,250	3,570	3,570	3,570	3,570	3,570	3,570
– Starting income limit, euro	2,500	2,500	2,500	2,500	2,500	2,500	2,500
– Threshold 1, euro	7,230	7,230	7,230	7,230	7,230	7,230	7,230
– Threshold 2, euro	14,000	14,000	14,000	14,000	14,000	14,000	14,000
– Amount of allowance, before threshold 1, %	49	51	51	51	51	51	51
– Amount of allowance, before threshold 2, %	26	28	28	28	28	28	28
– Decrease of allowance, after threshold 2, %	4.0	4.5	4.5	4.5	4.5	4.5	4.5
Maximum of student grant allowance, euro	2,200	2,300	2,500	2,500	2,500	2,500	2,500
–Decrease of student grant allowance, %	50	50	50	50	50	50	50
Maximum of basic allowance, euro	1,480	1,480	1,480	2,200	2,250	2,850	2,880
– Decrease of basic allowance, %	20	20	20	20	20	20	20

Table 25. Parameters of pension income allowances in 2007–2013

	2007	2008	2009	2010	2011	2012	2013
Full national pension, singles	6,298	6,702	7,010	7,010	7,037	7,304	7,560
Full national pension, spouses	5,559	5,944	No separate treatment.				
Deduction in local taxation	1,480	1,480	1,480	1,480	1,480	1,480	1,480
Coefficient in state taxation	2.22	3.53	3.65	3.78	3.80	3.80	3.80
Decrease in state taxation, %	70	53	46	46	44	44	44
Coefficient in local taxation	1.37	1.37	1.37	1.37	1.37	1.37	1.37
Decrease in local taxation, %	70	70	62	56	55	55	55
Full amount in state taxation	1,590	11,060	12,490	11,300	11,150	11,670	12,630
Full amount in local taxation, singles	7,150	7,710	8,130	8,130	8,170	8,530	8,880
Full amount in local taxation, spouses	6,140	6,670	8,130	8,130	8,170	8,530	8,880

Changes in tax allowances in 2008 – 2013

In 2009 the pension allowance for spouses changed in local taxation. The different treatment of single persons and spouses was abolished and the allowance of spouses increased to the level of single persons.

2.6.3 Tax base

The earned income tax base is the sum of earned income subject to tax minus natural allowances and other tax allowances. The income subject to tax is the same in state and local taxation, but tax allowances usually differ and thus also the tax bases.

2.6.4 Tax schedule and local tax rates

In state taxation a progressive tax schedule is applied to earned income tax base. The limits and the rates of the income bands in 2007–2013 are shown in Tables 24–30. If the taxable income (after deductions) is exactly the same as the lowest income limit the state tax is 8 euro in all these years. If the taxable income is for example 25,000 the tax is $8 + 0.065 \times (23,900 - 16,100) + 0.175 \times (25,000 - 23,900) = 707,50$ euro (2013).

Table 26. The progressive state tax schedule on earned income in 2007

Taxable income in state taxation (euro)	Tax on lower limit, euro	Rate above the lower limit, %
12,400 – 20,400	8	9
20,400 – 33,400	728	19.5
33,400 – 60,800	3,263	24
60,800 –	9,839	32

Table 27. The progressive state tax schedule on earned income in 2008

Taxable income in state taxation (euro)	Tax on lower limit, euro	Rate above the lower limit, %
12,600 – 20,800	8	8,5
20,800 – 34,000	705	19
34,000 – 62,000	3,213	23.5
62,000 –	9,793	31.5

Table 28. The progressive state tax schedule on earned income in 2009

Taxable income in state taxation (euro)	Tax on lower limit, euro	Rate above the lower limit, %
13,100 – 21,700	8	7
21,700 – 35,300	610	18
35,300 – 64,500	3,058	22
64,500 –	9,482	30.5

Table 29. The progressive state tax schedule on earned income in 2010

Taxable income in state taxation (euro)	Tax on lower limit, euro	Rate above the lower limit, %
15,200 – 22,600	8	6,5
22,600 – 36,800	489	17.5
36,800 – 66,400	2,974	21,5
66,400 –	9,338	30

Table 30. The progressive state tax schedule on earned income in 2011

Taxable income in state taxation (euro)	Tax on lower limit, euro	Rate above the lower limit, %
15,600 – 23,200	8	6,5
23,200 – 37,800	502	17.5
37,800 – 68,200	3,057	21.5
68,200 –	9,593	30

Table 31. The progressive state tax schedule on earned income in 2012

Taxable income in state taxation (euro)	Tax on lower limit, euro	Rate above the lower limit, %
16,100 – 23,900	8	6,5
23,900 – 39,100	515	17.5
39,100 – 70,300	3,175	21,5
70,300 –	9,883	29.75

Table 32. The progressive state tax schedule on earned income in 2013

Taxable income in state taxation (euro)	Tax on lower limit, euro	Rate above the lower limit, %
16,100 – 23,900	8	6,5
23,900 – 39,100	515	17,5
39,100 – 70,300	3,175	21,5
70,300 – 100,000	9,883	29,75
100,000 –	18,718,75	31,75

In local taxation municipal tax rates, church tax rates and medical care contribution percentages are applied to the tax base. Municipal tax rates and church tax rates are decided by municipalities and Churches and thus vary across municipals and Churches. There is no information in the EUROMOD data about these tax rates and thus weighted average tax rates are used in simulations. These rates for relevant policy years are shown in Table 32.

Table 33. Average municipal and church tax rates in 2007–2013

	2007	2008	2009	2010	2011	2012	2013
Average municipal tax rate, %	18.45	18.55	18.59	18.98	19.17	19.24	19.38
Average church tax rate, %	1.33	1.33	1.32	1.33	1.34	1.34	1.34

2.6.5 Special tax on pension income

In 2013 a special tax on pension income shall be paid. It is 6 per cent on pension income exceeding the limit of 45 000 euro/year. It is part of the state income tax.

2.6.6 Exemptions

Earned incomes are widely subject to tax. The most important exemptions are:

- Child benefit
- Housing allowances
- Livelihood support grant⁴
- Some stipends and scholarships
- 30 % of dividends treated as earned income are non-taxable.
- Local authority income support

2.6.7 Tax credits

There are three tax credits in the Finnish tax system, which are not included in the model: tax credit based on invalidity, on payments for maintenance of child and on domestic and reconstruction services. Other three tax credits are simulated and reported below. All the tax credits are non-refundable.

Low earned income tax credit (*työtulovähennys*) in state taxation is 7.3 per cent of the work income exceeding 2,500 euro. The maximum amount of credit is 970 euro. If pure income exceeds 33,000 euro the tax credit decreases by 1.1 per cent. The tax credit is subtracted from the state tax, but if it cannot be subtracted or it can be subtracted only partly, the remaining amount is subtracted proportionally from local and church taxes and the sickness contribution. Work income is defined as wage, earned self-employment income and earned dividends. The low earned income tax credit is subtracted before any other tax credits.

⁴ This is a child maintenance allowance paid in place of alimonies (in case a divorced parent can't pay the full amount).

Table 34. Low earned income tax credit in 2007–2013

	2007	2008	2009	2010	2011	2012	2013
Amount of credit from work income, %	3.6	3.6	5.2	5.2	5.9	7.1	7.3
Starting income limit, euro	2,500	2,500	2,500	2,500	2,500	2,500	2,500
Maximum amount, euro	400	400	600	650	740	945	970
Limit of pure income, euro	33,000	33,000	33,000	33,000	33,000	33,000	33,000
Decrease from pure income; %	0.9	0.9	1.2	1.2	1.2	1.1	1.1

Deficit credit (*alijäämähyvitys*) is a deviation from the principle that capital and earned incomes are taxed separately. If natural allowances and deductible interests exceed the gross capital income, the exceeding amount is denoted as “a deficit in the capital income type”. A person is entitled to subtract a share of this deficit (deficit credit) from earned income taxes (state tax, municipal tax, church tax and medical care contribution). The deficit credit is the deficit multiplied by capital income tax rate.

Deficit credit deviates also from the principle of individual taxation because there is an increase of deficit credit if there are children in the household. For spouses this increase is applied only to the spouse, whose state tax on earned income is larger. In addition the deficit credit, or a share of it, is possible to transfer to another spouse if it would be “unused” because of low taxes.

The maximum amount of deficit credit per person is 1,400 euro. This is increased by 400 euro if there is one child and by 800 euro if there are at least two children in the household. Thus, for a couple with two dependent children the maximum tax credit is 3,600 euro. That share of the deficit, which is based on interests of first owned dwelling, is multiplied by capital income tax rate plus 2 percentage points (32% instead of 30% in 2013). The same maximum limits are still applied. This additional part of the deficit credit is not possible to simulate in EUROMOD.

Deficit credit is subtracted from earned income taxes in the following way. First 75 per cent is subtracted from state tax on earned income. The rest of the credit (25%) is then subtracted from state tax (what is left), municipal tax, church tax and medical care contribution in the proportion of their respective shares. That share of the deficit credit, which is not deducted from earned income taxes, because no taxes are left, is converted into a loss. This loss is deductible from capital income over the next ten years.

For spouses with one child the calculation of the deficit credit is the following: If husband’s state tax on earned income is bigger than wife’s, his maximum tax credit is 1,800 euro (incl. child increase) and wife’s 1,400 euro. If husband’s earned income taxes are less than 1,800 euro, say 1,000 euro, the difference is transferable to the wife. This difference, 800 euro, is then subtracted from wife’s taxes in the same way than from husband’s taxes. In these parameters there have been no changes in the years 2007–2013.

The deficit credit is deducted after invalidity tax credit and maintenance tax credit. These tax credits are not simulated in EUROMOD.

Special deficit credit (*erityinen alijäämähyvitys*) is admitted on the base of voluntary pension insurance payments. Pension insurance payments are subtracted from capital income. If there is deficit in the capital income type, it is possible to subtract a share of voluntary pension insurance payment from earned income taxes. The special deficit credit is the insurance payment multiplied by capital income tax rate. The maximum deductible insurance payment is at most 5,000 euro and thus the maximum tax credit is 1,400 euro. If a single person has enough deductible interests and voluntary pension insurance payments, the maximum deficit credit and special deficit credit are both 1400 euro. There is no child increase in special deficit credit.

The subtraction of special deficit credit from earned income taxes differs slightly from deficit credit. At first 100 per cent of the special deficit credit is subtracted from state tax. If the state tax is smaller than the deficit credit, the rest of it is subtracted from municipal tax, medical care contribution and church tax in the proportion of their respective shares. The special deficit

credit, or a share of it, is possible to transfer to a spouse if credit would be “unused” because of low taxes.

That share of the deficit in capital income type, which is not possible to deduct from earned income tax is converted into a loss. The loss is deductible from capital income over the next ten years.

The special deficit credit is deducted after the deficit credit.

Changes in earned income tax rules in 2008 – 2013

In 2007–2008 the low earned income tax credit was subtracted only from state tax. So if the state tax was smaller than the credit, the rest of the credit was lost. From 2009 onwards the rest of the credit is subtracted from municipal tax, medical care contribution and church tax in the proportion of their respective shares.

There have been no other structural changes in tax credits in 2008–2013.

2.7 Personal capital income tax (tiniy_s)

2.7.1 Tax unit

The tax unit is individual in capital taxation. Capital incomes are taxed only in state taxation.

2.7.2 Exemptions

Capital incomes are widely subject to tax. The most important exemptions are:

- Dividends received from non-listed companies and treated as capital income, may be non-taxable up to 90,000 euro if the net wealth of a company is large. In 2012 this limit was reduced to 60,000 euro.
- 30 % of dividends received from listed or non-listed companies (treated as capital income) are non-taxable.
- Imputed rent of owned-occupied dwelling

2.7.3 Tax allowances

Some interests are subtracted from capital income as natural deductions. Most important natural allowances are interest expenses on mortgage, study and investment loans.

In the EUROMOD the following tax allowances are subtracted from capital income:

Interest on mortgage loan is subtracted from capital income as a natural deduction. There is no limit for the amount of the deduction, but in 2012 it was limited to 85 % of the interest.

Voluntary pension insurance payment allowance is deducted from capital income with a limit of 5,000 euro.

2.7.4 Tax base

The capital income tax base is the sum of capital incomes subject to tax minus natural allowances, deductible interests and losses. The losses are not included in simulations.

2.7.5 Tax rate

Capital income was taxed with a flat tax rate of 28 % in policy years 2007–2011. From 2012 there are two tax rates: 30 % as normal tax rate and 32 % for capital incomes exceeding 50,000 euros per year.

2.7.6 Tax credits

The tax credit for domestic and reconstruction services is the only tax credit which is subtracted (partly) from capital income tax. Firstly it is subtracted from capital and earned state taxes in relation to their amounts. Secondly if there is tax credit left, it is subtracted from other earned income taxes in the proportion of their respective shares. These tax credits are not simulated in the model.

Changes in capital income tax rules in 2008 – 2013

There have been no structural changes in capital income taxation in 2008–2011. In 2012 a tax scale with two different tax rates was introduced. The deductibility of mortgage interests was reduced to 85 % of the interest.

2.8 Broadcasting tax

In 2013 a new tax has been introduced, broadcasting tax (*yleisradiovero*). It is designed to finance Finland's national public service broadcasting company Oy Yleisradio Ab operating four television and six radio channels. The tax replaces TV licenses, which until 2012 were obligatory for all households owning a TV receiver.

The new tax is individual. Children under 18 years do not pay the tax. The tax base is pure taxable earned and capital income, i.e. taxable income, from which the so called natural deductions have been made, for example work expenses. The tax is 0.68 per cent of the income, but not higher than 140 euro per year. If the calculated tax is less than 50 euro, it is not collected. So people with very low income are exempted from the tax.

3. DATA⁵

3.1 General description

The Finnish database is drawn from the UDB version of the European Statistics on Income and Living Conditions survey (EU-SILC) in 2010. EU-SILC is the main source of comparative statistics on income distribution and social exclusion in Europe.

The survey is constructed by combining information from registers and interviews. Most of the information is from administrative registers, such as Statistics Finland's population statistics and Tax register. Typically many of the household classifications and some expenditures are based on interviews.

The target group of the survey are households residing permanently in Finland. Excluded are persons living in Finland temporarily or without address, institutionalized, living permanently abroad and asylum seekers.

⁵ Sources used in this chapter are The Final Quality Report relating to the Finnish EU-SILC 2010 operation (Statistic Finland) and Tulonjakotilasto (Income Distribution Survey) 2009 (Statistics Finland 2011).

The Finnish EU-SILC is a cross-sectional data based on nationally representative sample of individuals living in private households. The sample is based on a rotating panel where the same household is included in four consecutive years.

The sample design is a two-phase stratified sampling. In the first phase a so-called master sample is created by drawing 50,000 target persons aged at least 16 years. People living in the same household-dwelling unit with the target person are identified using the domicile codes. In the second phase the actual sample, 5,000 household-dwelling units, is drawn from the master sample using the stratification rules.

The stratification is performed according to the available socio-economic and income information. The master sample is divided into socio-economic groups of employees, self-employed, farmers, pensioners, other and no tax record. Further, these groups are divided into subgroups according to the household-dwelling unit’s income subject to state taxation. The stratification of the sample is unequal in the sense that it takes a person with the highest earnings as the reference person of the household-dwelling unit when the socio-economic group is defined, except for self-employed. Self-employed and household-dwelling units with high incomes have a higher probability to get into the sample than other groups. Besides the stratification criteria, the probability that a household-dwelling unit is included in the sample depends on the number of persons aged at least 16 years in the household-dwelling unit.

Table 35. EUROMOD database description 2010.

	Year 2010
EUROMOD database	FI_2010_a1
Original name	UDB EU-SILC 2010 (1 st release)
Provider	EUROSTAT
Year of collection	2010
Period of collection	01/2010 – 05/2010
Income reference period	2009
Coverage	Private households
Actual sample size	13,525 household-dwelling units 1 st wave: 5,000 observations 2 nd wave: 5,306 observations 3 rd wave: 1,639 observations 4 th wave: 1,580 observations
Accepted	10,989 household-dwelling units (27,009 individuals) 1 st wave: 3,445 observations 2 nd wave: 4,631 observations 3 rd wave: 1,468 observations 4 th wave: 1,445 observations
Non-response rate	1 st wave: 29.9 % 2 nd wave: 11.7 % 3 rd wave: 9.7 % 4 th wave 7.7 %

Sources: The Final Quality Report relating to the Finnish EU-SILC 2010 operation (Statistics Finland) and Tulonjakotilasto (Income Distribution Survey) 2009 (Statistics Finland 2011).

3.2 Sample quality and weights

3.2.1 Non-response

The EU-SILC sample is selected from the Population Register. The sampling frame included 4,321,007 persons.

The total household-dwelling unit non-response rate to interviews in the first wave was 29.9 per cent. Non-response rates of the 13 population groups interviewed in the first wave are reported in Table 36.

Table 36. Non-response rates of the stratificated population groups in the first wave.

Stratificated group	Non-response rate
Employees, lowest income class	35.3
Employees, 2 nd lowest income class	31.4
Employees, 3 rd lowest income class	27.3
Employees, highest income class	28.4
Self-employed persons, lower income class	30.7
Self-employed persons, higher income class	26.8
Farmers, lower income class	21.7
Farmers, higher income class	13.3
Pensioners, lower income class	29.9
Pensioners, higher income class	19.7
Others, lower income class	45.6
Others, higher income class	32.0
No tax record	56.8
National average	29.9

Source: Tulonjakotilasto (Income Distribution Survey) 2009 (Statistics Finland 2011).

The non-response rates of employee and self-employed groups are near to the national average. Farmers and pensioners in higher income class responded more often than other groups. “No tax record” group has the highest non-response rate.

3.2.2 Weights

Every person and household in the EU-SILC data has a weight. First, the design weights are created according to the inclusion probabilities. Second, the non-response adjusted weights are created. Third, the non-response adjusted weights are calibrated with SAS macro CALMAR, so the distributions of the certain features are similar in the sample and in the target group. The features used in calibration are:

- residential area
- size of household-dwelling unit
- age
- gender
- amounts and recipients of different incomes

3.3 Assumptions and imputations

3.3.1 Time period

The income reference period of the EU-SILC 2010 is the calendar year 2009. Most income variables were collected from registries and refer to this period, i.e. the twelve month period before the survey year. The interview information was collected during the first five months of year 2010. The reference period of the income variables and the period of socio-demographic and labour characteristics are thus different. However, the Finnish data collecting principle diverges in this sense from general EU-SILC instructions and the relevant interview information refers also to the income reference period (e.g. activity status). Table 37 introduces the reference periods used and the data information reported at each period.

Table 37. Definitions for the reference periods in Finnish EU-SILC 2010.

Current, time point of the interview for the respondent in year 2010
- Non-monetary household deprivation indicators
- Housing (amenities in dwelling)
- Education

- Health
- Last day of the income reference period (31th December 2009)
 - Basic data⁶
 - Physical and social environment
 - Housing (dwelling type, tenure status and housing conditions)
- Last month of the income reference period (December 2009)
 - Child care
 - Labour information on current activity status and current main job, including information on last job before unemployment
 - Detailed labour information
 - Housing costs (a part of housing costs)
- Last 12 months preceding the time point of interview
 - Health (access to health-care)
- Income reference period (calendar year 2009)
 - Income
 - Labour information on activity status during income reference year
 - Housing and non-housing related arrears
 - Housing costs (a part of the housing costs, e.g. income related items)

Source: The Final Quality Report relating to the Finnish EU-SILC 2010 operation (Statistics Finland).

The information on activity status during the income reference period is primarily based on the interviews but the answers are checked against register information, too. The target variables of activity status during the income reference period and the detailed subgroups interviewed are shown in Table 38.

Table 38. Target variables of person's activity status during the income reference period.

Number of months at full-time work as employee (pl073)	- Employee working full-time (self-defined or at least 30 hours per week, incl. persons in paid maternity, paternity, parental or sick leave)
Number of months at part-time work as employee (pl074)	- Employee working part-time (self-defined or under 30 hours per week, incl. persons in paid maternity, paternity, parental or sick leave)
Number of months at full-time work as self-employed (pl075)	- Self-employed working full-time (self-defined or at least 30 hours per week, incl. family workers)
Number of months at part-time work as self-employed (pl076)	- Self-employed working part-time (self-defined or under 30 hours per week, incl. family workers)
Number of months as unemployed (pl080)	- Unemployment, layoffs
Number of months in retirement or early retirement (pl085)	- In old-age or early-old age pension, in unemployment pension if not a unemployed (pl080)
Number of months as disabled or/and unfit to work (pl086)	- In unpaid sickness leave, in disability pension
Number of months in studying (pl087)	- Full-time pupil, student, in further training and other unpaid work experience
Number of months in compulsory military service (pl088)	
Number of months fulfilling domestic task and care responsibilities (pl089)	
Number of months in other inactivity (pl090)	

Sources: The Final Quality Report relating to the Finnish EU-SILC 2010 operation (Statistics Finland).

All monetary incomes in the EUROMOD database are converted into monthly terms. In calculations it is implicitly assumed that income is received at the same rate throughout the year.

3.3.2 Gross incomes

In the EU-SILC 2010 all income variables are in gross terms except hy020, hy022 and hy023. In addition, net amounts py020n, py021n, py080n and hy100n are provided in the data. No net-to-gross imputations are done.

⁶ E.g. demographic characteristics.

3.3.3 Imputed and disaggregated variables

Variable hy090g includes interest, dividends and profit from capital investments in unincorporated business. Interest income taxed at source is collected by interviewing in two phase question: 1. a precise value, 2. if does not know, a range value. If the respondent tells the range value or does not tell the value at all, the precise value is imputed. First, deductive method is used for the households that are in survey for the second, third or fourth year: answered (not imputed) monetary values of the previous survey years are used. Second, statistical hot-deck method is used.

Net amounts hy022, hy023, hy100n py020n, py021n and py080n are imputed from gross amounts by deductive imputation: tax information is available for this.

Variable py030g, employers' social insurance contributions, is created by deductive imputation: information about social insurance schemes and information about employers is used.

Variable hy030g, imputed rent, is imputed by stratification method. External data of mean gross rents per square meter in dwellings of different sizes, types and municipalities is used.

Some monetary variables are imputed in EUROMOD database. These imputations are often necessary to make the simulations possible. For example, the investment income (y_{iy}) includes earned, capital and non-taxable income which are necessary to separate in order to simulate taxes and contributions. In addition there is information in the original EUROMOD variables which is not possible to decompose into any relevant and homogenous variables. The content of these "residual variables", or "other income components", is probably heterogeneous. The imputations are performed by using Tulonjakotilasto (Income Distribution Survey) 2009 as background information. Table 39 shows the aggregate EUROMOD variables which are imputed to disaggregated variables.

Tulonjakotilasto (Income Distribution Survey) 2009 is also used as background information when the following variables were imputed:

- lcs, civil servant (yes/no)
- bunmy, number of months receiving unemployment benefits
- bunnmy, number of months receiving basic unemployment allowance
- bunmtmy, number of months receiving labour market subsidy
- bunctmy, number of months receiving earnings-related unemployment allowance
- bedmy, number of months receiving education benefits
- bccmy, number of months receiving child home care allowance
- yempv, previous monthly wage for earnings-related unemployment allowance

Table 39. The aggregate EUROMOD variables which are split.

Aggregate variable	Description of aggregate variable	Imputed variable	Description of imputed variable	Simulated
tis	Personal income tax and social insurance contributions	tscee00	Earnings-related pension contribution and unemployment insurance contribution of employee	x
		tscse00	Earnings-related pension contribution of self-employed, earnings-related pension contribution of farmer, group life insurance contribution of farmer and accident insurance contribution of farmer	x
		tscsi	Daily allowance contribution of health insurance	x
		thl	Medical care contribution of health insurance	x
		tscer	Social insurance contributions paid by employer	x
		tin	Personal income tax	x
yse	Self-employment income	yse00	Earned income share of self-employment income	
		yse01	Capital income share of self-employment income	
yiy	Investment income	yiytx00	Earned income share of investment income	
		yiytx01	Capital income share of investment income	
		yiynt	Tax free income share of investment income	
bed	Education benefits	bed00	Study grant	x
		bedot	Other education benefits	
bun	Unemployment benefits	bunnc	Basic unemployment allowance	x
		bunct	Earnings-related unemployment allowance	x
		bunmt	Labour market subsidy	x
		bunot	Other unemployment benefits	
bhl	Health benefits	bhl00	Sickness leave benefit	
		bhlot	Employment injury benefits (and other health benefits)	
bfa	Family benefits	bma	Parental leave benefits	
		bcc	Child home care allowance	x
		bch	Child benefit	x
		bfaot	Other family benefits	
bsa	Social assistance benefits	bsa00	Local authority income support	x
		bsaot	Other social assistance benefits	
bho	Housing benefits	bho00	General housing allowance	
		bhosd	Student housing supplement	x
		bhope	Pensioner housing allowance	x
		bhoot	Other housing benefits	
pdi	Disability pension benefits	pdi00	Main component of disability pension	
		pdida	Disability allowance separated from disability pension	
		pdica	Pensioners' care allowance separated from disability pension	
poa	Old age pension benefits	poa00	Main component of old age pension	
		poaca	Pensioners' care allowance separated from old age pension	

3.4 Updating

The factors which are used to update monetary variables from the base year 2009 up to 2013 are shown in Annex 1, Table 40. No other adjustments are done to the monetary variables. Neither is any structural change done to the demographic or labour market characteristics. As a result the distribution of each income source that is not simulated remains the same through the whole period.

4. VALIDATION

In this chapter statistics on EUROMOD benefits and taxes are compared with external sources. Tables 4.2-4.10 in Annex 2 show the validation results of market incomes, the tax-benefit instruments which are included in EUROMOD but are not simulated, the tax-benefit instruments which are simulated in EUROMOD, as well as income distribution and poverty indicators. The numbers of income recipients and taxpayers as well as aggregate amounts are presented.

The sources of external statistics are based on administrative registers, like Tax register, databases of Social Security Institution (KELA), of Finnish Center for Pensions (ETK) and of Statistics Finland. For some incomes and taxes there is no information on recipients or taxpayers available. The reason is that in register the information is often broken down into details. People may receive different incomes, or pay taxes, simultaneously and the recipients or tax payers are not possible to sum up.

While the EUROMOD input data is mainly collected from registers, the overall match should be quite good. However, the income concepts of the survey and administrative registers are not always comparable. And the precise content of some imputed variables may not be known.

4.1 Aggregate Validation

4.1.1 Non simulated incomes and taxes

Table 4.4 shows that earnings across all employees in EUROMOD is close (99%) to the register sources in the base year 2009. Investment income (112%) and self-employment income are somewhat over-represented (109%). The discrepancies are larger when different components of investment and self-employment incomes are compared.

Old-age pensioners are covered quite well in SILC data, but slightly over-estimated (Tables 4.5-4.6). Disability pensions are over-represented. On the contrary, survivor's pensions are substantially under-represented. Old age pensions are over-estimated, and survivor's pensions under-estimated, because in the EU-SILC old age pensions include survivor's pensions if they are paid after the standard retirement age. Disability pensions are overestimated because they include also other benefits than pensions.

The property tax is clearly under-estimated in the data because real estate tax paid by households does not cover the owner-occupied flats.

4.1.2 Simulated taxes and benefits

Table 4.7, 4.8a and 4.8b show the validation results of simulated benefits, taxes and social contributions. As described above the external numbers of recipients are not always available. For employers there is no external information about payers of social contributions.

The recipients of earnings-related unemployment benefit are overestimated because the model variable includes some benefits, which are not included in external statistics. The means-tested benefits are often overestimated because 100% take-up is assumed. The local income support is underestimated because in the baseline eligibility is simulated taken some of the non-take-up into account.

Self-employed persons are clearly under-estimated in the data. However, the overall aggregate self-employment income is relatively close (109%) to the register source. Farmers work injury and life insurance contributions are not presented because of their minor importance in aggregate level. Capital income taxes are significantly under-estimated in the years 2009–2012. This is mainly because external statistics include taxes paid from capital gains. These capital gains are very volatile and depend on the business cycle. So the amount of under-estimation is also changing. In the model nearly all who pay local taxes are also members of Church, which is not the case in reality.

4.2 Income distribution

All results presented here concerning poverty and income distribution 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. In all simulations 100% take-up of means-tested benefits is assumed.

Tables 4.9 and 4.10 provide the comparison of EUROMOD simulations and the EUROSTAT data for income years 2009–2013. External statistics from EUROSTAT are available only up to 2011. Means and medians are lower in EUROMOD. Poverty rates, S80/S20-ratios and Gini-coefficients are lower than in the EUROSTAT statistics. The poverty rates are also underestimated both for men and women. Earlier the underestimation was greater for women but in 2011 it is the other way around. The comparison shows the effects of variable imputations and simulations itself while the base data are the same.

The deciles income shares are quite close, except in the 1st decile in all years and the top decile in 2009. The difference in the first decile comes from overstimulation of means-tested benefits under 100% take-up assumption.

4.2.1 Poverty

In Table 4.10 poverty rates with several poverty lines and different age groups are presented. The overall poverty rates at the 60% threshold approximate quite well the EUROSTAT data. The differences are larger with lower poverty lines. With 60% threshold the variations are largest for youth and eldest persons. The EUROMOD overall relative poverty rates are slightly lower than the poverty rates reported in EUROSTAT.

4.3 Summary of “health warnings”

This final section summarizes the main findings in terms of particular aspects of the Finnish part of EUROMOD or its database. These should be borne in mind when using the model and interpreting the results.

- No adjustments have been made for demographic changes or changes in the composition of incomes since the base year 2009 (except those updating by indices)
- The assumption of 100% take up of means-tested benefits overestimates the number of recipients and amounts of these benefits

- In the baseline local income support is simulated taken into account non-take-up.
- Some income variables are imputed from aggregate EU-SILC variables. The information of these variables may be inaccurate and the content heterogeneous
- One should be careful when interpreting the results for small subgroups
- Some tax credits are not simulated or included in the data.

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fertility rate:

<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tsdde220&plugin=1>

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6. ANNEX 1

Table 40. Updating factors

Index	2010	2011	2012	2013	Applied to variables:
Index of wage and salary earnings	1.0262	1.0539	1.0875	1.1136	default, yem, yse (yse00, yse01), kfb, xmp, yivwg, kivho, tad, tis, tscer, yds
Earnings-related pension index (TEL)	1.0327	1.0512	1.0831	1.1133	ypp, pdi, poa, pdu, xpp
Index of investment income	1.0873	1.2386	1.1309	1.1309	yy (yytx00, yytx01, yynt), afc
Rent index	1.0262	1.0559	1.0935	1.1165	ypr, tpr, xhc (xhcr, xhcot)
Index of mortgage interest	0.6297	0.729	0.6735	0.6735	xhcmomi
Consumer price index	1.0121	1.0468	1.0763	1.0989	ypt, yot, bed (bed00, bedot), bfa (bma, bcc, bch, bfaot), bhl (bhl00, bhlot), bho (bho00, bhope, bhod, bhoot), bun (bunct, bunmt, bunnc, bunot)
Index of previous year's earnings	1.0399	1.0671	1.0959	1.1308	yempv
National pension index (KEL)	1	1.004	1.0419	1.0712	bsa (bsa00, bsat)

Sources: *Statistics Finland, *Social security Institution ,KELA, *Ministry of Finance

*Mortgage interest forecasts used in TUJA-model and based on statistics of Bank of Finland.

**Index of investment index: change in dividend income

Figures for 2013: mainly forecasts of the Ministry of Finance. Changes in pension indexes are official figures. Index of investment income and rent index: own preliminary estimation.

7. ANNEX 2

Macrovalidation Tables

Notes for Tables 4.2-4.8:

In external source the number of recipient households on 31.12.

Sources for Tables 4.2-4.8:

- *Verotilasto (2008-2010), Tax statistics for 2007-2009: Tax Administration Publication.
- *Veronsaajien palvelut, Tax Administration website services.
- *Social Security Institution, KELA: Statistical Yearbooks 2007-2009.
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Notes for Tables 4.9 and 4.10:

Means and medians are in equalised disposable income (current prices) per year using the modified OECD equivalence scale.

Sources for Tables 4.9 and 4.10: Eurostat Statistics Database. Last accessed on December 2013.

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

	EUROMOD		External				Ratio				
	2009	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
Number of employed	2232.1	2457.3	2447.5	2473.7	2483.2	N/A	0.91	0.91	0.90	0.90	N/A
Number of unemployed	316.2	220.9	224.3	208.7	206.8	N/A	1.43	1.41	1.52	1.53	N/A

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

	EUROMOD External						Ratio				
	2009	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
Employment income	2720.2	2787.0	2778.0	2824.0	2831.0	N/A	0.98	0.98	0.96	0.96	N/A
Fringe benefits	668.8	668.0	665.0	688.0	688.0	N/A	1.00	1.01	0.97	0.97	N/A
Self-employment income	442.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-Earned income share	353.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-Capital income share	349.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dividend income	3070.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-Earned income share	344.0	48.0	59.5	89.4	47.6	N/A	7.17	5.78	3.85	7.23	N/A
-Capital income share	947.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-Tax-free income share	2455.2	958.0	967.0	955.0	953.0	N/A	2.56	2.54	2.57	2.58	N/A
Income from rent	333.8	263.0	270.0	272.0	272.0	N/A	1.27	1.24	1.23	1.23	N/A
Pensions from private plans	192.3	160.0	125.0	120.0	124.0	N/A	1.20	1.54	1.60	1.55	N/A

Table 4.4-Market income in EUROMOD -Annual amounts (in mil.)

	EUROMOD					External					Ratio				
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
Employment income	70,651	72,502	74,459	76,833	78,677	71,452	74,026	77,588	80,459	N/A	0.99	0.98	0.96	0.95	N/A
Fringe benefits	856	878	902	931	953	931	907	918	962	N/A	0.92	0.97	0.98	0.97	N/A
Self-employment income	5,719	5,869	6,027	6,219	6,369	5,260	5,106	5,396	5,170	N/A	1.09	1.15	1.12	1.20	N/A
-Earned income share	4,238	4,349	4,467	4,609	4,720	4,151	4,241	4,470	4,471	N/A	1.02	1.03	1.00	1.03	N/A
-Capital income share	1,481	1,520	1,561	1,610	1,649	1,109	865	926	699	N/A	1.34	1.76	1.69	2.31	N/A
Dividend income	3,757	4,085	4,654	4,249	4,249	3,342	3,633	4,139	3,798	N/A	1.12	1.12	1.12	1.12	N/A
-Earned income share	353	384	437	399	399	331	352	409	361	N/A	1.07	1.09	1.07	1.10	N/A
-Capital income share	1,100	1,196	1,362	1,244	1,244	1,013	1,055	1,333	1,321	N/A	1.09	1.13	1.02	0.94	N/A
-Tax-free income share	2,305	2,506	2,854	2,606	2,606	1,998	2,226	2,397	2,116	N/A	1.15	1.13	1.19	1.23	N/A
Income from rent	1,150	1,180	1,214	1,257	1,284	1,236	1,292	1,339	1,367	N/A	0.93	0.91	0.91	0.92	N/A
Pensions from private plans	1,136	1,173	1,194	1,230	1,264	1,014	898	852	889	N/A	1.12	1.31	1.40	1.38	N/A

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

	EUROMOD					External					Ratio				
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
Benefits															
Old-age pension	17,181	17,743	18,061	18,609	19,128	15,075	16,077	17,301	18,920	N/A	1.14	1.10	1.04	0.98	N/A
Care allowance for old-age pensioner	127	132	134	138	142	N/A	N/A	N/A	N/A	N/A	N/A				
Disability pensions	3,493	3,607	3,671	3,783	3,888	3,124	3,115	3,042	3,039	N/A	1.12	1.16	1.21	1.24	N/A
Care allowance for disability pensioner	56	58	59	61	63	N/A	N/A	N/A	N/A	N/A	N/A				
Disability allowance	30	31	32	33	34	102	101	103	108	113	0.30				
Survivor's pension	234	241	246	253	260	1,586	1,601	1,619	1,673	N/A	0.15	0.15	0.15	0.15	N/A
Parental benefits	809	819	847	871	890	761	800	824	839	N/A	1.06	1.02	1.03	1.04	N/A
Sickness leave benefit	429	434	449	462	471	451	455	469	466	N/A	0.95	0.95	0.96	0.99	N/A
General housing allowance	439	444	459	472	482	482	530	552	606	N/A	0.91	0.84	0.83	0.78	N/A
Taxes and Social Insurance contributions															
Property tax	319	327	336	348	356	445	N/A	N/A	N/A	N/A	0.72	N/A	N/A	N/A	N/A

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

	EUROMOD					SILC							Ratio External				
	2009	2010	2011	2012	2013	2009	2009	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
Benefits																	
Basic unemployment allowance	65	65	65	65	65	65	1	64	65	59	59	64	1.01	0.99	1.10	1.10	1.02
Earnings-related allowance	503	503	503	503	503	503	1	367	358	274	274	N/A	1.37	1.40	1.83	1.83	N/A
Labour market subsidy	157	156	158	160	167	168	1	184	199	208	217	243	0.85	0.78	0.76	0.74	0.69
Child home care allowance	116	116	116	116	116	128	1	115	118	117	116	N/A	1.01	0.98	0.99	1.00	N/A
Child benefit	575	575	575	575	575	600	1	596	562	559	558	N/A	0.96	1.02	1.03	1.03	N/A
Student housing supplement	166	163	160	158	157	201	1	219	223	221	217	N/A	0.76	0.73	0.72	0.72	N/A
Pensioner housing allowance	235	228	225	226	226	164	1	178	179	182	184	N/A	1.32	1.27	1.24	1.23	N/A
Local authority income support	128	124	121	120	125	201	1	239	240	239	238	N/A	0.54	0.52	0.50	0.50	N/A
Study grant	353	344	333	326	321	311	1	286	299	295	287	N/A	1.23	1.15	1.13	1.14	N/A
Guarantee pension	0	0	123	124	126	N/A	N/A	N/A	N/A	105	104	103	N/A	N/A	1.18	1.20	1.23
Taxes and Social Insurance contributions																	
State tax on capital income	1017	1044	1043	1053	1054	N/A	N/A	877	939	962	947	N/A	1.16	1.11	1.08	1.11	N/A
State tax on earned income	1926	1831	1792	1709	1741	N/A	N/A	1751	1655	1627	1578	N/A	1.10	1.11	1.10	1.08	N/A
Municipal tax	3891	3816	3816	3745	3750	N/A	N/A	3866	3808	3849	3811	N/A	1.01	1.00	0.99	0.98	N/A
Church tax	3874	3807	3803	3731	3737	N/A	N/A	3085	3001	2961	2892	N/A	1.26	1.27	1.28	1.29	N/A
Employees SIC	2625	2630	2630	2630	2630	2474	1	2310	2512	2340	2344	N/A	1.14	1.05	1.12	1.12	N/A
Self-employed SIC	163	163	163	163	163	85	2	274	273	285	285	N/A	0.60	0.60	0.57	0.57	N/A
Employers SIC	2726	2726	2726	2726	2726	2699	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Daily allowance contribution	2907	2908	2823	2823	2823	2892	1	2947	2942	2878	2878	N/A	0.99	0.99	0.98	0.98	N/A
Medical care contributions	3870	3805	3802	3730	3736	3837	1	3896	3851	3838	3800	N/A	0.99	0.99	0.99	0.98	N/A

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

	EUROMOD					SILC					Ratio				
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
Benefits															
Basic unemployment allowance	217	217	218	263	272	182	184	190	196	200	1.19	1.18	1.15	1.34	1.36
Earnings-related allowance	2,299	2,411	2,452	2,651	2,739	1,710	1,730	1,790	1,840	1,879	1.34	1.39	1.37	1.44	1.46
Labour market subsidy	658	654	674	815	916	631	639	661	679	694	1.04	1.02	1.02	1.20	1.32
Child home care allowance	382	380	380	393	404	356	360	372	383	391	1.07	1.06	1.02	1.03	1.03
Child benefit	1,425	1,425	1,431	1,485	1,485	1,401	1,418	1,467	1,508	1,540	1.02	1.00	0.98	0.98	0.96
Student housing supplement	307	304	300	297	295	261	264	274	281	287	1.17	1.15	1.10	1.06	1.03
Pensioner housing allowance	437	432	436	456	469	309	313	324	333	340	1.41	1.38	1.35	1.37	1.38
Local authority income support	373	366	367	393	418	485	485	487	505	519	0.77	0.75	0.75	0.78	0.80
Study grant	671	661	647	635	626	504	510	528	543	554	1.33	1.30	1.23	1.17	1.13
Guarantee pension	0	0	191	203	214	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A
Taxes and Social Insurance contributions															
State tax on capital income	940	1,001	1,061	1,151	1,170	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
State tax on earned income	5,817	5,524	5,529	5,408	5,796	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Municipal tax	15,825	16,382	16,928	17,264	17,918	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Church tax	1,121	1,147	1,182	1,201	1,238	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Employees SIC	3,403	3,803	4,224	4,717	4,830	3,147	3,230	3,317	3,423	3,505	1.08	1.18	1.27	1.38	1.38
Self-employed SIC	810	849	890	957	983	63	64	66	68	70	12.95	13.23	13.51	14.07	14.11
Employers SIC	16,946	17,572	18,102	18,826	19,214	16,496	16,928	17,385	17,940	18,370	1.03	1.04	1.04	1.05	1.05
Daily allowance contributions	534	728	656	679	628	518	531	545	563	576	1.03	1.37	1.20	1.21	1.09
Medical care contributions	1,122	1,302	1,085	1,130	1,242	1,032	1,059	1,088	1,122	1,149	1.09	1.23	1.00	1.01	1.08

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

	EUROMOD					External					Ratio				
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
Benefits															
Basic unemployment allowance	217	217	218	263	272	166	205	185	219	N/A	1.31	1.06	1.18	1.20	N/A
Earnings-related allowance	2,299	2,411	2,452	2,651	2,739	2,090	2,101	1,907	1,997	N/A	1.10	1.15	1.29	1.33	N/A
Labour market subsidy	658	654	674	815	916	710	791	846	1,082	N/A	0.93	0.83	0.80	0.75	N/A
Child home care allowance	382	380	380	393	404	303	307	301	311	N/A	1.26	1.24	1.26	1.26	N/A
Child benefit	1,425	1,425	1,431	1,485	1,485	1,437	1,433	1,436	1,490	N/A	0.99	0.99	1.00	1.00	N/A
Student housing supplement	307	304	300	297	295	267	274	267	260	N/A	1.15	1.11	1.12	1.14	N/A
Pensioner housing allowance	437	432	436	456	469	370	393	420	442	N/A	1.18	1.10	1.04	1.03	N/A
Local authority income support	373	366	367	393	418	615	632	648	703	N/A	0.61	0.58	0.57	0.56	N/A
Study grant	671	661	647	635	626	504	510	492	479	N/A	1.33	1.30	1.31	1.33	N/A
Guarantee pension	0	0	191	203	214	N/A	N/A	121	154	158	N/A	N/A	1.57	1.31	1.36
Taxes and Social Insurance contributions															
State tax on capital income	940	1,001	1,061	1,151	1,170	1,336	1,768	1,997	1,813	N/A	0.70	0.57	0.53	0.64	N/A
State tax on earned income	5,817	5,524	5,529	5,408	5,796	5,339	5,093	5,259	5,274	N/A	1.09	1.08	1.05	1.03	N/A
Municipal tax	15,825	16,382	16,928	17,264	17,918	15,100	15,636	16,436	17,002	N/A	1.05	1.05	1.03	1.02	N/A
Church tax	1,121	1,147	1,182	1,201	1,238	846	853	869	894	N/A	1.33	1.34	1.36	1.34	N/A
Employees SIC	3,403	3,803	4,224	4,717	4,830	3,352	3,856	4,118	4,641	N/A	1.02	0.99	1.03	1.02	N/A
Self-employed SIC	810	849	890	957	983	886	934	1,043	1,144	N/A	0.91	0.91	0.85	0.84	N/A
Employers SIC	16,946	17,572	18,102	18,826	19,214	16,761	16,662	17,462	17,591	N/A	1.01	1.05	1.04	1.07	N/A
Daily allowance contributions	534	728	656	679	628	533	725	666	690	N/A	1.00	1.00	0.99	0.98	N/A
Medical care contributions	1,122	1,302	1,085	1,130	1,242	1,076	1,255	1,048	1,107	N/A	1.04	1.04	1.04	1.02	N/A

Table 4.9-Distribution of equivalised disposable income

	EUROMOD					External					Ratio				
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
D1	4.3	4.3	4.3	4.4	4.4	4.1	4.0	4.0	N/A	N/A	1.06	1.08	1.07	N/A	N/A
D2	5.8	5.8	5.8	5.8	5.9	5.7	5.6	5.6	N/A	N/A	1.01	1.03	1.03	N/A	N/A
D2	5.8	5.8	5.8	5.8	5.9	5.7	5.6	5.6	N/A	N/A	1.01	1.03	1.03	N/A	N/A
D3	6.8	6.8	6.8	6.8	6.9	6.7	6.6	6.7	N/A	N/A	1.01	1.03	1.01	N/A	N/A
D4	7.8	7.8	7.7	7.8	7.8	7.7	7.6	7.6	N/A	N/A	1.01	1.02	1.02	N/A	N/A
D5	8.7	8.7	8.7	8.7	8.7	8.6	8.5	8.5	N/A	N/A	1.01	1.02	1.02	N/A	N/A
D6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.5	N/A	N/A	1.00	1.00	1.01	N/A	N/A
D7	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	N/A	N/A	1.00	1.00	1.00	N/A	N/A
D8	11.9	11.8	11.8	11.8	11.8	11.9	12.0	11.9	N/A	N/A	1.00	0.99	0.99	N/A	N/A
D9	13.7	13.6	13.6	13.6	13.6	13.8	14.0	13.9	N/A	N/A	0.99	0.97	0.98	N/A	N/A
D10	20.8	21.0	21.2	20.8	20.7	21.4	21.4	21.6	N/A	N/A	0.97	0.98	0.98	N/A	N/A
Median	20,972	21,450	22,042	22,755	23,067	21,349	21,826	22,699	N/A	N/A	0.98	0.98	0.97	N/A	N/A
Mean	22,932	23,476	24,208	24,891	25,228	23,528	24,150	25,148	N/A	N/A	0.97	0.97	0.96	N/A	N/A
Gini	24.5	24.5	24.8	24.2	24.0	25.4	25.8	25.9	N/A	N/A	0.96	0.95	0.96	N/A	N/A
S80/S20	3.4	3.4	3.5	3.4	3.3	3.6	3.7	3.7	N/A	N/A	0.95	0.93	0.93	N/A	N/A

Table 4.10-Poverty rates by gender and age

	EUROMOD					External					Ratio				
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
40% median HDI															
Total	1.9	1.9	2.0	1.7	1.6	2.4	2.4	2.6	N/A	N/A	0.77	0.80	0.75	N/A	N/A
Males	2.1	2.2	2.2	1.9	1.8	2.7	2.6	2.9	N/A	N/A	0.78	0.84	0.76	N/A	N/A
Females	1.6	1.7	1.7	1.5	1.4	2.0	2.3	2.3	N/A	N/A	0.80	0.73	0.75	N/A	N/A
50% median HDI															
Total	5.3	5.4	5.3	4.8	4.7	5.5	6.0	6.0	N/A	N/A	0.97	0.89	0.88	N/A	N/A
Males	5.6	5.7	5.5	5.0	5.0	5.6	6.1	6.3	N/A	N/A	0.99	0.93	0.87	N/A	N/A
Females	5.1	5.1	5.1	4.6	4.4	5.3	5.9	5.8	N/A	N/A	0.96	0.86	0.87	N/A	N/A
60% median HDI															
Total	12.3	12.3	12.2	11.8	11.6	13.1	13.7	13.2	N/A	N/A	0.94	0.90	0.93	N/A	N/A
Males	11.5	11.6	11.5	11.2	11.0	12.4	13.2	12.9	N/A	N/A	0.93	0.88	0.89	N/A	N/A
Females	13.0	13.0	12.9	12.5	12.2	13.8	14.2	13.6	N/A	N/A	0.94	0.91	0.95	N/A	N/A
70% median HDI															
Total	20.9	20.8	20.9	20.5	20.2	21.4	21.6	21.8	N/A	N/A	0.98	0.96	0.96	N/A	N/A
Males	19.5	19.5	19.5	19.1	18.9	19.8	20.1	20.4	N/A	N/A	0.99	0.97	0.96	N/A	N/A
Females	22.3	22.1	22.3	21.9	21.5	22.9	23.1	23.2	N/A	N/A	0.97	0.96	0.96	N/A	N/A
60% median HDI															
0-15 years	10.7	11.2	11.2	10.9	10.9	11.2	12.0	11.2	N/A	N/A	0.96	0.93	1.00	N/A	N/A
16-24 year:	20.9	21.2	21.3	21.1	21.3	23.3	22.5	21.3	N/A	N/A	0.90	0.94	1.00	N/A	N/A
25-49 year:	9.7	9.9	9.8	9.5	9.5	9.9	10.3	10.2	N/A	N/A	0.97	0.96	0.96	N/A	N/A
50-64 year:	10.3	10.1	9.7	9.3	8.9	10.3	11.4	11.0	N/A	N/A	1.00	0.89	0.88	N/A	N/A
65+ years	16.1	15.2	15.3	14.6	13.9	18.3	18.9	18.4	N/A	N/A	0.88	0.81	0.83	N/A	N/A