

EUROMOD

COUNTRY REPORT



FINLAND (FI)

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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 28 Member States and is updated to recent policy systems using data from the European Union Statistics on Income and Living Conditions (EU-SILC) as the input database, supported by DG-EMPL of the European Commission.

This report documents the work done in one annual update for 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 G4.0. 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: <https://www.euromod.ac.uk>.

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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 normally in the year when the child turns seven years. The age when obligatory schooling ends is normally 17 years.
- Dependent child is generally defined as being less than 18 years old. For some instruments 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. 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.
- 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.

¹ All sources referred in this report are listed in References in Chapter 5.

- 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. Beginning in 2014 there is a free amount, 300 euros/month, which can be earned without affecting the unemployment benefit.
- Basic or minimum social security 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 deposits, 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 self-employed. Two main types of self-employed are entrepreneurs and farmers.
- Monetary tax parameters are not automatically indexed with the 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.
- There are three taxes based on earned income: state tax, municipal tax and church tax. The latter is based on voluntary membership in the 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 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 pension (*työeläke*) is paid as disability pension, unemployment pension or old-age pension.

Earnings-related disability pension (*työkyvyttömyyseläke*) is allowed 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 **earnings-related 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 a full or partial benefit.

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.

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 has been possible at the age of 62 years. In this case the pension was permanently reduced by 0.6 per cent for each predated month. This possibility was abolished from the beginning of 2013. 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, 60–67 if born in 1953 and 61–67 if born after 1953. 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-age 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.

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.

Earnings-related unemployment allowance (*ansiopäiväraha*) is an allowance for unemployed persons aged between 17–64 years who are registered as full-time job seekers at the

employment office. The claimant must be a member of unemployment fund and meet the working condition. 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 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. **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 (the increase is abolished since 2016). **Paternity leave benefit** (*isyysraha*) is paid to a father for 54 days. The benefit can be divided into maximum of four distinct periods during the maternity or parental leave periods. Of these 54 days 18 days can be taken at the same time as the maternity leave. The standard amount of paternity leave benefit equals the standard parental leave benefit.

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 an unemployed person aged between 17–64 years who is registered as a full-time job-seeker at the employment office and meets the working condition. The allowance 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 the 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 the 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 the allowances have three categories depending on the nature of the illness or handicap and the size of special costs. Full-time pensioners are not entitled to the disability allowance. The disability allowance is not taxable.

Care allowance for pensioners (*eläkettä saavan hoitotuki*) is designed to give financial support to long-time sick or disabled pensioners. The care allowance for pensioners 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, a relative or a friend. The home care allowance can also be provided in the form of services (e.g. food or transport services). The allowance is arranged by municipalities. It is taxable if paid in cash.

1.2.3 Means-tested benefits

National pension (*kansaneläke*) is a basic minimum pension. The national pension is paid as disability pension (at the age of 16–64 years), as unemployment pension and as old-age pension (from the age of 65 years or from the age of 63 years if anticipated old-age pensioner). The age limit for the old-age pension is 65 years which is different from the contributory earnings-related pension where the retirement age is flexible between 63–68 years. The national pension is means-tested against person's contributory pension income. Pensioner's other income or wealth does not affect the national pension, neither does spouse's income or wealth. The amount of the national pension is different for single persons and couples who may be married or co-habiting. If a person has lived abroad long enough, the national pension is reduced in relation to the time lived abroad. The national pension is subject to tax.

Guarantee pension (*takuueläke*) guarantees a certain level of pension to all pensioners. It is equal for singles and spouses and it is means-tested only against other pension income. Other income than pension income or wealth does not affect it. Unlike the national pension, it doesn't depend on the time lived in Finland. The guarantee pension is subject to tax. If the pensioner has no other income than the national pension and the guarantee pension, no taxes (with the exception of the broadcasting tax for some years) are paid because of pension deductions in taxation.

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 the earnings-related or basic unemployment allowance the maximum of 500 benefit days. In the latter case the labour market subsidy is not means-tested for the first 180 days (since 2014 this rule is abolished). The size of the benefit depends on the income of the unemployed person. If the unemployed person is living together with his or her parents, the income of the parents is also taken into account. 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. In addition, municipalities may pay additional supplements and decide on the rules applied to them. The partial child home care allowance may be paid out if parents reduce their working hours due to childcare. The benefit is 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. The study grant is means-tested against student's other income and, in some cases, against parents' income too. It is a taxable benefit. The study grant is one component of the student's financial aid, which consists of study grant, student housing supplement and student loan as well as certain subsidies, such as meal and travel subsidy.

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. The student housing supplement is not taxable.

Housing allowance for pensioners (*eläkkeensaajan asumistuki*) is paid to pensioners with low income. The housing allowance for pensioners can be paid to rented, right-of-occupancy and owner-occupied dwellings and also to the residential care homes. The size of the allowance depends on housing costs and on whether the pensioner lives alone or with a partner, as well as on the income and wealth of the pensioner and the partner. The housing allowance for pensioners is not taxable.

General housing allowance (*yleinen asumistuki*) decreases the housing costs of low-income households. The household is defined as all persons living in the same dwelling. The housing allowance can be paid to the households living in rented, right-of-occupancy or owner-occupied dwellings. The allowance covers only the acceptable housing costs. The size of the allowance depends also on the number of adults and children living in the household, the monthly household income and the location of the dwelling. General housing allowance is not 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. Any person (or 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 basic component is a fixed amount and it depends on the number of adults and children in the family. The supplementary component depends on the actual costs and it is subject to the discretion of the authority. The income support is means-tested against all personal or family income after taxes, contributions and costs due to working (e.g. commute costs). In addition, the income support is also means-tested against the wealth of the family. 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 the following:

Municipal child day-care fee (*lasten päivähoidomaksu*) is a service charge paid by families for municipal child day-care. The municipal child day-care is an alternative to the child home care and to the private child day-care. Before 2016 all families have had a “subjective right” to full-time 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. From 2016 there are new restrictions to the entitlement to child day-care: all children under school age (7 years) are entitled to max 20 hours of child day-care (early education) per week. Families still have a “subjective right” to full-time child day-care if both parents are working, they are full-time students or in case of other special circumstances. However, some of the municipalities do not intend to limit the subjective right to the municipal day-care. The municipal child day-care fee is based on the family income. For low-income families the municipal child day-care is free of charge.

Private day-care allowance (*yksityisen hoidon tuki*) is paid for families whose children are in private day-care. The entitlement to the private day-care is similar to the municipal day-care (see “Municipal child day-care fee”). The private day-care allowance 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. The allowance is paid directly to the private day-care center or to the private childminder.

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 an employee who would do the same work as the self-employed and with the equal professional skill.

The medical care contribution is based on the 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 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.

1.3.1 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 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 (26 weeks) before 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 entrepreneurial 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*).

1.3.2 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*) was abolished in 2010. Now the national pension system is financed wholly with taxes, but until 2009 employers were also obliged to contribute to the national pension scheme.

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.

1.4.1 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 2013 and 20% since 2014.

The tax rate of personal *capital income* is 30% for incomes up to 30 000 euros and 34% for incomes exceeding 30 000 euros in 2016. Interests paid to individuals from domestic bank deposits or from bonds offered to the public are also capital income. 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.

Broadcasting tax (*yleisradiovero*) 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.

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 (*lahjaver*) 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.

1.4.2 Indirect taxes

Value added tax (*arvonlisävero*) is a general consumption tax on goods and services. There are three rates: a general rate of 24% (22% before 1.7.2010 and 23% before 1.1.2013) is applied to most of the consumption goods, a reduced rate of 14% (earlier 13 or 12%) is applied to food and fodder and a reduced rate of 10% (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.

1.4.3 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 taken directly from the database and used as an output variable. The most important benefits which are not simulated are most pensions, sickness leave benefit, disability allowances, pensioner’s care allowance and, before the year 2015, 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	tiniy_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	tsce_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: *excluded* from the model as it is neither included in the micro-data nor simulated;

I: *included* in the micro-data but not simulated;

PS: *partially simulated* as some of its relevant rules are not simulated;

S: *simulated* although some minor or very specific rules may not be simulated.

Table 2. 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
Guarantee pension	S	pmmtu_s	
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</i> and <i>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 (before 2015) S (2015 and after)	bho00 bho00_s	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.

Several changes took place in the spine in 2007–2016. 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. In 2015 a new child income tax credit was introduced; it is simulated after low income tax credit. Finally, in 2015-2016 general housing allowance is simulated in the model because policy rules were simplified. However, this policy is switched OFF in the baseline for consistency with the previous years where this policy was not simulated.

Table 3. EUROMOD spine: order of simulation.

Policy	2007-2016	Description	Main output
SetDefault_fi	on	DEF: SET DEFAULT VALUES	
uprate_fi	on	DEF: UPRATING FACTORS	
ConstDef_fi	on	DEF: CONSTANTS	
ilsdef_fi	on	DEF: STANDARD INCOME CONCEPTS	
tundef_fi	on	DEF: ASSESSMENT UNITS	
BTA_fi	switch	SWITCH: Benefit Take-up Adjustment (default = ON)	
EPS_fi	switch	SWITCH: Extended Policy Simulation (default = OFF); activates bho00_fi.	
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)
tintcly_fi	on	TAX: Low income tax credit	
tintech_fi	on (Since 2015)	TAX: Child income tax 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
bho00_fi	toggle (Since 2015)	BEN: General Housing allowance	bho00_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 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 two switchable policies: BTA_fi (defined for all policy years) and EPS_fi (defined for 2015-2016).

The BTA policy switch is an 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 parents (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 2.4.8 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.

The EPS switch triggers extended policy simulation. Using this switch one can activate simulation of general housing allowance (bho00_fi) in 2015-2016. By default EPS switch is OFF, i.e. general housing allowance is not simulated in the baseline.

2.4 Social benefits

2.4.1 Study grant (bed00_s)

Brief description

Study grant can be paid for (a) higher level studies (e.g. university) 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.

The study grant is not paid if a person receives unemployment benefit, pension (survivors’ pension is allowed) or sickness leave benefit. A student may receive maternal, paternal or parental leave benefits simultaneously with study grant, but only the minimum amount of these benefits is paid (this is not simulated in EUROMOD). If a student is younger than 17 years and eligible for child benefit, the study grant is not allowed.

Benefit amount

The size of the study grant depends on the level of the studies, age, marital status, whether the student has a child or not, whether the student lives with parents or not and on economic circumstances. The basic amounts in 2013–2014 are summarized in Table 4. The amount of the study grant was indexed starting from August 2014. Additionally, new higher level students, who started their studies in August 2014 or later, are entitled to higher amounts of study grant. These amounts are summarized in Tables 5 and 6. The study grant is paid only for study months.

Table 4. The basic amount of the study grant in 2013–2014, euro/month.

	Middle level	Higher level
18+ years, living alone, married or have child	246.00	298.00
Under 18 years, living alone	100.00	145.00
20+ years, living with parents	80.00	122.00
Under 20 years, living with parents	38.00	55.00

Table 5. The basic amount of the study grant since August 2014, euro/month.

	Old students		New students	
	Middle level	Higher level	Middle level	Higher level
18+ years, living alone, married or have child	249.21	301.89	249.21	335.32
Under 18 years, living alone	101.31	146.89	101.31	163.10
20+ years, living with parents	81.04	123.59	81.04	136.76
Under 20 years, living with parents	38.50	55.72	38.50	61.80

Note: Since in EUROMOD the policy date is June 30, these parameters are applied from policy year 2015.

Table 6. The basic amount of the study grant since August 2015, euro/month.

	Old students		New students	
	Middle level	Higher level	Middle level	Higher level
18+ years, living alone, married or have child	250.28	303.19	250.28	336.76
Under 18 years, living alone	101.74	147.52	101.74	163.80
20+ years, living with parents	81.39	124.12	81.39	137.35
Under 20 years, living with parents	38.66	55.96	38.66	62.06

Note: Since in EUROMOD the policy date is June 30, these parameters are applied from policy year 2016.

The amount of the study grant is no longer indexed starting from August 2016. Thus the basic amount of study grant will not change in August 2016 (EUROMOD policy year 2017).

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 wealth of the student, spouse or parents has no effect on the study grant.

Own income

The amount of study grant is means-tested against student's all annual taxable gross income (excl. study grant) and scholarships. A student has personal gross 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 month and 1,970 euro for every "unsupported" month (2013–2016). The student may have income whenever during the calendar year. The study months and the corresponding income limits are shown in Table 7.

Table 7. Free gross income limits of the study grant in 2013–2016.

Study months	Free gross income limit 2013–2016, euro/year
1	22,330
2	21,020
3	19,710
4	18,400
5	17,090
6	15,780
7	14,470
8	13,160
9	11,850
10	10,540
11	9,230
12	7,920

If the annual taxable gross 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 11,850 euro ($9 \times 660 + 3 \times 1,970$) without having to repay the benefit (2013–2016). If the amount to be paid back is less than 220 euro (2013–2016), the student is not obliged to pay back any part of the study grant.

Parents' incomes

Parents' incomes may *decrease* the amount of study grant if the student (a) studies at middle level institute, (b) is less than 20 years old, and (c) is not married and has no children. In 2013–2016 the study grant is paid in full if parents' annual earned and capital incomes, gross incomes minus natural deductions, are together less than 40,800 euro. The study grant is decreased by 5% for every 1,010 euro/year the parents' incomes exceed the limit. A higher limit of 53,000 euro was introduced since August 2014 for students who do not live with their parents (EUROMOD policy year 2015), and it was increased to 60 000 euros since January 2016 (EUROMOD policy year 2016). Income test cannot be simulated in the model if children live separately from their parents.

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 increases of the study grant are shown in Tables 8 and 9. In 2013–2016 the increase is paid in full if parents' annual earned and capital incomes, gross income minus natural deductions, do not together exceed 20,700 euro. The full increase is decreased by 10% for every 2,070 euro/year the parents' incomes exceed the limit. The total study grant is the basic amount plus the increase. The increased part of study grant is included in the model but is not simulated in the baseline.

Table 8. Full increase in the study grant due to low income of parents in 2013–2014, euro/month.

	2013–2014	
	Middle level	Higher level
Under 18 years, living alone	100.00	145.00
20+ years, living with parents	100.00	145.00
17-19 years, living with parents	58.00	75.00

Table 9. Full increase in the study grant due to low income of parents since August 2014, euro/month.

	1.8.2014			1.8.2015		
	Middle level (old students)	Higher level (old students)	Higher level (new students)	Middle level (old students)	Higher level (old students)	Higher level (new students)
Under 18 years, living alone	101.31	146.89	146.89	101.74	147.52	147.52
20+ years, living with parents	101.31	146.89	146.89	101.74	147.52	147.52
17-19 years, living with parents	58.76	75.98	75.98	59.01	76.31	76.31

Note: Since in EUROMOD the policy date is June 30, the parameters on 1.8.2014 (1.8.2015) are applied from policy year 2015 (2016).

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 2013–2016

Since August 2014 the amounts of study grant are higher for new higher level students than for old higher level students.

In August 2014 the basic amount of study grant and the full increase of the study grant were indexed by legislation (national pension index). After two index adjustments (August 2014 and August 2015), the indexation was abolished in 2016.

2.4.2 Student housing supplement (bhosd_s)

Brief description

Student housing supplement can be paid to the students who study at (a) higher level (e.g. university) or (b) middle level (e.g. upper secondary school, vocational and supplementary studies), i.e. for the same studies as the study grant can be paid for. The granting period of the student housing supplement is also limited to the same “customary” period as the study grant.

Eligibility conditions

All the eligibility conditions that are applied to the study grant are also applied to the student housing supplement. There are also some separate conditions that are applied to the student housing supplement. A student is eligible for the student housing supplement if he or she lives in a rented dwelling or a right-of-occupancy dwelling (the type of the main residence *amrtn01* is 1 or 2). A student living in an owner-occupied dwelling is not eligible for the student housing supplement. If a student lives with parents or with own child or partner's child in the same household, the student is not eligible for the housing supplement. The student, whose partner is eligible for the housing allowance for pensioners, is not eligible for the student housing supplement.

If the student is not eligible for the student housing supplement, the student is eligible for the general housing allowance or for the housing allowance for pensioners.

Benefit amount

The student housing supplement equals 80% of the acceptable housing costs. The acceptable housing costs include the rent in the rented dwelling and the maintenance charge in the right-of-occupancy dwelling. In addition, fixed charges for water, electricity or furniture are acceptable. If the student lives with a partner, the housing costs of the household are divided in half.

The supplement cannot exceed 201.60 euro/month (2013–2016). In other words the maximum acceptable housing costs taken into account are 252 euro/month (2013–2016). If the student lives in a dwelling owned by or rented from parents, the supplement cannot exceed 58.87 euro/month (2013–2016). This is not simulated in the EUROMOD model because of insufficient information in the data.

Means testing and taxation

The student housing supplement is affected by student's and parents' incomes. Student's own income is taken into account in the same way as in the case of the student grant: the student can have taxable gross income (excl. study grant) and scholarships up to the certain income limit per year and the limit depends on the number of benefit months. The income limits are shown in Table 7.

Parents' incomes may decrease the amount of the student housing supplement if the student (a) studies at middle level institute; (b) is less than 18 years old (20 years in study grant), and (c) is not married and has no child. The way parents' income is taken into account is the same as in the case of the study grant. In 2013–2016 the study grant is paid in full if parents' annual earned and capital incomes, gross incomes minus natural deductions, are together less than 40,800 euro, and the study grant is decreased by 5% for every 1,010 euro/year the parents' incomes exceeds the limit. The test of the parents' incomes is not implemented in the model because of insufficient information.

The income test of the student housing supplement and the study grant are convenient to calculate simultaneously in the model. The student has to pay back both the study grant and the housing supplement if his or her income exceeds the free income limit and similarly, both the study grant and the housing supplement are decreased if parents' incomes exceed the limit.

The student housing supplement is not taxable income.

Changes in benefit rules 2013–2016

There are no changes in the benefit rules of the student housing supplement during 2013–2016.

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. The maximum spell of the basic unemployment allowance is 500 days.

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

In 2014–2016 the working condition is satisfied if a person has worked at least 26 weeks / approx. 6 months (34 weeks / approx. 8 months in 2010–2013) within the 28 months immediately preceding the unemployment. The working time should be 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 been running the business for at least 15 months (18 months in 2010–2014) 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 is not fulfilled. This condition is not simulated in the model.

Benefit amount

The amount of basic unemployment allowance consists of a flat amount and a child supplement. The amount of the 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 2016) is 815.93 euro ($21.5 \times (32.68 + 5.27)$).

Table 10. Basic unemployment allowance in 2013–2016, euro/day.

	2013	2014	2015	2016
Basic amount	32.46	32.66	32.80	32.68
Child supplement, 1 child	5.24	5.27	5.29	5.27
Child supplement, 2 children	7.69	7.74	7.77	7.74
Child supplement, 3+ children	9.92	9.98	10.02	9.98

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. From the beginning of 2014 all

unemployment benefits have exempt earnings of 300 euros. For instance, if your earnings are 400 per month, benefit is cut only $(400-300)*0.5 = 50$ euros. 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 (4.78 euros/day in 2016). This fixed sum (called supplementary allowance) is granted to the unemployed, who have long working history or who are participating in labour market training. The spell of increased sum is 90–200 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 – 2016

The working condition has been shortened in 2010 and 2014. From 2014 employees need to have only 26 week-long work history (instead of previous 34) during the last 28 months preceding the unemployment. The working condition for self-employed has been shortened in 2015 and 2010.

From 1.1.2014 onwards the unemployed can earn 300 euros without benefit being cut.

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. The maximum spell of the earnings-related unemployment allowance is 500 days. From 2014 the maximum spell is 400 days if person's work history preceding unemployment is less than three years.

Eligibility conditions

Eligible for the benefit are unemployed who fulfill both the criteria of unemployment fund membership and the working conditions. 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 95-fold basic allowance divided by 21.5.
- c) *The earnings-related component 2*, if the daily wage exceeds the threshold of 95-fold basic allowance, 20 % of the exceeding amount forms the component 2.
- 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% of employee's pension and unemployment insurance and daily allowance contributions (together 4.60% in 2016) are deducted from the gross wage. There are no similar deductions from self-employment income.

Table 11. Parameters of earnings-related unemployment allowance.

	2013	2014	2015	2016
Deduction from gross wage, %	3.89	4.13	4.28	4.60
Earnings related component 1, %	45	45	45	45
Earnings related component 2, %	20	20	20	20
Income limit (coefficient: x times basic amount)	105	105	95	95

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 (2016): A person has 2 dependent children and the preceding wage has been 3,800 euro/month. After deduction of 4.60% the monthly wage is 3,625.20 euros and the daily wage is 168.61 euros. The 95-fold limit is 144.40 euros ($95 \times 32.68 / 21.5$).

<u>Preceding daily wage</u>	168.61
Basic allowance	32.68
Earnings-related component 1: $0.45 \times (144.40 - 32.68)$	50.27
Earnings-related component 2: $0.20 \times (168.61 - 144.40)$	4.84
<u>Child supplement (2 children)</u>	7.74
Earnings-related allowance/day	95.53

The earnings-related unemployed allowance cannot be less than the basic allowance. The maximum amount of daily benefit is 90% 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 (called supplementary allowance) is not a fixed sum. Instead, the percentages to calculate the total amount of the benefit are increased. The percentages can be increased from 45/20 to 58/35 (in 2016). Before 2014 there were two different levels of increase depending on the grounds of increase. The spell of increased sum is 90–200 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. From the beginning of 2014 all unemployment benefits have exempt earnings of 300 euros without benefit being cut. 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 2013 – 2016

In 2015 the coefficient used to determine the threshold of earnings-related components was reduced from 105 to 95.

During the period the percentages used to calculate the increased amount have been changing many times. The latest change was in 2015 (not implemented in the model). From 1.1.2014 all unemployment benefits have exempt earnings of 300 euros without benefit being cut.

From 1.1.2014 the maximum spell of earning-related unemployment benefit is 400 days if person's work history preceding unemployment is less than three years. The normal maximum spell is 500 days.

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 spell has been reached. 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 subsidy. 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 10). Also the child supplement and the supplementary allowance are 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% of income exceeding 1,044 euros (capital income and social benefits, see above). This 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% of 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 12. Means-testing parameters of labour market subsidy.

	2013	2014	2015	2016
Limit / with family	1,044	1,044	1,044	1,044
Increase of limit per child	130	130	130	130
Reduction rate / with family	0.5	0.5	0.5	0.5
Limit / single	311	311	311	311
Reduction rate / single	0.75	0.75	0.75	0.75

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. From the beginning of 2014 all unemployment benefits have exempt earnings of 300 euros without benefit being cut. This conciliated adjustable benefit is not possible to simulate in the model.

Changes in benefit rules 2008 – 2016

On 1.1.2010 the supplementary allowance 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.

From 1.1.2014 all unemployment benefits have exempt earnings of 300 euros without benefit being cut.

Before 1.1.2014, if person’s maximum spell of other unemployment benefit was reached and he/she was transferred to labour market subsidy, his/her benefit was not means-tested for 180 days. From 1.1.2014 this exception was abolished. However, from 1.1.2014 all unemployed older than 55 years who are transferred from other unemployment benefit are free from means-testing without time limit.

2.4.6 Child benefit (bch_s)

Brief description

Child benefit is a universal flat-rate benefit paid for every child under 17 years of age and residing in Finland. Parents may choose which one of them receives the benefit.

Eligibility conditions

The child benefit is 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).

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).

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

Table 13. The child benefit in 2013–2016, euro/month.

	2013	2014	2015	2016
1st child	104.19	104.19	95.75	95.75
2nd child	115.13	115.13	105.80	105.80
3th child	146.91	146.91	135.01	135.01
4th child	168.27	168.27	154.64	154.64
5th and so on	189.63	189.63	174.27	174.27
Single parent supplement	48.55	48.55	48.55	48.55

Example (2016): A single person with 3 children. Euro/month.

1st child (95.75+48.55)	144.30
2nd child (105.80+48.55)	154.35
3rd child (135.01+48.55)	183.56
Benefit	482.21

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 the local authority income support. The child benefit is not taxable income.

Changes in benefit rules 2013–2016

Since 1 March 2011 the child benefit was adjusted by national pension index, but for years 2013–2015 the indexation was suspended. Since 1 January 2016 the adjustment was suspended until further notice.

In 2015 the child benefit was decreased by 8.1 %. There were no changes in single parent supplement.

2.4.7 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 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 old and a parent or any other person (e.g. private baby-sitter) takes care of the child at home. In addition, the allowance is paid for any other children under the age of 7 and not in any subsidised day care.

The allowance is usually paid immediately after parental leave benefit. It is paid until the youngest child reaches the age of 3 or moves into subsidised day care. The allowance is paid to the parent who is staying home with the children, or if the minder of the child is someone else than the parent, the allowance is paid to one of the parents.

In EUROMOD the allowance is given to the parent with the lowest income. This is a reasonable assumption in most cases.

Benefit amount

The child home care allowance consists of basic amount and a supplement. The basic amount 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.

Table 14. Child home care allowance in 2013-2016, euro/month.

Year	Basic amount for the first child under 3	Basic amount for each additional child under 3 years	Basic amount for each child between 3-6 years	Full Supplement
2013	336.67	100.79	64.77	180.17
2014	341.06	102.11	65.61	182.52
2015	342.53	102.55	65.89	183.31
2016	341.27	102.17	65.65	182.64

Example (2016): A basic amount for a family with three children (aged 1, 2 and 4 years). Euro/month.

First child (1 year old)	341.27
Second child (2 years old)	102.17
<u>Third child (4 years old)</u>	<u>65.65</u>
Basic amount	509.09

Means testing and taxation

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.

Table 15. The income limits and reduction rates of child home care supplement in 2013–2016.

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. However, the study grant, student housing supplement, child benefit, disability allowance (both for persons under 16 and for persons aged 16 or older), care allowance for pensioners, housing allowance for pensioners, general housing allowance and income support are excluded.

Example (2016): 2 parents and 2 children (1 and 3 years), family income 2,000 euro/month. Euro/month.

Basic amount (341.27+102.17)	443.44
Supplement	
full supplement 182.64	
subtracted 7.9 % of (2,000–1,700) = 23.70	
<u>supplement 182.64 – 23.70</u>	<u>158.94</u>
Child home care allowance	602.38

Students can 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 2013–2016

The basic amount and the full supplement are adjusted by national pension index. There were no other changes in legislation in years 2013–2016.

2.4.8 Guarantee pension (pmmtu_s)

Brief description

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

Eligibility conditions

A person is eligible for the guarantee pension 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; since 2014 at least 63 years old if born in 1952 or later), disability pension (16–64 years old), and unemployment pension; or
- 2) is an immigrant and is at least 65 years old (if disabled, then 16–64 years old).

Part-time old-age pensioners or partial disability 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 766.85 euro/month in 2016. It is equal for singles and spouses.

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 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 at the age of 62.

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

Table 16. Guarantee pension parameters 2013–2016.

	2013	2014	2015	2016
Full guarantee pension, euro/month	738.82	743.38	746.57	766.85
Minimum amount, euro/month	6.69	6.74	6.76	6.74
Percentage withdraw every month for anticipated pensions, %	0.4	0.4	0.4	0.4

Means-testing and taxation

The guarantee pension is means-tested against other pension income: old-age, disability and survivors pensions. The following incomes are excluded from the test: the child increase for pensions (can't be identified in the data), front-veteran's supplements (can't be identified in the data), care allowance for pensioners and disability allowance for persons aged 16 or older. Pension income is taken into account on annual basis and divided by the number of months in retirement. Payable amount of the guarantee pension is obtained by subtracting other pension income from the full (maximum) guarantee pension. Other income than pensions or wealth does not affect the guarantee pension.

The guarantee pension is taxable income.

Changes in benefit rules 2013–2016

The full guarantee pension and the minimum amount are indexed every year according to the national pension index. In addition to the index change, the full guarantee pension was increased by 23 euro/month in 2016.

2.4.9 Housing allowance for pensioners (bhope_s)

Because of the data issues, the model contains yet a simplified version of the simulation for the housing allowance for pensioners described in the previous Country Report (2011-2015). The description below is more detailed and is going to be fully implemented in the next EUROMOD public release.

Brief description

The housing allowance for pensioners 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) a flat "basic own responsibility", b) a means-tested "additional own responsibility" and c) costs exceeding the acceptable housing costs.

Eligibility conditions

The housing allowance for pensioners can be paid to rented, right-of-occupancy or owner-occupied permanent dwellings that are situated in Finland. The housing allowance can also be paid to the residential care home.

The persons, who receive earnings-related or national pension as old-age pension, disability pension or rehabilitation subsidy or receive guarantee pension, surviving spouse's pension, or workers' compensation pension, are eligible to the housing allowance for pensioners. However, the persons, who receive part-time old-age pension or partial disability pension, are not eligible for the housing allowance for pensioners.

If the eligible pensioner lives with a partner, who is not eligible for the housing allowance for pensioners, the whole household is however eligible for the housing allowance for pensioners. In that case the whole allowance is paid to the eligible person. If the partners are both entitled to the housing allowance for pensioners, the allowance is equally divided between both pensioners. If the pensioner lives with another member of the household who is not his or her partner, for example with children, the whole household is eligible for the general housing allowance, not for the housing allowance for pensioners. If there is a student in the household, the student is not pensioner's partner, he or she has no children and he or she is eligible for the student housing supplement, the housing costs are divided between the student and the other people. The student is eligible for the student housing supplement alone, and the pensioner and his or her possible partner are eligible for the housing allowance for pensioners.

Benefit amount

The amount of the housing allowance for pensioners is 85% of the acceptable housing costs exceeding the basic own responsibility and the additional own responsibility. The formula is:

$$\begin{aligned} & \text{housing allowance for pensioners} \\ & = 85\% \times (\text{acceptable housing costs} - \text{basic own responsibility} - \text{additional own responsibility}) \end{aligned}$$

If the household lives in a rented dwelling or residential care home, the acceptable housing costs include the rent and the separate water and heating charges. If the household lives in a right-of-occupancy dwelling or in the owner-occupied unit in a housing cooperative, the acceptable housing costs include the maintenance charge and the separate water and heating charges. The separate water and heating charges mean the charges that are paid separately for the rent or maintenance charge. If the water or heating charges are part of the rent or maintenance charge, they are not taken into account separately.

The separate water and heating charges are not based on true costs but the standard levels showed in the Table 17. The heating charges differ depending on which part of the country the dwelling is situated. There is no exact data about the heating cost categories available, but the following approximation can be used: if the dwelling is situated in Helsinki-Uusimaa (NUTS2 = FI1B, drgn2 = 2) or in South Finland (NUTS2 = FI1C, drgn2 = 3), use the heating cost category 1. If the dwelling is situated in West Finland (NUTS2 = FI19, drgn2 = 1), use the heating cost category 2. If the dwelling is situated in North and East Finland (NUTS2 = FI1D, drgn2 = 4), use the heating cost category 3. If the dwelling is built or modernised before 1974, the heating charge is 30 per cent higher than if the dwelling is built or modernised later. Because the information on the year of building or modernising is not available in the data, the charges with increase of 15% are applied to all cases. The heating charges are taken into account only to the extent that the size of the dwelling does not exceed the certain limit: 70 square metres to the person living alone, the increase of 15 square metres to the partner.

In the case of the owner-occupied single-family home (detached house), the acceptable housing costs include the maintenance charge, water charge, heating charge and the rent of plot. Not only the water and heating charges are now based on the standard levels but there are also standard levels for maintenance charges. The same heating cost categories, increase of 15% and limits for the size of the dwelling as described above are applied in the case of owner-occupied single family home too. The increase of 15% is also applied for the maintenance charge.

In addition, in the case of the right-of-occupancy and owner-occupied dwellings, the acceptable housing costs include interest payable on personal loans taken out to finance the purchase of the dwelling.

There are limits for the total sum of the acceptable annual housing costs. The limits differ according to municipality groups (3 groups shown in Table 18). There are no exact data about the municipality groups available, but quite good approximation is the following: if the

household lives in Helsinki-Uusimaa (NUTS2=FI1B, drgn2 = 2), use the maximum housing costs in the municipality group 1. If the household lives in other part of the country, use the average of the maximum housing costs in the municipality groups 2 and 3.

The basic own responsibility per household is 615.71 euro/year in 2016.

Table 17. Parameters of the housing allowance for pensioners in 2013–2016.

	2013	2014	2015	2016
Allowance as a percentage	85	85	85	85
Water charge, euro/month/person	27.15	28.07	29.42	29.42
Heating charge, heating cost category 1, euro/month/square metre	1.27	1.27	1.27	1.27
Heating charge, heating cost category 2, euro/month/square metre	1.40	1.40	1.40	1.40
Heating charge, heating cost category 3, euro/month/square metre	1.55	1.55	1.55	1.55
Maintenance charge for owner-occupied single-family home, euro/month/person	40.59	41.12	41.57	41.57
Increase in heating and maintenance charges, if the dwelling is built or modernised before 1974, %	30	30	30	30
Maximum size of the dwelling for the heating charge, if the person lives alone, square metres	70	70	70	70
Increase to the maximum size of the dwelling for the heating charge, square metres per additional person	15	15	15	15
Basic own responsibility, euro/year	607.40	615.33	617.97	615.71
Coefficient for additional own responsibility, %	40	40	40	40
Minimum amount of allowance, euro/month	6.65	6.74	6.76	6.74

Table 18. Maximum housing costs of the housing allowance for pensioners in 2013–2016.

	2013	2014	2015	2016
Maximum costs in municipality group 1, euro/year	7,405	7,705	7,951	7,951
Maximum costs in municipality group 2, euro/year	6,810	7,086	7,313	7,313
Maximum costs in municipality group 3, euro/year	5,974	6,216	6,415	6,415
Increase in maximum costs, when 1–2 children, %	20	20	-	-
Increase in maximum costs, when 3 or more children, %	40	40	-	-

Means-testing and taxation

The housing allowance for pensioners is means-tested against most own and partner’s earned and capital income. The following incomes are not taken into account: front-veteran’s supplements (can’t be identified in the data), study grant, care allowance for pensioners, disability allowance for persons aged 16 or older, home care allowance (can’t be identified in the data) and income support. 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% of the income exceeding the certain income limits for different households types (Table 19).

Table 19. The income limits of the housing allowance for pensioners in 2013–2016, euro/year.

	2013	2014	2015	2016
Single	8,633	8,746	8,783	8,751
Married or cohabiting; partner is not eligible for allowance	12,655	12,820	12,875	12,828
Married or cohabiting; partner is eligible for allowance	13,867	14,048	14,108	14,056

The minimum amount of the allowance is 6.74 euro/month in 2016. If the allowance is below this threshold, it is not paid.

Example (2016): A single person with rent of 5,250 euro/year and annual income of 9,500 euro.

Basic own responsibility	615.71
Additional own responsibility $0.40 \times (9,500 - 8,751)$	299.60
<u>Own responsibility, total</u>	<u>915.31</u>
Benefit $0.85 \times (5,250 - 915.31)$	3,684.49

The monthly allowance is the annual allowance divided by 12 (307.04 euro in the example).

The housing allowance for pensioners is not taxable.

Changes in benefit rules 2013–2016

The amount of basic own responsibility, the income limits (Table 19) and the minimum amount of the allowance are indexed by national pension index.

Before the year 2015, the persons, who were under 65 years old and received only old-age pension or guarantee pension, were not eligible for the housing allowance for pensioners. On the other hand, all the persons, who were at least 65 years old, were eligible for the housing allowance for pensioners even if they receive no pension.

Before the year 2015, the pensioners, who lived with children, were eligible for the housing allowance for pensioners. In that case, the limit for acceptable housing costs was increased by 20% if there were one or two children aged less than 18 years in the household and by 40% if there were three or more such children. In addition, the pensioners, who lived with children, could choose, if they wanted, the general housing allowance instead of the housing allowance for pensioners. Before 2015, when there could be children in the household, the child increase for pensions (can't be identified in the data) and child benefit were not taken into account as income.

2.4.10 General housing allowance (bho00_s)

The description covers the years 2015-2016. The rules in the previous years were more complicated and thus the general housing allowance was not simulated in the model before 2015. Policy rules for 2015-2016 are implemented in the model, but the simulation is switched OFF in the baseline in order to be consistent with the previous years when the benefit was not simulated (i.e. it was taken from the input data). The simulation of general housing allowance for 2015-2016 can be activated using EPS (extended policy simulation) switch.

Brief description

General housing allowance is paid to low-income households to reduce their housing costs. The allowance can be paid to the households living in rented, right-of-occupancy or owner-occupied dwellings. When the general housing allowance is considered, the housing costs are taken into account only up to certain limits of the acceptable costs and the exceeding costs are always paid by households themselves. Depending on the income level of the household, 0–80 per cent of the costs below the limit of the acceptable costs are paid as general housing allowance.

Eligibility conditions

The general housing allowance can be paid to rented, right-of-occupancy or owner-occupied permanent dwellings that are situated in Finland.

The unit of entitlement is a household, where the household means all the persons living in the same dwelling. If there are only persons, who are eligible for the housing allowance for pensioners, and their partners in the household, the whole household is eligible for the housing allowance for pensioners, not for the general housing allowance. If in addition to these people, some other people, who are not eligible for the housing allowance for pensioners (e.g. children), live in the household, the whole household is eligible for the general housing allowance. If the student, who is eligible for the student housing supplement, lives in the household with other household members, the housing costs are divided between the student and the other people. The student is eligible for the student housing supplement alone, and the rest of the household is eligible for the general housing allowance. However, if the student has children, the whole household is eligible for the general housing allowance.

Benefit amount

The amount of the general housing allowance is 80 per cent of the acceptable housing costs exceeding the basic deductible. Thus, the formula is:

$$\text{general housing allowance} = 80\% \times (\text{acceptable housing costs} - \text{basic deductible})$$

If the household lives in a rented dwelling, the acceptable housing costs include the rent and the separate water and heating charges. If the household lives in a right-of-occupancy dwelling, the acceptable housing costs include the maintenance charge and the separate water and heating charges. In the case of the owner-occupied unit in a housing cooperative, the maintenance charge and the separate water and heating charges are acceptable. The separate water and heating charges mean the charges that are paid separately for the rent or maintenance charge. If the water or heating charges are part of the rent or maintenance charge, they are not taken into account separately. The separate water and heating charges are not based on true costs but the standard levels showed in Table 20. In the case of the owner-occupied single-family home (detached house), the acceptable housing costs include the maintenance charge. This charge is neither based on true costs but the standard levels showed in Table 20.

If the dwelling is situated in a certain part of the country, the standard levels of the heating and maintenance charges are 4 or 8 per cent higher than in other parts of the country. The areas where the increases apply are situated mainly in North and East Finland (NUTS2 = FI1D, drgn2 = 4). As it is not possible to distinguish the areas with 4% increase from the areas with 8% increase, we use 6% increase as a proxy.

In the case of the right-of-occupancy and owner-occupied dwellings, the acceptable housing costs also include 73 per cent of the monthly interest payable on personal loans taken out to finance the purchase of the dwelling.

The acceptable housing costs are taken into account only up to the certain limits. The limit depends on the number of persons living in the household and the area the dwelling is situated.

The precise information on the residence is not available in the data, but the following approximation can be used: if the household lives in Helsinki-Uusimaa (NUTS2=FI1B, drgn2 = 2), use the average of the maximum housing costs in municipality group 1 and 2. If the household lives in another part of the country, use the average of the maximum housing costs in municipality group 3 and 4.

If the household lives in a rented or right-of-occupancy dwelling, the sum of all the acceptable housing costs can be maximum the limit showed in the Table 21. In the case of the owner-occupied dwelling, the sum of the maintenance charge and the separate water and heating charges (= the maintenance costs) can be max 30 per cent of the maximum housing costs showed in the Table 21. In turn, 73 per cent of the exceeding maintenance costs and 73 per cent of the monthly interest payable on personal loans (= the financing costs) can be altogether maximum 70 per cent of the maximum housing costs.

Table 20. Parameters of the general housing allowance in 2015–2016.

	2015	2016
Allowance as a percentage	80	80
Water charge, euro/month/person	19	18
Heating charge, euro/month/1.person	41	41
Heating charge, euro/month/2.person and each next	14	14
Maintenance charge for owner-occupied single-family home, the size of the household is 1, euro/month	97	97
Maintenance charge for owner-occupied single-family home, the size of the household is 2, euro/month	117	116
Maintenance charge for owner-occupied single-family home, the size of the household is 3, euro/month	147	147
Maintenance charge for owner-occupied single-family home, the size of the household is 4, euro/month	173	173
Maintenance charge for owner-occupied single-family home, additional cost per person if more than 4 people live in the household, euro/month	53	53
Increase in heating and maintenance charges, if the household lives in Southern Savonia, Northern Savonia or North Karelia, %	4	4
Increase in heating and maintenance charges, if the household lives in Northern Ostrobothnia, Kainuu or Lapland, %	8	8
The portion of the exceeding maintenance costs and the monthly interest payable on personal loans that is taken into account, %	73	73
For owner-occupied dwelling: the portion of the maximum housing costs that is applied to the maintenance costs, %	30	30
For owner-occupied dwelling: the portion of the maximum housing costs that is applied to the financing costs, %	70	70
Basic deductible: parameter 1	0.40	0.42
Basic deductible: parameter 2	605	603
Basic deductible: parameter 3	100	100
Basic deductible: parameter 4	223	223
Privileged work income, euro/month/person with work income	300	300
Minimum basic deductible, euro/month	10	10
Minimum allowance, euro/month	15	15

Table 21. Maximum housing costs in 2015–2016, euro/month.

The size of the household	Municipality group 1	Municipality group 2	Municipality group 3	Municipality group 4
1 person	508	492	411	362
2 persons	735	706	600	527
3 persons	937	890	761	675
4 persons	1095	1038	901	804
Additional cost per person, if more than 4 persons live in the household	+ 137	+ 130	+ 123	+ 118

Means-testing and taxation

Means-testing is handled via the basic deductible. The basic deductible (euro/month) is determined on the basis of the gross income of the household and the number of adults and children in the household:

basic deductible

$$= 0.42 \times [\text{gross income of the household} - (603 + 100 * \text{the number of adults} + 223 * \text{the number of children under 18})]$$

The gross income of the household means the adults' income per month. All the incomes except the following are taken into account: child benefit (*bch00_s*), child increase for pensions (can't be identified in the data), disability allowance for persons aged 16 or older (*pdida*), care allowance for pensioners (*pdica and poaca*), home care allowance (can't be identified in the data), front-veteran's supplements (can't be identified in the data), study grant (*bed00_s*) and income support (*bsa00_s*). Inheritance and gifts are not taken into account. Part of the work income (300 euro/month per person with work income) is privileged income. If the basic deductible is less than 10 euro/month, it is not taken into account.

The minimum amount of the allowance is 15 euro/month.

The general housing allowance is not taxable.

Changes in benefit rules 2015-2016

The money parameters of the basic deductible and the water, heating and maintenance charges are adjusted by national pension index. Maximum housing costs (Table 21) are adjusted by rent index, but the indexation was suspended for the year 2016.

From the beginning of the September 2015, part of the work income is privileged income (implemented in policy year 2016).

2.4.11 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 and wealth. 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 benefits and child benefit. There are only few exceptions when income is not taken into account when the eligibility for income support is reviewed. Disability allowance (both for persons under 16 and for persons aged 16 or older), care allowance for pensioners and supplementary allowances of unemployment benefits (can't be identified in the data) are not taken into account. The incomes of the persons under 18 years old are not taken into account to the extent that the incomes exceed the expenditures (basic amount and additional expenditures) of this person. Only the part of the income that is below the basic amount (plus additional expenditure) is included in the means-test. In addition, at least 20% but max 150 euro per month of income from work after taxes and contributions is not taken into account (advantaged work income). The limit (20% / 150 euro) is applied to the work income of every family member separately. The wealth of the family is taken into account except for permanent residence, household goods and goods used at work or in study. The wealth test can't be simulated.

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. Both adjustments are 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.

The income support is calculated on monthly basis. In the model, the simulations are done based on the annual income, because monthly incomes are not available.

Benefit amount

The full basic amount of income support is 485.50 euro/month in 2016. The full basic amount is paid to single persons and the basic amount for single parents is increased by 10%. For other persons the basic amount is defined as a share of the full amount. If there is more than one child under 18 years old in the family, the basic amount for the second child is 5 percentage points less and for the third child or more 10 percentage points less than for the first child.

Example (2016): 2 parents, 3 children (3, 16 and 18 years). Euro/month.

Parents (2 x 0.85 x 485.50)	825.35
1st child (18 years) (0.73 x 485.50)	354.42
2nd child (16 years) (0.70 x 485.50)	339.85
3rd child (3 years) ((0.63 – 0.05) x 485.50)	281.59
Basic amount	1,801.21

Table 22. Income support parameters 2013-2016.

	2013	2014	2015	2016
Full basic amount (singles), euro/month	477.26	480.20	485.50	485.50
Share of single parents, %	110	110	110	110
Share of other person 18 years or older (e.g. spouses), %	85	85	85	85
Share of child 18 years or older, %	73	73	73	73
Share of child 10–17 years, first child, %	70	70	70	70
Share of child under 10, first child, %	63	63	63	63
Deduction for second child under 18 years, %-points	5	5	5	5
Deduction for third and subsequent child under 18 years, %-points	10	10	10	10

Means-testing and taxation

While the income support is basic amount plus accepted additional expenditures minus net income and wealth, increase in net income decreases the benefit by the same amount (except for the types of income mentioned earlier).

Example (2016): 2 parents, 2 children (14 and 8 years), rent 500 euro/month, net unemployment benefit 800 euro/month, general housing allowance 300 euro/month, child benefit 201.55 euro/month. Euro/month.

<u>Expenditures:</u>	
a) Basic amount	
Parents (2 x 0.85 x 485.50)	825.35
1st child (14 years) (0.7 x 485.50)	339.85
2nd child (8 years) ((0.63 – 0.05) x 485.50)	281.59
Total basic amount	1,446.79
b) Additional expenditures	
Housing costs	500.00
Accepted expenditures	1,946.79
<u>Incomes:</u>	
Net benefit income	800.00
General housing allowance	300.00
Child benefit	201.55
Income	1,301.55
Income support (1,946.79 – 1,301.55)	645.24

The income support is not taxable.

Changes in benefit rules 2013-2016

The full basic amount is indexed every year according to the national pension index, but the index was negative in 2016 and the law was changed so that the amount of 2016 is the same as in the year 2015.

Since 1.1.2013 the supplementary allowance of unemployment benefit has not been taken into account when the eligibility for income support is reviewed.

The work income limit (20% / 150 euro) was applied at family level before 2015 and since 1.1.2015 the limit has been applied at personal level.

2.5 Social contributions

2.5.1 Employee social contributions (tscee_s and thl_s)

Brief description

There are four social contributions for employees:

- Earnings-related pension contribution (18–67 years old);
- Unemployment insurance contribution (17–64 years old);
- Daily allowance contribution (16–67 years old);
- Medical care contribution.

All the contributions are statutory. The first three 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: 57.51 euro/month in 2016. Responsible to pay the unemployment insurance contribution is an employee at the age of 17–64 years. For the daily allowance contribution the age limit is 16–67. The medical care contribution must always be paid regardless of the age.

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

Rates and amounts

The earnings-related pension contribution, unemployment insurance contribution and daily allowance contribution are calculated as a percentage share of the gross taxable wage (incl. taxable benefits-in-kind) and the medical care contribution is calculated as a percentage share of 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 exceptions: 1) the pension contribution is higher for employees who are at least 53 years old and 2) the medical care contribution is higher for benefit income (incl. pensions) than for work income (see Table 23). The work income includes wage and earned income from self-employment.

The principle behind the higher (increased) medical care contribution is that it is paid only on income from which the daily allowance contribution is not paid. This means that it is paid from the difference of the local tax base and the work income, if positive. The percentage of the increased contribution is the difference of percentages which are applied to benefit income and work income: 0.17% in 2016 (1.45%–1.28%).

Example (2016): The pension income is 21,000 euro/year, the wage 5,000 euro/year and the local tax base 24,000 euro/year. Euro/year.

Daily allowance contribution (5,000 x 0.82%)	41.00
“Standard” medical care contribution (24,000 x 1.28%)	307.20
Increased medical care contribution from pension income ((24,000–5,000) x 0.17%)	32.30
Total health insurance contribution	380.50

Table 23. Social contribution rates of employees in 2013–2016.

	2013	2014	2015	2016
Wage threshold for earnings-related pension contribution, euro/month	55.59	56.55	57.10	57.51
<i>Contributions based on gross wage</i>				
Earnings-related pension contribution:				
employee less than 53 years, %	5.15	5.50	5.70	5.70
employee at least 53 years, %	6.50	7.05	7.20	7.20
Unemployment insurance contribution, %	0.60	0.65	0.65	1.15
Daily allowance contribution, %	0.74	0.84	0.78	0.82
<i>Contribution based on local tax base</i>				
Medical care contribution:				
employment income, %	1.30	1.32	1.32	1.28
pension and benefit income, %	1.47	1.49	1.49	1.45

Changes in employee social contribution rules in 2013–2016

No structural changes.

2.5.2 Employer social contributions (tscer_s)

Brief description

There are six statutory employer contributions:

- Earnings-related pension contribution (18–67 years old);
- Unemployment insurance contribution (17–64 years old);
- Health insurance contribution (16–67 years old);
- Accident insurance contribution;
- Group life insurance contribution (0–68 years old, excluding old-age pensioners).

The contribution to group life insurance is not statutory but based on trade union agreements. However, most employers are obligated to pay it.

The same age and income limits are applied to employer contributions as to employee contributions (see chapter 2.5.1). There is no age or income limits to accident insurance contribution. The contribution to group life insurance must be paid for all employees under 68 years of age, but old-age pensioners are excluded.

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 wage sum paid by employer and employer responsibilities to pay disability pensions. The rates also differ in private, state and municipal sectors.

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 earnings related pension contribution average weighted contribution rate is used. This is calculated in three steps. Firstly, there are average earnings related pension contribution rates for employers in different sectors. They are usually calculated by insurance corporations (see Table 24). 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 25). Finally, based on these, the weighted average earnings-related pension contribution rate across sectors is estimated (see Table 26).

Table 24. Employer social contribution rates in 2013–2016.

	2013	2014	2015	2016
<i>Earnings-related pension contribution</i>				
Private sector, average, %	17.35	17.75	18.00	18.00
State, %	19.24	20.36	20.11 ^[1]	17.28 ^[1]
Municipalities, %	24.00	23.79	23.63 ^[1]	23.21 ^[1]
<i>Unemployment insurance contribution</i>				
Wage sum limit, thsd. euro/year	1,990.5	1,990.5	2,025.0	2,044.5
Contribution under the wage sum limit, %	0.80	0.75	0.80	1.00
Contribution over the wage sum limit, %	3.20	2.95	3.15	3.90
Contribution, average, % ^[2]	2.32	2.20	2.33	2.85
Health insurance contribution	2.04	2.14	2.08	2.12
Accident insurance contribution, average, % ^[3]	1.00	0.90	0.90	0.80
Group life insurance contribution, average, % ^[3]	0.07	0.07	0.07	0.07

Sources: Confederation of Finnish Industries, Finnish Centre for Pensions, Social Insurance Institution of Finland, the Unemployment Insurance Fund.

Notes:

^[1] Estimate.

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

^[3] Average rate in private sector.

Table 25. Number of employees by sectors (thousands of persons) and as share of all employees in 2013-2016.

	2013	2014	2015	2016 ^[1]
<i>Employees (thousands of persons)</i>				
Private sector	1,599	1,590	1,584	1,584
State	142	139	135	135
Municipalities	480	477	474	474
Total	2,221	2,205	2,193	2,193
<i>Share of all employees, %</i>				
Private sector	72.0	72.1	72.2	72.2
State	6.4	6.3	6.2	6.2
Municipalities	21.6	21.6	21.6	21.6
Total	100.0	100.0	100.0	100.0

Source: Statistics Finland: Annual national accounts.

Note:

^[1] Statistics for the year 2016 are not yet available, and thus the numbers for the year 2015 are also used for the year 2016.

Table 26. Average estimated employer social contribution rates in 2013–2016, %.

	2013	2014	2015	2016
Earnings-related pension contribution	18.9	19.2	19.3	19.1
Unemployment insurance contribution	2.32	2.20	2.33	2.85
Health insurance contribution	2.04	2.14	2.08	2.12
Accident insurance contribution	1.00	0.90	0.90	0.80
Group life insurance contribution	0.07	0.07	0.07	0.07
Contribution, total	24.33	24.51	24.68	24.94

Changes in employer social contribution rules in 2013–2016

No structural changes.

2.5.3 Self-employed social contributions (tscse_s and tscfr_s)

Brief description

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);
- 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 (12 euro/year in 2016 and is not simulated in EUROMOD. 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 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 27 for the years 2013–2016. The limit is lower for farmers than for other self-employed persons (entrepreneurs).

Table 27. Income limits for pension contributions of the self-employed, 2013–2016, euro/year.

	2013	2014	2015	2016
Farmers	3,652	3,715	3,715	3,779
Entrepreneurs	7,304	7,431	7,502	7,557

For daily allowance contribution and medical care contribution of self-employed the same age limits are applied as for employees (see chapter 2.5.1).

Rates and amounts

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.

If an entrepreneur is less than 53 years old, the earnings-related pension contribution rate is 23.60 per cent in 2016. For entrepreneur at least 53 years old the rate is 25.10 per cent in 2016. For farmers both of these contribution rates are the same but are used only if the annual income exceeds 41,603 euro. If income is less than 26,475 euro, the contribution rates are 12.74 and 13.55%. Between 26,475 euro and 41,603 euro the farmer's contribution rate is increased linearly, e.g. from 12.74% to 23.60%. For the first four years as an entrepreneur the earnings-related pension contribution rate is decreased by 25%. This is not possible to simulate in the model.

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 MYEL-income and the wage income is the same as employee's rate. To the YEL-income an increased daily allowance rate is applied: 0.95% instead of 0.82% in 2016 (see Table 28).

The base for the 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, in simulations YEL- and MYEL-incomes are assumed to be the same as actual taxable earned self-employment income.

The accident insurance contribution is statutory for farmers. It consist of two components: a fixed amount (16.00 euro/year in 2016) and a MYEL-income related part (0.75% of the MYEL-income).

Example (2016): Earned income from self-employment is 22,000 euro/year, the wage from other activity 5,000 euro/year and the YEL-income 20,000 euro/year. Euro/year.

The “standard” daily allowance contribution (0.82% x (20,000+5,000))	205.00
The increased contribution from YEL-income ((0.95%–0.82%) x 20,000)	26.00
Total daily allowance contribution	231.00
If the local tax base is 21,000 euro, the medical care contribution is (1.28% x 21,000)	
	268.80

Table 28. Social contribution rates and income limits of self-employed in 2013–2016.

	2013	2014	2015	2016
<i>Earnings-related pension contribution</i>				
Entrepreneurs:				
less than 53 years, %	22.50	23.20	23.70	23.60
at least 53 years, %	23.85	24.80	25.20	25.10
Farmers:				
less than 53 years, until 1st limit, %	12.15	12.58	12.80	12.74
less than 53 years, after 2nd limit, %	22.50	23.30	23.70	23.60
at least 53 years, until 1st limit, %	12.879	13.39	13.61	13.55
at least 53 years, after 2nd limit, %	23.85	24.80	25.20	25.10
1st income limit, euro/year	25,587	26,031	26,282	26,475
2nd income limit, euro/year	40,209	41,300	41,300	41,603
<i>Sickness insurance contribution</i>				
Daily allowance contribution				
entrepreneurs, %	0.87	0.97	0.91	0.95
farmers, %	0.74	0.84	0.78	0.82
Medical care contribution, %	1.30	1.32	1.32	1.28
Accident insurance contribution for farmers				
Fixed amount, euro/year	32.34	30.00	30.29	16.00
Rate for MYEL-income, %	1.65	1.25	1.25	0.75

Changes in self-employed social contribution rules in 2013–2016

No structural changes.

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:

Allowances in state and local taxation

Standard allowance for wage expenses is 100% of the wage income up to 620 euro/year in 2016, 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. Other, not simulated, natural allowances 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. 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. 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 is fully deductible.

Allowances in state taxation

Pension income allowance is at the maximum the full national pension multiplied by a coefficient of 3.8 minus the lowest income level in the state tax schedule (16,300 euro in 2014). The result is rounded up to the nearest 10 euro. The maximum allowance is thus 12,610 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% of the exceeding amount.

Example (2014): Full pension allowance in state taxation.

The full national pension/year $12 \cdot 633.91$	7,606
The full allowance $(3.8 \cdot 7,606) - 16,300$	12,610

Allowances in local taxation

Low earned income allowance is 51% 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%. The maximum amount is 3,570 euro. The allowance starts to decrease by 4.5% when pure earned income exceeds 14,000 euro.

Pension income allowance is equal for single person and spouses. The maximum amount is the full national pension times 1.37 minus maximum amount of basic allowance. 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% of the exceeding income (in 2014).

Student grant allowance is at the maximum 2,600 euro (2014) but cannot be more than the amount of student grant. The allowance is reduced by 50% 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 2,930 euro (2014). If the income after other tax allowances exceeds 2,930 euro the basic allowance is reduced by 20% of the exceeding income.

Changes of parameters of deductions in local taxation are shown in Table 29. Changes in pension income allowances are shown separately in Table 30. The income limit in state tax schedule can be picked up from Tables 31–40.

Table 29. Parameters of allowances in local taxation in 2013–2016.

	2013	2014	2015	2016
Low earned income allowance, maximum, euro	3,570	3,570	3,570	3,570
Starting income limit, euro	2,500	2,500	2,500	2,500
Threshold 1, euro	7,230	7,230	7,230	7,230
Threshold 2, euro	14,000	14,000	14,000	14,000
Amount of allowance, before threshold 1, %	51	51	51	51
Amount of allowance, before threshold 2, %	28	28	28	28
Decrease of allowance, after threshold 2, %	4.5	4.5	4.5	4.5
Maximum of student grant allowance, euro	2,600	2,600	2,600	2,600
Decrease of student grant allowance, %	50	50	50	50
Maximum of basic allowance, euro	2,880	2,930	2,970	3,020
Decrease of basic allowance, %	20	19	18	18

Table 30. Parameters of pension income allowances in 2013–2016.

	2013	2014	2015	2016
Full national pension	7,560	7,606	7,636	7,610
Deduction in local taxation	1,480	1,480	1,480	1,480
Coefficient in state taxation	3.80	3.80	3.80	3.80
Decrease in state taxation, %	44	44	44	44
Coefficient in local taxation	1.37	1.37	1.39	1.39
Decrease in local taxation, %	55	55	54	54
Full amount in state taxation	12,630	12,610	12,520	12,110
Full amount in local taxation, singles	8,880	8,940	9,140	9,020
Full amount in local taxation, spouses	8,880	8,940	9,140	9,020

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 2013–2016 are shown in Tables 31–34. 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 31. 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

Table 32. The progressive state tax schedule on earned income in 2014.

Taxable income in state taxation (euro)	Tax on lower limit, euro	Rate above the lower limit, %
16,300 – 24,300	8	6,5
24,300 – 39,700	528	17.5
39,700 – 71,400	3,223	21,5
71,400 – 100,000	10,039	29.75
100,000 –	18,547	31.75

Table 33. The progressive state tax schedule on earned income in 2015.

Taxable income in state taxation (euro)	Tax on lower limit, euro	Rate above the lower limit, %
16,500 – 24,700	8	6.5
24,700 – 40,300	541	17.5
40,300 – 71,400	3,271	21.5
71,400 – 90,000	9,958	29.75
90,000 –	15,491	31.75

Table 34. The progressive state tax schedule on earned income in 2016.

Taxable income in state taxation (euro)	Tax on lower limit, euro	Rate above the lower limit, %
16,700 – 25,000	8	6.5
25,000 – 40,800	547.50	17.5
40,800 – 72,300	3,312.50	21.5
72,300	10,085	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 35.

Table 35. Average municipal and church tax rates in 2013–2016.

	2013	2014	2015	2016
Average municipal tax rate, %	19.38	19.74	19.84	19.87
Average church tax rate, %	1.35	1.37	1.37	1.37

2.6.5 Special tax on pension income

Since 2013 a special tax on pension income shall be paid. It is 6% 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 grant²
- 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. A new child credit is introduced in 2015. It is also simulated in the model.

Low earned income tax credit (*työtulovähennys*) in state taxation is 11.8% (in 2016) of the work income exceeding 2,500 euro. The maximum amount of credit is 1,260 euro. If pure income exceeds 33,000 euro the tax credit decreases by 1.46%. 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.

Table 36. Low earned income tax credit in 2013–2016.

	2013	2014	2015	2016
Amount of credit from work income, %	7.3	7.4	8.6	11.8
Starting income limit, euro	2,500	2,500	2,500	2,500
Maximum amount, euro	970	1010	1025	1260
Limit of pure income, euro	33,000	33,000	33,000	33,000
Decrease from pure income; %	1.1	1.15	1.2	1.46

Deficit credit (*aliäämähyvitys*) 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 a spouse if it would be “unused” because of low taxes.

² This is a child maintenance allowance paid in place of alimonies (in case a divorced parent can't pay the full amount).

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 2012–2015). 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% 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 2007–2015.

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% 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.

Child credit is a temporary tax credit for fiscal years 2015–2017. The credit is 50 euros per year for each child and it is granted for maximum four children (below 17 years old). Both parents can have the credit. For single parents the credit is doubled. If the combined personal pure earned and capital income (i.e. earned and capital income after natural allowances) exceeds 36 000 euros per year, the credit is diminished by 1 % of the difference between the income and the limit of 36 000 euros. The credit is subtracted from the state tax, but if the state tax is smaller than the credit, the rest is subtracted from municipal tax, medical care contribution and church tax in the proportion of their respective shares. The child credit is applied after the low earned income tax credit.

Changes in earned income tax rules in 2008 – 2015

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.

In 2015 child credit was introduced.

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. Since 2014 25 % of these dividends are taxable under the limit of 150 000 euros.
- 30% of dividends received from listed or non-listed companies (treated as capital income) are non-taxable. Since 2015 this non-taxable share is 15 %.
- 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. There is no limit for the amount of the deduction, but since 2012 only part of the interest can be deducted. In 2012 85%, in 2013 80% and in 2014 75% can be deducted.

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.

Only part of dividend income is taxable. In income taxation the dividends are divided into three parts: a tax-free part, taxable capital income and taxable earned income. There are different rules for dividends from companies whose shares are publicly traded (exchange-listed companies) and for other dividends. In 2014 there were major changes in these rules.

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. In 2014 the limit was lowered to 40,000 euros per year and in 2015 to 30,000 euros. The tax rate in the upper bracket was increased to 33% in 2015 and 34% in 2016 (Table 37).

Table 37. Tax rates in capital income taxation 2013–2016.

	2013	2014	2015	2016
General tax rate, %	30	30	30	30
Limit for higher tax rate, euros/year	50,000	40,000	30,000	30,000
Higher tax rate, %	32	32	33	34

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 – 2016

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 has been reduced since 2012. In 2014 the rules for dividend incomes were reformed.

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. In 2014 these limits were raised to 143 and 51 euro respectively. In 2016 the second limit was raised to 70 euro.

3. DATA³

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) collected in 2014. 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 at the end of the year 2013. Excluded are persons living in Finland temporarily or without address, institutionalized, living permanently abroad and asylum seekers.

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 persons with no tax record. Further, these groups are divided into subgroups according to the household-dwelling unit's income subject to state taxation. 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.

³ Description of the data is based on the quality description of Income Distribution Survey (Tulonjakotilasto) 2013 (Statistics Finland 2015, in Finnish) and the Final Quality Report relating to the Finnish EU-SILC 2014 (Statistics Finland 2016).

Table 38. Basic information on EUROMOD database 2014.

	Year 2014
EUROMOD database	FI_2014_a1
Original name	UDB EU-SILC 2014 (1st release from 01/01/16)
Provider	EUROSTAT
Year of collection	2014
Period of collection	01/2014 – 05/2014
Income reference period	2013
Coverage	Private households
Actual sample size	13,960 household-dwelling units
	1st wave: 5,000 observations
	2nd wave: 3,369 observations
	3rd wave: 2,851 observations
Accepted	4th wave: 2,740 observations
	11,030 household-dwelling units (27,142 individuals)
	1st wave: 3,146 observations
	2nd wave: 2,802 observations
Non-response rate	3rd wave: 2,544 observations
	4th wave: 2,538 observations
	1st wave: 35.9 %
	2nd wave: 15.8 %
	3rd wave: 9.8 %
	4th wave 6.5 %

Source: The quality description of Income Distribution Survey (Tulonjakotilasto) 2013 (Statistics Finland 2015, in Finnish).

3.2 Sample quality and weights

3.2.1 Non-response

The total household-dwelling unit non-response rate to interviews in the first wave was 35.9 per cent. Non-response rates of the 13 population groups interviewed in the first wave are reported in Table 39. The non-response rates of employees 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.

Table 39. Non-response rates of the stratificated population groups in the first wave.

Stratificated group	Non-response rate
Employees, lowest income class	37.8
Employees, 2nd lowest income class	36.7
Employees, 3rd lowest income class	33.5
Employees, highest income class	37.9
Self-employed persons, lower income class	41.6
Self-employed persons, higher income class	31.3
Farmers, lower income class	24.7
Farmers, higher income class	26.2
Pensioners, lower income class	35.0
Pensioners, higher income class	26.5
Others, lower income class	48.8
Others, higher income class	40.2
No tax record	65.1
Average	35.9

Source: The quality description of Income Distribution Survey (Tulonjakotilasto) 2013 (Statistics Finland 2015, in Finnish).

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 reference periods of the Finnish survey follow mainly the general protocol for EU-SILC with minor differences. The income reference period of the EU-SILC 2014 is the calendar year 2013. 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 January–May 2014. 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 from general EU-SILC instructions and the relevant interview information refers also to the end of income reference period (e.g. labour activity status). More information is available at the section 5.3.2 at the Final Quality Report relating to the Finnish EU-SILC 2014 (Statistics Finland 2016).

3.3.2 Gross incomes

In the EU-SILC 2014 all income variables are in gross terms except *hy020*, *hy022* and *hy023*. In addition, net amounts *py020n*, *py021n* and *hy100n* are provided in the data. No net-to-gross imputations are done.

3.3.3 Imputed and disaggregated variables

Variable *hy090g* includes interest, dividends and profit from capital investments in unincorporated business. For filling the missing items of this variable cold-deck and hot-deck methods were 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.

The missing items in the housing costs *hh070* variable were imputed by using several, both non-parametric and parametric, statistical methods.

Variable *hh071*, mortgage principal payments, was imputed primarily by deductive method and secondarily for those ones whose mortgage capital was increased during the income reference year by cold-deck and hot-deck methods.

Net amounts *hy022*, *hy023* and *hy100n* were imputed by deductive and gross-net conversion imputation methods.

Some monetary variables are disaggregated in EUROMOD database. These disaggregations are often necessary to make the simulations possible. For example, the investment income (*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 UDB SILC data 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 disaggregations are performed by using Income Distribution Survey (Tulonjakotilasto) 2013 as background information. Table 40 shows the aggregate EUROMOD variables which are imputed to disaggregated variables.

Table 40. 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
		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	x (since 2015)
		bhosd	Student housing supplement	x
		bhope	Housing allowance for pensioners	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	

Income Distribution Survey (Tulonjakotilasto) 2013 is also used as background information when the following variables were imputed:

- *lcs*, civil servant (yes/no)
- *bunmy*, number of months receiving unemployment benefits
- *bunncmy*, 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

3.4 Updating

The factors which are used to update monetary variables from the base year 2013 up to 2016 are shown in Appendix 1, Table A1. No other adjustments are done to the monetary variables. Neither is any structural change done to the demographic or labour market characteristics.

4. VALIDATION

In this chapter statistics on EUROMOD benefits and taxes are compared with external sources. Tables 4.2-4.10 in Appendix 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 registers of Finnish Tax Administration, Social Insurance Institution of Finland (Kela) and Finnish Centre for Pensions (ETK). 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.

The EUROMOD input data is based on the Finnish UDB SILC which is mainly collected from registers, so the overall match to external statistics should be quite good. However, the income concepts of the survey and administrative registers are not always comparable. The precise content of some imputed variables may not be known.

4.1 Aggregate Validation

4.1.1 Non simulated incomes

Table 4.4 shows that the annual aggregate amount of earnings across all employees in EUROMOD is close (97%) to the register sources in the base year 2013. Dividend income (115%) and self-employment income are somewhat over-represented (120%). The discrepancies are larger when different components of dividend and self-employment incomes are compared. These components are imputed, so lower precision is expected.

Old-age pensions are covered quite well in the SILC data (Tables 4.5-4.6). The number of recipients of disability pensions are over-represented, however, the aggregate amount is quite close to external statistics. On the contrary, survivor's pensions are under-represented. Disability pensions are overestimated because they include also other benefits than pensions.

4.1.2 Simulated taxes and benefits

Table 4.7 and 4.8 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 underestimated because the model variable excludes some items, which are included in external statistics. Similar factors explain the difference in labour market subsidy: external statistics include also the integration assistance but it is not included in simulation. 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-represented in the data. Farmers work injury and life insurance contributions are not presented because of their minor importance in aggregate level. The number of persons liable to capital income taxes is simulated relatively accurately in the years 2013–2014, however, the aggregate amount of taxes is undersimulated. In the model nearly all who pay local taxes are also members of Church, which is not the case in reality. Therefore, the church tax is overestimated.

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 (excl. local authority income support) is assumed.

Tables 4.9 and 4.10 provide the comparison of EUROMOD simulations and the EUROSTAT data for income years 2013–2016. External statistics from EUROSTAT are available only up to 2014. Means and medians are lower in EUROMOD. S80/S20-ratio and Gini-coefficient are lower than in the EUROSTAT statistics. The poverty rates are also underestimated both for men and women. The comparison shows the effects of variable imputations and simulations itself while the base data for 2013 income are the same.

The deciles income shares are quite close, except in the 1st decile in all years. 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 the 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 2013 (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. However, in the baseline local authority 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.

5. REFERENCES

Sources for tax-benefit descriptions and rules

Kela, the Social Insurance Institution of Finland:

- Website: <http://www.kela.fi/web/en>
- Guidelines for benefits of Kela. The latest guidelines are available at the website of Kela. In Finnish.

Verohallinto, Tax Administration of Finland:

- Website: <https://www.vero.fi/en-US>

Eläketurvakeskus, The Finnish Centre for Pensions:

- Website: <http://www.etk.fi/en/>

Mela, the Farmers' Social Insurance Institution:

- Website: <http://www.mela.fi/en/>

Sources for data description

The Final Quality Report relating to the Finnish EU-SILC 2014 (Statistics Finland 2016). Available at: <https://circabc.europa.eu/sd/a/2d10b589-95ef-46ba-9762-0c08b6eec072/SILC_ESQRS_FI_2014.zip>.

The quality description of Income Distribution Survey (Tulonjakotilasto) 2013 (Statistics Finland 2015). In Finnish.

Sources for validation statistics

Expenditure on social assistance 2015 – statistical report (National Institute for Health and Welfare 2016).

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Social protection expenditure and financing – statistical reports for years 2007-2014 (National Institute for Health and Welfare).

Statistical database of taxable incomes (Statistics Finland).

Statistical database of the Finnish Centre for Pensions.

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Statistics of the Farmers' Social Insurance Institution.

Statistical Yearbook of Kela, the Social Insurance Institution of Finland, 2015.

APPENDIX 1: UPRATING FACTORS

Table A1. Updating factors 2013-2016

Index	2013	2014	2015	2016	Applied to variables:
Index of wage and salary earnings (2005=100) ^[1]	129.6	131.5	133.2	134.8	yem, yse (yse00, yse01), kfb*, xmp, yivwg, kivho, ypt, yot
Earnings-related pension index (TEL) ^[2]	2475	2509	2519	2519	ypp, pdi*, poa*, psu, xpp
Index of investment income(2007=100) ^[3]	100.4	97.3	97.1	97.5	yyi (yytx00, yytx01, yynt), afc
Rent index(2010=100) ^[4]	111.2	114.8	118.2	120.2	ypr, tpr, xhc (xhcrt, xhcot), bho00
Index of mortgage interest (2010=100) ^[5]	75.7	75.6	67.5	60.5	xhcmomi
Consumer price index (2005=100) ^[6]	118.4	119.6	119.4	119.8	bedot
Index of previous year's earnings ^[7]	127.0	129.6	131.5	133.2	yempv, bma, bh100, bhlot, bunot
National pension index (KEL) ^[8]	1609	1630	1637	1631	bsa (bsa00, bsaot), bhoot, bfaot

[1] Source: Statistics Finland. Figure for 2016 is forecast of Ministry of Finance on 14 April 2016.

[2] Source: Finnish Centre for Pensions.

[3] Source: Statistics Finland, average dividend income per household. Figures for 2015 and 2016 are forecasts: the figure for 2014 updated by consumer price index.

[4] Source: Statistics Finland; 2016: information only for 1st quarter.

[5] Source: Statistics Finland, sub-index "Interest on housing loans" of consumer price index; 2016: average of January-May.

[6] Source: Statistics Finland. Figure for 2016 is forecast of Ministry of Finance on 14 April 2016.

[7] See: index of wage and salary earnings.

[8] Source: Social Insurance Institution of Finland.

APPENDIX 2: POLICY EFFECTS IN 2015-2016

A. BASELINE results

Table A1 and Figure A1 show the effect of policy changes in 2015-2016 on mean equivalised household disposable income by income component and income decile group, as a percentage of mean equivalised household disposable income in 2015. Each policy system has been applied to the same input data, deflating monetary parameters of 2016 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).

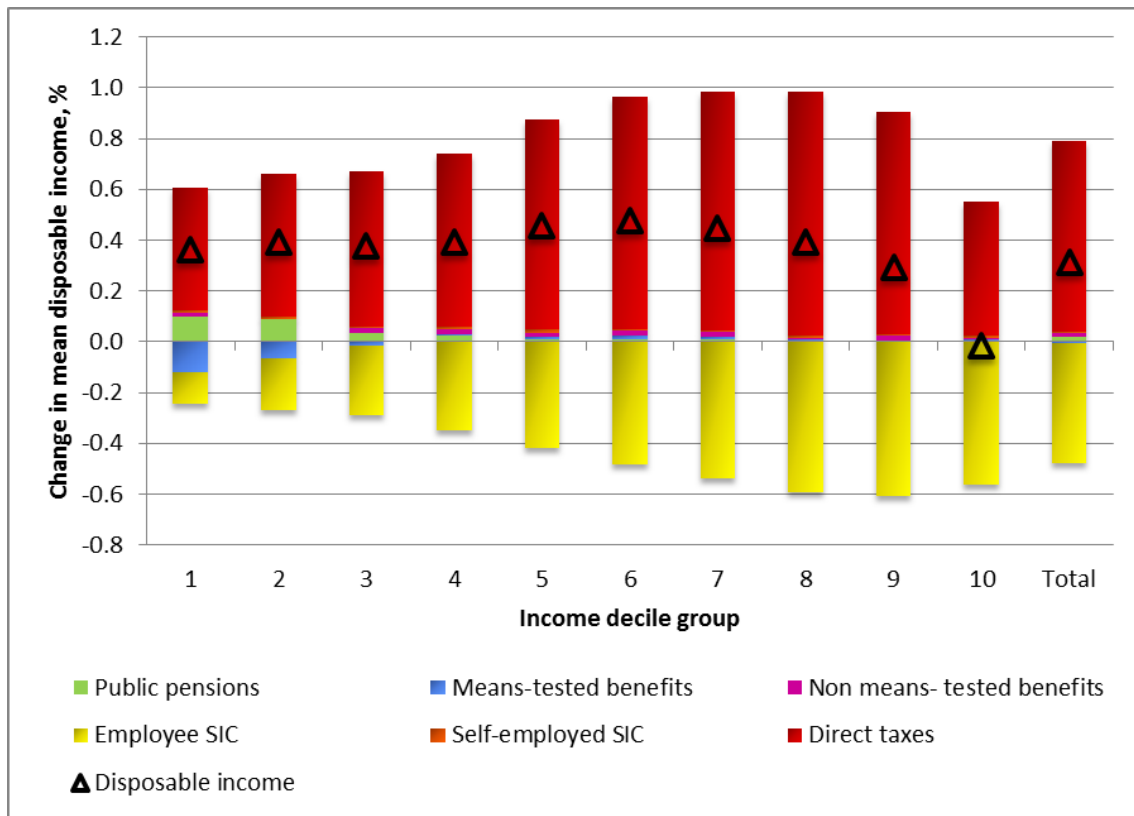
In 2016 the policy changes increased the disposable income in all income deciles except the highest income decile. The increase of 20 euro/month in the guarantee pension improved the situation of pensioners with low income. Most of the other non-contributory benefits decreased, because they are indexed by the national pension index and the index was negative (-0.4%) in 2016. However, the child benefit, study benefits and local authority income support were not subject to this cut. One big change was the increase of 77% in the unemployment insurance contribution, and the resulting effect can be seen in all income decile groups. After all, the most significant effects were due to the changes in taxes.

Table A2. Policy effects in 2015-2016, using the HICP-indexation, %.

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Direct taxes	Disposable income
1	0.00	0.10	-0.12	0.01	-0.12	0.01	0.48	0.36
2	0.00	0.09	-0.07	0.00	-0.20	0.01	0.56	0.39
3	0.00	0.03	-0.01	0.02	-0.28	0.01	0.61	0.38
4	0.00	0.03	0.00	0.02	-0.35	0.01	0.68	0.39
5	0.00	0.01	0.01	0.02	-0.42	0.01	0.83	0.46
6	0.00	0.01	0.01	0.02	-0.48	0.01	0.91	0.48
7	0.00	0.01	0.01	0.02	-0.54	0.01	0.94	0.45
8	0.00	0.00	0.00	0.01	-0.60	0.01	0.96	0.39
9	0.00	0.00	0.00	0.02	-0.61	0.01	0.87	0.30
10	0.00	0.00	0.00	0.01	-0.56	0.01	0.52	-0.01
Total	0.00	0.02	0.00	0.01	-0.47	0.01	0.75	0.31

Notes: Shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2015, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2016 policies by Eurostat's Harmonized Index of Consumer Prices (HICP). There was no change in HICP for Finland between 2015 and 2016.

Figure A1. Policy effects in 2015-2016, using the HICP-indexation, %.



B. Results with simulated general housing allowance (bho00_s)

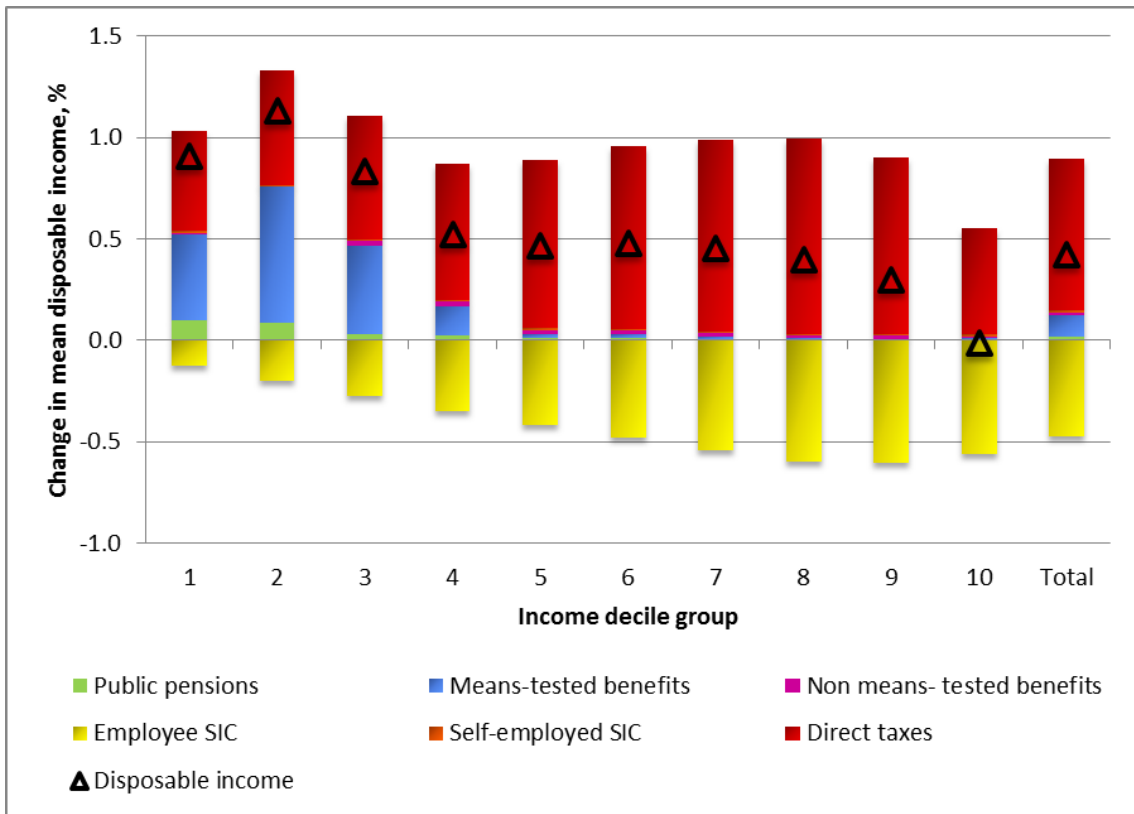
This section presents the same results as Section A but in addition it includes the effect of policy changes in general housing allowance. Starting from EUROMOD policy year 2016, part of work income (300 euro/month per person with work income) is considered to be privileged income in the general housing allowance. This means that this part of the income is not taken into account when the decision on the eligibility is made and the amount of the general housing allowance is calculated. This policy change mostly affects to the households in the three lowest income deciles.

Table A3. Policy effects in 2015-2016, using the HICP-indexation, %.

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Direct taxes	Disposable income
1	0.00	0.10	0.42	0.01	-0.12	0.01	0.49	0.91
2	0.00	0.09	0.67	0.00	-0.20	0.01	0.57	1.13
3	0.00	0.03	0.43	0.02	-0.27	0.01	0.61	0.83
4	0.00	0.02	0.14	0.02	-0.35	0.01	0.67	0.52
5	0.00	0.01	0.02	0.01	-0.42	0.01	0.83	0.47
6	0.00	0.01	0.02	0.02	-0.48	0.01	0.90	0.48
7	0.00	0.01	0.01	0.02	-0.54	0.01	0.95	0.45
8	0.00	0.01	0.01	0.01	-0.60	0.01	0.97	0.40
9	0.00	0.00	0.01	0.02	-0.61	0.01	0.87	0.30
10	0.00	0.00	0.01	0.01	-0.56	0.01	0.52	-0.01
Total	0.00	0.02	0.11	0.01	-0.47	0.01	0.75	0.42

Notes: Shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2015, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2016 policies by Eurostat's Harmonized Index of Consumer Prices (HICP). There was no change in HICP in Finland between 2015 and 2016.

Figure A2. Policy effects in 2015-2016, using the HICP-indexation, %.



APPENDIX 3: VALIDATION TABLES

Macrovalidation Tables

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.

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

	EUROMOD	External	Ratio						
	2013	2013	2014	2015	2016	2013	2014	2015	2016
Number of employed	2,223.4	2,428.5	2,431.0	2,403.2	2,385.9	0.92	0.91	0.93	0.93
Number of unemployed	304.5	208.4	206.2	218.6	231.2	1.46	1.48	1.39	1.32

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

	EUROMOD External					Ratio			
	2013	2013	2014	2015	2016	2013	2014	2015	2016
Employment income	2,741.9	2,816.0	2,835.0	N/A	N/A	0.97	0.97	N/A	N/A
Fringe benefits	701.4	702.0	698.1	N/A	N/A	1.00	1.00	N/A	N/A
Self-employment income	459.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-Earned income share	358.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-Capital income share	329.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dividend income	3,176.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-Earned income share	162.3	52.9	51.2	N/A	N/A	3.07	3.17	N/A	N/A
-Capital income share	770.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-Tax-free income share	2,390.5	920.8	N/A	N/A	N/A	2.60	N/A	N/A	N/A
Income from rent	367.6	281.0	293.0	N/A	N/A	1.31	1.25	N/A	N/A
Pensions from private plans	190.7	127.0	N/A	N/A	N/A	1.50	N/A	N/A	N/A

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

	EUROMOD				External				Ratio			
	2013	2014	2015	2016	2013	2014	2015	2016	2013	2014	2015	2016
Employment income	79,238	80,400	81,440	82,418	81,348	81,494	N/A	N/A	0.97	0.99	N/A	N/A
Fringe benefits	1,028	1,043	1,056	1,069	984	9,991	N/A	N/A	1.04	0.10	N/A	N/A
Self-employment income	6,263	6,355	6,437	6,514	5,220	5,140	N/A	N/A	1.20	1.24	N/A	N/A
-Earned income share	4,417	4,482	4,540	4,594	4,352	4,291	N/A	N/A	1.01	1.04	N/A	N/A
-Capital income share	1,846	1,873	1,897	1,920	868	849	N/A	N/A	2.13	2.21	N/A	N/A
Dividend income	4,593	4,451	4,442	4,460	3,992	3,926	N/A	N/A	1.15	1.13	N/A	N/A
-Earned income share	403	391	390	391	391	398	N/A	N/A	1.03	0.98	N/A	N/A
-Capital income share	1,486	1,440	1,437	1,443	1,208	N/A	N/A	N/A	1.23	N/A	N/A	N/A
-Tax-free income share	2,668	2,586	2,581	2,591	2,393	N/A	N/A	N/A	1.12	N/A	N/A	N/A
Income from rent	1,347	1,390	1,432	1,456	1,426	1,514	N/A	N/A	0.94	0.92	N/A	N/A
Pensions from private plans	1,181	1,197	1,202	1,202	909	102	N/A	N/A	1.30	11.76	N/A	N/A

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

	EUROMOD				SILC	Ratio	External				Ratio			
	2013	2014	2015	2016	2013	2013	2013	2014	2015	2016	2013	2014	2015	2016
Benefits														
Basic unemployment allowance	58	58	58	58	58	1.00	64	75	82	N/A	0.91	0.78	0.71	N/A
Earnings-related Labour market subsidy	283	283	283	283	284	1.00	303	332	346	N/A	0.94	0.85	0.82	N/A
Child home care allowance	216	216	216	215	230	0.94	254	277	291	N/A	0.85	0.78	0.74	N/A
Child benefit	124	124	124	124	139	0.89	116	114	110	N/A	1.07	1.09	1.13	N/A
Child benefit	551	551	551	551	583	0.95	557	556	555	N/A	0.99	0.99	0.99	N/A
Student housing supplement	154	154	154	152	201	0.76	217	218	220	N/A	0.71	0.71	0.70	N/A
Housing allowance for pensioners	281	284	263	265	175	1.61	188	191	198	N/A	1.50	1.47	1.42	N/A
Local authority income support	147	151	156	160	201	0.74	246	253	262	N/A	0.60	0.58	0.56	N/A
Study grant	288	286	283	280	323	0.89	320	319	321	N/A	0.90	0.90	0.90	N/A
Guarantee pension	61	54	55	126	N/A	N/A	103	102	101	N/A	0.60	0.61	0.61	N/A
Taxes and Social Insurance contributions														
State tax on capital income	991	997	1,003	1,011	N/A	N/A	917	1,059	1,585	N/A	1.08	0.94	0.63	N/A
State tax on earned income	1,795	1,780	1,756	1,664	N/A	N/A	1,624	1,621	1,607	N/A	1.11	1.11	1.12	N/A
Municipal tax	3,843	3,843	3,816	3,789	N/A	N/A	3,835	3,867	3,867	N/A	1.00	0.99	0.99	N/A
Church tax	3,837	3,838	3,806	3,780	N/A	N/A	2,875	2,855	2,791	N/A	1.33	1.34	1.37	N/A
Employee SIC	2,628	2,628	2,629	2,629	2,472	1.06	2,523	2,505	2,485	N/A	1.04	1.05	1.06	N/A
Self-employed SIC	157	157	157	157	94	1.68	278	275	269	N/A	0.57	0.57	0.58	N/A
Employers SIC	2,746	2,746	2,746	2,746	2,704	1.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Medical care contributions	3,837	3,837	3,806	3,779	3,815	1.01	3,833	3,864	3,863	N/A	1.00	0.99	0.99	N/A

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

	EUROMOD				SILC	Ratio	External				Ratio			
	2013	2014	2015	2016	2013	2013	2013	2014	2015	2016	2013	2014	2015	2016
Benefits														
Basic unemployment allowance	254	256	257	256	218	1.17	254	299	342	N/A	1.00	0.86	0.75	N/A
Earnings-related unemployment allowance	2,198	2,227	2,234	2,244	1,974	1.11	2,356	2,704	2,864	N/A	0.93	0.82	0.78	N/A
Labour market subsidy	1,216	1,221	1,225	1,219	1,186	1.03	1,428	1,634	1,749	N/A	0.85	0.75	0.70	N/A
Child home care allowance	402	407	408	405	421	0.96	318	309	297	N/A	1.26	1.31	1.37	N/A
Child benefit	1,481	1,481	1,367	1,367	1,454	1.02	1,493	1,495	1,384	N/A	0.99	0.99	0.99	N/A
Student housing supplement	302	300	299	297	265	1.14	259	266	266	N/A	1.16	1.13	1.12	N/A
Housing allowance for pensioners	581	614	582	589	372	1.56	468	498	532	N/A	1.24	1.23	1.09	N/A
Local authority income support	535	562	591	600	587	0.91	736	745	745	N/A	0.73	0.75	0.79	N/A
Study grant	622	616	618	616	511	1.22	473	487	502	N/A	1.32	1.26	1.23	N/A
Guarantee pension	69	68	68	88	N/A	N/A	158	157	162	N/A	0.44	0.43	0.42	N/A
Taxes and Social Insurance contributions														
income	1,335	1,347	1,384	1,415	N/A	N/A	2,113	2,369	2,538	N/A	0.63	0.57	0.55	N/A
State tax on earned income	6,036	6,037	6,087	5,886	N/A	N/A	5,641	5,675	5,858	N/A	1.07	1.06	1.04	N/A
Municipal tax	18,353	18,877	19,021	18,975	N/A	N/A	17,679	18,327	18,623	N/A	1.04	1.03	1.02	N/A
Church tax	1,278	1,309	1,313	1,308	N/A	N/A	915	925	912	N/A	1.40	1.41	1.44	N/A
Employee SIC	4,863	5,300	5,522	6,000	4,578	1.06	4,617	4,892	5,152	N/A	1.05	1.08	1.07	N/A
Self-employed SIC	880	919	949	952	125	7.02	1,184	1,241	1,253	N/A	0.74	0.74	0.76	N/A
Employers SIC contributions	19,415	19,846	20,241	20,697	18,875	1.03	23,164	22,841	N/A	N/A	0.84	0.87	N/A	N/A
contributions	1,271	1,303	1,306	1,263	1,208	1.05	1,217	1,257	1,271	N/A	1.05	1.04	1.03	N/A

Table 4.9-Distribution of equivalised disposable income

	EUROMOD				External				Ratio			
	2013	2014	2015	2016	2013	2014	2015	2016	2013	2014	2015	2016
D1	4.4	4.4	4.4	4.4	4.1	4.1	N/A	N/A	1.07	1.08	N/A	N/A
D2	5.8	5.8	5.9	5.9	5.7	5.7	N/A	N/A	1.02	1.03	N/A	N/A
D2	5.8	5.8	5.9	5.9	5.7	5.7	N/A	N/A	1.02	1.03	N/A	N/A
D3	6.7	6.8	6.8	6.8	6.6	6.7	N/A	N/A	1.02	1.01	N/A	N/A
D4	7.7	7.7	7.7	7.7	7.6	7.7	N/A	N/A	1.01	1.00	N/A	N/A
D5	8.6	8.7	8.6	8.6	8.6	8.6	N/A	N/A	1.00	1.01	N/A	N/A
D6	9.6	9.6	9.6	9.6	9.6	9.5	N/A	N/A	1.00	1.01	N/A	N/A
D7	10.7	10.7	10.7	10.7	10.6	10.7	N/A	N/A	1.01	1.00	N/A	N/A
D8	11.9	11.9	11.9	11.9	12.0	12.0	N/A	N/A	0.99	0.99	N/A	N/A
D9	13.8	13.8	13.8	13.8	14.0	14.0	N/A	N/A	0.99	0.99	N/A	N/A
D10	20.7	20.6	20.5	20.5	21.3	21.0	N/A	N/A	0.97	0.98	N/A	N/A
Median	23,123	23,280	23,447	23,692	23,702.0	23,763.0	N/A	N/A	0.98	0.98	N/A	N/A
Mean	25,403	25,536	25,722	25,967	26,130.0	26,240.0	N/A	N/A	0.97	0.97	N/A	N/A
Gini	24.4	24.2	24.2	24.1	25.6	25.2	N/A	N/A	0.95	0.96	N/A	N/A
S80/S20	3.4	3.3	3.3	3.3	3.6	3.6	N/A	N/A	0.94	0.93	N/A	N/A

Table 4.10-Poverty rates by gender and age

	EUROMOD				External				Ratio			
	2013	2014	2015	2016	2013	2014	2015	2016	2013	2014	2015	2016
40% median HDI												
Total	1.4	1.4	1.5	1.5	2.5	2.3	N/A	N/A	0.58	0.62	N/A	N/A
Males	1.7	1.6	1.7	1.7	2.7	2.5	N/A	N/A	0.62	0.66	N/A	N/A
Females	1.2	1.2	1.2	1.2	2.2	2.2	N/A	N/A	0.55	0.54	N/A	N/A
50% median HDI												
Total	4.8	4.7	4.6	4.6	5.5	5.3	N/A	N/A	0.87	0.88	N/A	N/A
Males	5.1	5.1	5.0	5.0	5.7	5.7	N/A	N/A	0.90	0.89	N/A	N/A
Females	4.4	4.3	4.3	4.2	5.3	5.0	N/A	N/A	0.83	0.86	N/A	N/A
60% median HDI												
Total	11.4	11.4	11.3	11.5	12.8	12.4	N/A	N/A	0.89	0.92	N/A	N/A
Males	11.4	11.4	11.2	11.4	12.3	12.2	N/A	N/A	0.93	0.93	N/A	N/A
Females	11.4	11.4	11.4	11.5	13.3	12.6	N/A	N/A	0.86	0.90	N/A	N/A
70% median HDI												
Total	20.6	20.4	20.2	20.5	22.2	21.3	N/A	N/A	0.93	0.96	N/A	N/A
Males	19.6	19.4	19.5	19.6	21.1	20.4	N/A	N/A	0.93	0.95	N/A	N/A
Females	21.6	21.3	21.0	21.3	23.2	22.1	N/A	N/A	0.93	0.96	N/A	N/A
60% median HDI												
0-15 years	10.4	10.7	11.1	11.3	10.7	9.8	N/A	N/A	0.97	1.09	N/A	N/A
16-24 years	19.8	19.7	19.8	19.9	22.1	25.5	N/A	N/A	0.90	0.77	N/A	N/A
25-49 years	10.1	10.1	10.1	10.0	10.4	10.2	N/A	N/A	0.97	0.99	N/A	N/A
50-64 years	9.7	9.6	9.2	9.5	10.5	9.8	N/A	N/A	0.92	0.98	N/A	N/A
65+ years	11.7	11.3	10.8	11.4	16.0	13.8	N/A	N/A	0.73	0.82	N/A	N/A