EUROMOD

COUNTRY REPORT

LATVIA (LV)

2011 - 2015

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EUROMOD version G3.0

EUROMOD is a tax-benefit micro-simulation 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 Latvia. 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 G3.0. 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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This programme is managed by the Directorate-General for Employment, Social Affairs and Inclusion of the European Commission. It was established to finally support the implementation of the objectives of the European Union in the employment and social affairs area, as set out in the Social Agenda, and thereby contribute to the achievement of the Lisbon Strategy goals in these fields.

The seven-year Programme targets all stakeholders who can help shape the development of appropriate and effective employment and social legislation and policies, across the EU-28, EFTA-EEA and EU candidate and pre-candidate countries.

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

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

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1. BASIC INFORMATION[2]

1.1 Basic information about the tax-benefit system

- Latvian tax-benefit system is unified across regions and local governments have little fiscal autonomy. Municipalities have the right to impose special municipal duties and decide on their rates (e.g., a duty on issuing local municipal documents, a duty on trade at public places). However, the special duties represent a minor source of local governments' budget revenues, the main source being revenues from personal income tax, which are partially transferred from the central government budget to local governments' budgets. On the expenditure side, municipalities may decide on the level of social assistance benefits to its residents (e.g., Riga municipality has a higher Guaranteed Minimum Income level for certain population groups and more generous housing benefits).
- Fiscal year runs from 1st January to 31st December.
- Over the period from 2011 to 2013, retirement age for both men and women was 62. As of 2014, the retirement age is gradually increased (by three months per annum) until it reaches 65 in 2025. Retirement age for both men and women was 62 and 3 months in 2014 and 62 years 6 months in 2015.
- Minimum school leaving age in Latvia is 15 years. For tax allowance purposes, a dependent child is defined as a child below 18 years and a child who continues secondary, professional, special or higher education but not after he/she reaches age of 24, or until he/she gets married. The definition of a dependent child for benefit purposes can be different for different types of benefits.
- Persons/households with low income represent socially protected category in Latvia. To be eligible for Guaranteed Minimum Income benefit, a person/household has to have per person income below the determined threshold.
- Income is taxed on individual basis, spouses' or household members' income being assessed separately. Standard rate of personal income tax was 25% in 2011-2012, 24% in 2013-2014 and 23% in 2015.
- Income from capital is taxed at a reduced rate of 10% or 15%.
- Generally the income tax system works to match tax withholdings with the exact amount due in the end of the financial year. However, there are certain groups of economic agents who have to file annual tax returns: e.g., civil servants, self-employed, people receiving income from abroad, people who receive income subject to a lowered tax rate (e.g., people receiving royalties). Also, people who are eligible for tax refund (e.g., for deductible expenditures on education or health care) have to file annual tax return.
- There is a statutory indexing regime for the state pensions (old-age, disability and survivors pensions), which takes account of consumer price index (CPI) growth and average wage growth, however, in 2009-2012, as part of budget austerity measures, state pensions were temporarily frozen. In 2013-2015, old age pensions below a certain

[2] Until the end of 2013, Latvian national currency was the lat (LVL). In 2014 Latvia joined the Eurozone and as of 2014 the lat was replaced by the euro at the exchange rate of 1 EUR = 0.7028 LVL. In this report, to make the amounts of benefits and allowances comparable over years, we indicate all amounts in both currencies – euro and lat.

threshold were indexed. Also, there is an indexation regime for compensation for the loss of capacity for work due to a work accident or occupational disease, and compensation for the loss of breadwinner, however, these benefits are minor.

- For the means-tested benefits, monthly income over the previous three months is assessed.

1.2 Social Benefits

1.2.1 Unemployment benefits

Unemployment benefit *(bezdarbnieka pabalsts)*: A contributory benefit paid to registered unemployed, given that the person is actively looking for a job. Persons receiving old-age pensions (including early retired), disabled, self-employed, persons working while incarcerated are not eligible for unemployment benefit. There is a minimum length of service which makes a person eligible for the unemployment benefit. The benefit is not taxable.

Unemployment allowance during occupational training, retraining and raising of qualification and during obtaining of informal education *(bezdarbnieka stipendija profesionālās apmācības, pārkvalifikācijas un kvalifikācijas paaugstināšanas laikā un neformālās izglītības iegūšanas laikā)*: The training allowance is paid to registered unemployed, who participate in a training programme. The allowance amounts to a fixed amount per month, or, if training takes less than one month, the allowance is paid proportionally to the time spent on training. Not taxable.

Public works programme – workplaces with stipends in municipalities *(Darba praktizēšana ar stipendiju pašvaldībās – "simtlatnieku programma")*. Since September 2009 until mid-2011, the Latvian government with support from the European Social Fund and the World Bank implemented a public works programme to mitigate the negative consequences of the crisis. Those unemployed who were not eligible for the unemployment benefit could participate in public works programme in municipalities, which involved up to 6 months of low-skilled work and was rewarded with a monthly stipend. The stipends were not taxable. In 2012, the programme was replaced by a new programme **"Paid Temporary Public Works" *(Algotie pagaidu sabiedriskie darbi pašvaldībās)***, which was also aimed at long-term unemployed not receiving the unemployment benefit and covered up to four months of paid work in local governments. The remuneration received by the unemployed under the latter programme was subject to social insurance contributions (for old-age pension). The latter programme was in place until the end of 2014.

1.2.2 Old-age benefits

Old-age pension (*vecuma pensija*): Latvian pension system consists of three tiers: (i) mandatory state non-funded tier, (ii) mandatory state funded scheme and (iii) voluntary private pension scheme. The first tier is financed on the basis of pay-as-you-go. The second tier was created in 2001 and is obligatory for those who are born after 1st July 1971. Those who are born between 2nd July 1951 and 30th June 1971 can voluntarily participate in the second tier. Participation in the second tier does not require any additional contributions, as the amount contributed is split between the first and the second tiers. The third tier is voluntary. Old-age pensions are subject to personal income tax.

Service pension (*izdienas pensija*): Service pensions are provided to representatives of certain professions (e.g., certain occupations in transport industry, certain artistic professions) before the official retirement age if a person has been employed in a given profession for not less than

¾ of the period which makes the person eligible for the service pension. The size of the service pension depends on the length of service and on the average contribution wage. The service pensions are subject to personal income tax.

State social security benefit in case of old-age (*valsts sociālā nodrošinājuma pabalsts sakarā ar noteiktā vecuma sasniegšanu*): A benefit paid to the elderly in case they are not entitled to the state old-age pension. The benefit is a fixed amount per month. Not taxable.

1.2.3 Survivor's benefits

Survivor's pension (*apgādnieka zaudējuma pensija*): Survivor's pension is paid to the children of the deceased person (except if the death is caused by an occupational disease or a work accident, see "compensation for the loss of breadwinner" below), irrespective of the fact whether they were dependent on the deceased person. Children below the age of 18 or children of any age if they are disabled from childhood are eligible for the survivor's pension. The size of the pension depends on the prospective size of the deceased person's old-age pension and on the number of dependents, but there is a monthly minimum pension. The pension is subject to personal income tax.

Compensation for the loss of breadwinner due to accident at work or occupational disease (*atlīdzība par apgādnieka zaudējumu sakarā ar nelaimes gadījumu darbā vai arodslimību*): The compensation is paid to family members of a person who died because of a work accident or an occupational disease, if the person had been insured, and if the family members are unable to work and were fully or partially supported by the person. The size of the benefit depends on the deceased person's previous wage, on the degree of kinship and on the number of dependents. The benefit is not taxable.

State social security benefit in case of a loss of a breadwinner (*valsts sociālā nodrošinājuma pabalsts apgādnieka zaudējuma gadījumā*): A benefit paid to the survivors in case they are not entitled to the state survivor's pension. The benefit is a fixed amount per month. Not taxable.

1.2.4 Sickness benefits

Sickness benefit (*slimības pabalsts*): sickness benefit is a contributory benefit paid to employees and socially insured self-employed. The benefit is also paid to a parent taking care of a sick child under age 14. During the first 10 days the benefit is paid by the employer, but starting from the 11th day, the benefit is paid by State Social Security Agency. The benefit is subject to personal income tax.

Sickness benefit in case of a work accident or an occupational disease (*slimības pabalsts sakarā ar nelaimes gadījumu darbā vai arodslimību*): The benefit is paid to a socially insured person who has temporarily lost capacity for work due to a work accident or an occupational disease. The benefit amounts to a certain percentage of the previous average wage. The benefit is subject to personal income tax.

Health service benefit provided by municipalities (*pašvaldības pabalsts medicīnas pakalpojumiem*): This benefit can be provided by municipalities to low income individuals/households. The size and eligibility conditions of the benefit are determined by municipal regulations. The benefit is not taxable.

1.2.5 Disability benefits

Disability pension (*invaliditātes pensija*): A person is eligible for disability pension if she/he has a disability status, is below the retirement age, has social contribution history of at least

three years and if disability is not caused by an accident at work or occupational disease. The amount of the benefit depends on the previous average social contribution wage, on the length of social security history and on the degree of disability. The disability pension is subject to personal income tax.

State social security benefit in case of disability (*valsts sociālā nodrošinājuma pabalsts invaliditātes gadījumā*): A benefit paid to people with disability in case they are not entitled to the state disability pension. The benefit is a fixed amount per month. Not taxable.

Compensation for the loss of capacity for work due to a work accident or occupational disease (*atlīdzība par darbspējas zaudējumu*): Compensation is provided to persons who have permanently lost capacity for work due to a work accident or an occupational disease. The amount of compensation depends on the average social insurance contribution wage and the proportion of loss of work capacity.

Allowance to compensate transport expenses of persons with mobility disabilities (*pabalsts transporta izdevumu kompensācijai invalīdiem, kuriem ir apgrūtināta pārvietošanās*): The benefit is a fixed amount paid once per six months period to persons certified as needing a specialized care. Not taxable.

Benefit to disabled with special care need (*pabalsts invalīdam, kuram nepieciešama kopšana*): The benefit is assigned to a person above 18 years old, who has a disability status and certified by the Health and Capacity for Work Expert Physicians' Commission as needing special care. The benefit has been introduced as of January 1, 2008. Not taxable.

1.2.6 Family and children-related allowances

Family state benefit *(ģimenes valsts pabalsts)*: Non-contributory. The benefit is paid to one of a child's parents or a person who actually takes care of a child according to a court's decision, or to the child himself after 18 years age, if he/she was previously under guardianship. The benefit is a fixed sum per month, with the amount being larger for the second and each subsequent child (from mid-2009 until 2014 the amount for each child was the same irrespective of the number of children). The benefit is granted until the child reaches 15 years of age or, if he/she continues with education, until he/she is 19 years old as long as he/she does not receive government scholarships or gets married. The benefit is not taxable.

Child birth benefit (*bērna piedzimšanas pabalsts*): Non-contributory benefit. The benefit is a lump-sum, paid to one of the child's parents or a legal guardian. The benefit is not taxable.

Child care benefit (*bērna kopšanas pabalsts*): The benefit is provided on the monthly basis to one of the child's parents, or to a legal guardian or a person who actually takes care of the child following the court's decision. The benefit is paid until the child reaches the age of 2. In 2009-2013, during the first year of a child's life, the benefit was paid only to parents who were not socially insured (socially insured parents were eligible for the parental benefit, which is discussed below), but during the second year of the child's life all parents were eligible for the childcare benefit. As of January 2014, socially insured parents became eligible for the childcare benefit during the first year of the child's life provided certain conditions are met. The benefit is not taxable.

Parental benefit (*vecāku pabalsts*): This is a contributory benefit and it is equal to a percentage of the average contribution wage. The benefit is paid to one of the child's parents or to a person who actually takes care of the child in accordance with a court decision. A person is eligible for the parental benefit starting from the moment when maternity benefit is over and until the child

is one year old. Since October 2014 the duration can be extended to one year and a half. The benefit is not taxable.

Maternity benefit (*maternitātes pabalsts*): A contributory benefit paid to a woman during pregnancy and after the child birth. Socially insured employees and self-employed persons are eligible for this benefit. The benefit is paid in two payments. Generally the first payment is made for last 70 days of pregnancy. And the second payment is made after the child birth and covers 56 days. The size of the benefit is equal to a percentage of the average contribution wage. The benefit is not taxable.

Paternity benefit (*paternitātes pabalsts*): A contributory benefit paid to socially insured father of a newborn child. The father can claim a ten days paternity leave in the first two months of a child's life. The benefit amounts to a certain percentage of the father's average contribution wage. The benefit is not taxable.

Disabled child care benefit (*bērna invalīda kopšanas pabalsts*): Non-contributory benefit. The benefit is a monthly lump-sum payment to one of the disabled child's parents or to a person who actually takes care of the child following the court decision. The benefit is paid until the child loses disability status or reaches the age of 18. The benefit is not taxable.

State support to the children suffering from celiac disease without formally stated disability (*valsts atbalsts ar celiakiju slimiem bērniem, kuriem nav noteikta invaliditāte*): Non-contributory benefit. This support is provided to children who have a diagnosis of celiac disease, but who are not certified as disabled. The benefit is not taxable.

Benefit to guardian for supporting a child (*pabalsts aizbildnim par berna uzturesanu*): Non-contributory benefit. This is a fixed monthly benefit paid to a legal guardian of a child. The benefit is not taxable.

Remuneration for the fulfillment of foster family duties (*atlīdzība par audžuģimenes pienākumu pildīšanu*): The remuneration is paid to the family or a person, who has obtained the status of a foster family. Not taxable.

Remuneration for the adoption of a child (*atlīdzība par bērna adopciju*): The remuneration is a lump-sum payment to one of the stepparents of the adopted child, paid upon the court decision on the adoption of the child. Not taxable.

Remuneration for the care of an adopted child (*atlīdzība par adoptējamā bērna aprūpi*): Remuneration for the care of an adopted child is granted to an adopter who takes care of a child. Not taxable.

1.2.7 Social exclusion benefits

Guaranteed minimum income benefit (*garantētā minimālā ienākuma pabalsts (GMI)*): A separately living person or a household with income below the determined threshold can receive this benefit to ensure basic subsistence needs. The minimum level of the guaranteed income is set at the national level by the Cabinet of Ministers, but municipalities have the right to set a higher level. The benefit is calculated as the difference between the determined guaranteed minimum income and a person's actual income (excluding some income sources). The benefit is not taxable.

Municipal benefit in an extraordinary situation (*pašvaldības pabalsti ārkārtas situācijās*): Municipalities can provide support to individuals in extraordinary situations. The benefit is lump-sum payment and can be provided regardless of the beneficiary's income level. The benefit is not taxable.

Other special purpose benefits provided by municipalities *(citi pašvaldību piešķirtie mērķa pabalsti):* Other municipality benefits include subsidized provision of lunches at schools and food in general, benefits for raising and educating children, allowances to cover transport expenses, benefits for foster families, benefits for orphans and people released from prison to start life, and benefits for other purposes.

Funeral benefit (*apbēdīšanas pabalsts*): Funeral benefit is a lump-sum payment paid to the family members of the deceased. The benefit is not taxable.

1.2.8 Housing benefits

Housing benefit *(dzīvokļa pabalsts)*: This benefit is provided by local governments to low-income households. Eligibility rules and benefit amounts are slightly different across municipalities. The benefit is not taxable.

- ***Not strictly benefits***

Severance pay (*atlaišanas pabalsts*): is compensation paid by an employer to an employee if a labour contract is terminated on the employer's initiative for reasons other than breaking terms of the contract by the employee or, on the employee's initiative in case the employee has a good cause for being unable to continue employment relationships. The amount of the compensation depends on the length of service. The compensation is subject to personal income tax.

Pension from private pension fund (*pensija no privātā pensiju fonda*). A person making voluntary contributions to a private pension fund or having his/her employer making contributions on his/her behalf is entitled to additional old-age pension capital. Private pensions are subject to personal income tax.

State child support (alimony) (*valsts uztūrlīdzekļi bērniem (alimenti)*): state child support is provided to substitute for the child support payments that have to be paid by a child's parent in accordance with the court decision. The state support is provided in case the collection of the payments from the parent is declared impossible by law enforcement officer or in case the parent's provided support is below the minimum stipulated by the Civil Law. The amount of the state support is linked to the size of the minimum wage and is paid to a child until he/she reaches the age of 18.

EU support parcels (*ES atbalsta pakas*): As of end-2014, food products, hygiene and household goods, as well as essential school accessories are provided to the most deprived households and individuals if their per capita household income falls below a certain threshold or if the person or the household is in an extraordinary situation as a result of a natural disaster or other unpredictable event.

1.3 Social contributions

Social insurance contributions (*sociālās apdrošināšanas iemaksas*): There are two major social insurance regimes in Latvia: (i) general regime for **employees**, who are insured against all insurance cases and (ii) social insurance regime for **self-employed**, who are insured against all insurance cases except unemployment and work accidents or occupational disease. Apart from the above two categories of economic agents, for whom social insurance is mandatory, there are certain categories of agents who can make voluntary contributions for pensions, disability, maternity, sickness and parents' insurance.

For employees, the base for social security contributions is all income received as remuneration for the work before any deductions. Self-employed can choose the level of income from which

to make social security contributions, however, the base for the contributions may not be lower than a certain threshold set by the Cabinet of Ministers. There is also a maximum level of income from which social contributions can be made, which is binding for both employees and self-employed. The ceiling was temporarily abolished in 2009-2013 as part of anti-crisis budget austerity measures, but was brought back as of 2014.

1.4 Taxes

Personal income tax (*iedzīvotāju ienākuma nodoklis*): Personal income tax is paid on individual basis and is applied to income from regular employment and self-employment, state pensions, as well as to dividends and other capital gains (capital gains are taxed at a reduced rate though). Personal income tax rate is flat, but some progressivity is ensured by non-taxable minimum income, applying to income from regular employment and self-employment. There are also fixed monthly allowances for dependents.

Corporate income tax (*uzņēmuma ienākuma nodoklis*): Corporate income tax rate in Latvia is 15%. The tax is levied on business income of resident companies and on non-resident companies permanently located in Latvia. As of September 1, 2010, micro companies complying with a set of criteria (referring to e.g. the number of employees and annual turnover) can choose to pay a **micro enterprise tax** instead of the corporate income tax.

Property tax (*nekustamā īpašuma nodoklis*): Property tax is levied on buildings (including residential dwellings), constructions and land.

Value added tax *(pievienotās vērtības nodoklis)*: There are two different VAT rates in Latvia – a standard rate and a reduced rate applied to certain goods and services (e.g. medicines, energy, newspapers etc).

Excise tax *(akcīzes nodoklis)*: Excise tax is levied on alcoholic beverages, tobacco, oil products and some non-alcoholic beverages.

Tax on cars and motorcycles *(vieglo automobiļu un motociklu nodoklis)*: the tax is levied on cars and motorcycles which are registered in Latvia for the first time. The tax rate is dependent either on the amount of carbon dioxide emissions or age of a vehicle and engine capacity.

2. SIMULATION OF TAXES AND BENEFITS IN EUROMOD

2.1 Scope of simulation

Not all the taxes and benefits mentioned in the previous section are simulated by EUROMOD. Firstly, some are beyond its scope entirely and are neither included in the EUROMOD database nor in its output income variables. Secondly, some are not possible to simulate accurately with the available data. They are included in the database and may be chosen as components of output variables, but the rules governing them may not be changed by the model. Here we distinguish benefits/taxes which are included as a separate variable and benefits/taxes which are included as a component of aggregated variable (in case it is not possible to make a split). Thirdly, other benefits contain complicated rules and/or available data does not provide enough information to be able to simulate benefit in all detail. Table 2.1 and Table 2.2 classify each of the tax-benefit instruments into one of these four groups and provide a brief explanation as to why the instrument is not fully simulated if this is the case. There were no structural changes in the model over the period 2011-2015.

Table 2.1 Simulation of benefits in EUROMOD

Benefit name	Output variable	Treatment in Euromod					Why not fully simulated?
		2011	2012	2013	2014	2015	
Unemployment benefits							
Unemployment benefit	bun00_s	PS	PS	PS	PS	PS	No precise information on relevant social contribution history, average pre-unemployment wage, duration of unemployment benefit.
Other income in case of unemployment	bunot	I	I	I	I	I	The variable includes stipends for training courses of unemployed persons, severance pay, as well as public works programme (workplaces with stipends in municipalities). These variables cannot be simulated due to lack of data on employment history with a particular employer and lack of information on participation in either training or public works programme.
Old-age benefits							
Old-age pension (including service pension)	poatx	I	I	I	I	I	No data on full social contribution history.
State social security benefit (in case of old age)	poass_s	PS	PS	PS	PS	PS	Eligibility is taken from the input data.
Survivor's benefits							
Survivor's pension	psutx	I	I	I	I	I	No information on deceased persons.
State social security benefit (in case of a loss of a breadwinner)	psuss_s	PS	PS	PS	PS	PS	Eligibility is taken from the input data.
Sickness benefits							
Sickness benefit	bhl	IA	IA	IA	IA	IA	No data on sickness duration.

Benefit name	Output variable	Treatment in Euromod					Why not fully simulated?
		2011	2012	2013	2014	2015	
Sickness benefit in case of a work accident or an occupational disease	bhl	IA	IA	IA	IA	IA	No data on sickness cause and duration.
Health service benefit provided by municipalities	bhl	IA	IA	IA	IA	IA	No data on eligibility for benefit and municipality which rules apply.
Disability benefits							
Disability pension	pditx	I	I	I	I	I	No data on degree of disability and social contribution history.
State social security benefit (in case of disability)	pdiss_s	PS	PS	PS	PS	PS	Eligibility is taken from the input data.
Compensation for the loss of capacity for work due to a work accident or occupational disease	pdint	I	I	I	I	I	No data on the cause of disability.
Family and children related allowances							
Family state benefit	bfana_s	S	S	S	S	S	-
Child birth benefit	bfaba_s	S	S	S	S	S	-
Child care benefit	bfacc_s	S	S	S	S	S	-
Parental benefit	bfawk_s	S	S	S	S	S	Average contribution wage before a child's birth is imputed.
Maternity benefit	bfama_s	S	S	S	S	S	Average contribution wage before a child's birth is imputed.
Paternity benefit	bfapl_s	PS	PS	PS	PS	PS	Average contribution wage before a child's birth is imputed; eligibility is taken from the data to account for non-take up.
Other child-related income	bfaot	I	I	I	I	I	No data on health condition of a child, no data on adoption (if the child has been adopted), impossible to simulate local governments' specific rules related to child-related benefits.
Social exclusion benefits							
Benefit for ensuring the guaranteed	bsamm_s	PS	PS	PS	PS	PS	Specific municipality rules can't be simulated.

Benefit name	Output variable	Treatment in Euromod					Why not fully simulated?
		2011	2012	2013	2014	2015	
minimum income level							Only standard rules and rules for Riga municipality are simulated. Residents of Riga are imputed based on information from national data.
Municipal benefit in an extraordinary situation	bsaot	IA	IA	IA	IA	IA	Eligibility rules can't be simulated.
Other special purpose benefits provided by municipalities	bsaot	IA	IA	IA	IA	IA	Eligibility rules can't be simulated.
Funeral benefit	bsafu	IA	IA	IA	IA	IA	No information on deceased members of household.
Housing allowances							
Housing benefit	bho_s	PS	PS	PS	PS	PS	Specific municipality rules can't be simulated. The rules of the largest municipality (Riga) are applied.

Notes: "-": policy did not exist in that year; "E": *excluded* from the model as it is neither included in the micro-data nor simulated; "I": *included* in the micro-data but not simulated; "IA": *included in the micro-data in an aggregated variable* but not simulated; "PS" *partially simulated* as some of its relevant rules are not simulated; "S" *simulated* although some minor or very specific rules may not be simulated.

Table 2.2 Simulation of taxes and social contributions in EUROMOD

Tax name	Output variable	Treatment in EUROMOD					Why not fully simulated?
		2011	2012	2013	2014	2015	
Social Insurance Contributions							
Employees	tscee_s	S	S	S	S	S	Impossible to simulate special rules for persons with disability and recipients of service pension.
Employers	tscer_s	S	S	S	S	S	Impossible to simulate special rules for persons with disability and recipients of service pension.
Self-employed	tscse_s	PS	PS	PS	PS	PS	Assume that self-employed pay only mandatory part of social insurance contributions.
Direct taxes							
Personal income tax	tin_s	S	S	S	S	S	Some exemptions and types of income are impossible to identify and simulate.
Corporate income tax	-	E	E	E	E	E	Out of scope of the model.
Property tax	tpr	I	I	I	I	I	Rules cannot be simulated.
Indirect taxes							
Value added tax	-	E	E	E	E	E	No information available, out of scope of the model
Excise tax	-	E	E	E	E	E	No information available, out of scope of the model
Tax on cars and motorcycles	-	E	E	E	E	E	No information available, out of scope of the model

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

2.2 Order of simulation and interdependencies

Table 2.3 presents taxes and benefits that are simulated in the Latvian EUROMOD. Order of simulation is the same in all policy years, since no structural changes took place over this period. We start by setting default values for some variables, then there is a switch to set the approach to uprating pensions (by default, pensions are uprated according to indexation rules; as an alternative, pensions can be uprated according to the average growth of pensions). Then we uprate the monetary variables up to 2015 using aggregate data on growth of the respective income component (see Annex 1 for uprating factors). Next, we define constants, income lists and tax units. Policy spine begins with recoding negative self-employment income to zero. Then minimum wage is simulated (as an optional policy which is switched off in the baseline). After that social insurance contributions are simulated as they are deducted from income before income tax is calculated. Next non-means tested benefits are simulated (state social security benefits, unemployment benefit, family benefits). Then, we simulate income tax. Finally, means-tested benefits are simulated: first, GMI benefit (as it depends on net income after taxation); second, housing allowance (as it depends on all net income including GMI).

Table 2.3 EUROMOD Spine: order of simulation

Policy	2011	2012	2013	2014	2015	Description of the instrument and main output
setdefault_lv	On	On	On	On	On	Default settings for variables not included in the input data
uaa_lv	switch	switch	switch	switch	switch	Switch for uprating pensions according to the average growth, not indexation rules (OFF by default)
uprate_lv	On	On	On	On	On	Uprating factors defined
ConstDef_lv	On	On	On	On	On	Constants defined
ildef_lv	On	On	On	On	On	Income lists defined
tudef_lv	On	On	On	On	On	Tax units defined
BTA_lv	switch	switch	switch	switch	switch	Switch for take-up adjustment for paternity benefit (ON by default)
yem_lv	Off	Off	Off	Off	Off	Minimum wage (switched OFF in the baseline); output variable – *yem* (overwrite)
neg_lv	On	On	On	On	On	Negative self-employment income recoded to zero; output variable – *yse* (overwrite)
tscee_lv	On	On	On	On	On	Employee's social security contributions simulated; output variable – *tscee_s*
tscer_lv	On	On	On	On	On	Employer's social security contributions simulated; output variable – *tscer_s*
tscse_lv	On	On	On	On	On	Social contributions paid by self-employed simulated; output variable – *tscer_s*
pss_lv	On	On	On	On	On	State social security benefit simulated; output variable – *pss_s (includes poass_s, psuss_s, and pdiss_s)*
bun00_lv	On	On	On	On	On	Unemployment benefit simulated; output variable – *bun00_s*
bfana_lv	On	On	On	On	On	State family benefit simulated; output variable – *bfana_s*
bfapl_lv	On	On	On	On	On	Paternity benefit simulated; output variable – *bfapl_s*

bfama_lv	On	On	On	On	On	Maternity benefit simulated; output variable – *bfama_s*
bfaba_lv	On	On	On	On	On	Child birth benefit simulated; output variable – *bfaba_s*
bfawk_lv	On	On	On	On	On	Parental benefit simulated; output variable – *bfawk_s*
bfacc_lv	On	On	On	On	On	Child care benefit simulated; output variable – *bfacc_s*
tin_lv	On	On	On	On	On	Personal income tax simulated; output variable – *tin_s*
bsamm_lv	On	On	On	On	On	Guaranteed Minimum Income benefit simulated; output variable – *bsamm_s*
bho_lv	On	On	On	On	On	Housing benefit simulated; output variable – *bho_s*
output_std_lv	On	On	On	On	On	Standard EUROMOD output calculated on individual level
output_std_hh_lv	Off	Off	Off	Off	Off	Standard EUROMOD output calculated on household level (OFF in the baseline)

2.3 Policy switches

Policy switches are clearly marked in the spine. They have the word “switch” for the years when they are defined and n/a otherwise. Switchable policies can be turned ON or OFF through the run dialog box without changing the model itself. In the baseline a switchable policy is set to its default (ON or OFF) as specified in this documentation.

The Latvian model has two switchable policies: UAA_lv and BTA_lv. The former allows choosing between two alternative approaches to pension uprating. By default, pensions are uprated according to pension indexation rules. As an alternative, pensions can be uprated according to the average growth of pensions. The second switch is adjustment for take-up of paternity benefit. If the adjustment is OFF – full take up is simulated. This means all fathers of newly born babies will take up paternity leave of 10 days (if eligible). In reality, many fathers in Latvia do not apply for paternity benefit. If the adjustment is ON (which is the default) the benefit will be simulated only to those fathers who have the benefit in the input data.

2.4 Social benefits

2.4.1 Minimum wage

In Latvia minimum monthly wage is set every year by the Cabinet of Ministers. The minimum wage rule covers employees in all sectors. It is not differentiated between the types of employees. The level of minimum (gross) monthly wage was 284.57 EUR (200 LVL) in 2011 - 2013, 320 EUR (224.90 LVL) in 2014, and 360 EUR (253.01 LVL) in 2015.The simulation of the minimum wage is switched off in the baseline.

2.4.2 Recoding negative self-employment income to zero

The first policy which is run before simulation of social benefits is recoding of negative self-employment income into zeros. This is done in order to prevent incorrect calculation of taxes, social contributions and means-tested benefits for self-employed persons with losses in the income reference period. There are 7 individuals with negative self-employment income in the Latvian input data (based on UDB EU-SILC 2012).

2.4.3 Unemployment benefit (bun00_s)

The benefit is provided to a previously employed and socially insured person in case of unemployment (self-employed are not insured against the risk of unemployment and hence are not eligible for unemployment benefit). The maximum duration of unemployment benefit in 2011 was 9 months. In 2012, the maximum duration was shortened to 4 months for individuals with shorter employment histories, but as of 2013, it was again increased up to 9 months for all unemployed. The benefit amount per month gradually decreases with time in order to provide incentives to look for a new job.

- ***Definitions***

The unit of analysis is an individual.

- ***Eligibility conditions***

(1) First of all, a person must register as unemployed in the State Employment Agency (SEA). There is no information on registration at the SEA in the input data. We assume that all people who report unemployment are registered.

(2) Second, there are some restrictions on age. Only people above 15 years old are eligible for unemployment benefits. Until 2012, people above the retirement age were not eligible for the unemployment benefit, but as of 2012 also early retirees receiving old-age pension are not eligible.

(3) Third, a person must have paid social insurance contributions for no less than 12 months in total (we use variable liwwh as a proxy for this).

(4) Finally, it is also checked that social contributions are paid in the period preceding unemployment. An individual has to make contributions for at least 9 months during 12 months before an individual receives the unemployment status.

EUROMOD notes

For people who are currently unemployed and receive unemployment benefits we assume that the eligibility criterion (4) is met (as this can't be checked with the input data).

For those who are currently unemployed but do not receive unemployment benefits we assume that the eligibility criterion (4) is not met.

Finally, for calculation of replacement rates or implementation of labour market adjustments, we assess eligibility of currently employed individuals based on the number of months currently in work (liwmy).

- ***Income test***

The benefit is not means-tested.

- ***Benefit amount***

The full amount of the benefit is a percentage of the gross average wage and it depends on working experience:

1) If working experience is 1 to 9 years the full benefit equals 50% of the gross average wage from which social contributions were made;
2) If working experience is 10 to 19 years the full benefit equals 55% of the gross average wage;
3) If working experience is 20 to 29 years the full benefit equals 60% of the gross average wage;
4) If working experience is above 30 years the full benefit equals 65% of the gross average wage.

EUROMOD notes

Average contribution wage is calculated over a twelve months period which ends two months before the person obtains unemployment status. Two months – the month with the highest income and the month with the lowest income – are excluded from the average wage calculations. If a person does not receive income in some of these months, these months are included in calculations of the average wage (provided that the number of months with non-zero income is at least 9 months). If the person is on child care leave, the average wage is calculated over the 12-months period ending before the child care leave. For those who are currently unemployed and receive unemployment benefit accurate information on the gross average wage cannot be obtained from the data. Therefore, we reverse the rules for benefit calculations, and impute the gross average wage before unemployment (*yempv*) based on the total amount of unemployment benefit, approximate duration of unemployment, and working history.

- ***Benefit duration***

In 2011, maximum duration of the benefit was 9 months irrespective of the length of service, however, for those with shorter employment histories the benefit in the last months was restricted to not exceed 64 EUR (see Table 2.4).

Table 2.4 Calculation of the unemployment benefit in 2011 (effective from January 1, 2011 to December 31, 2011)

Work experience	**Max duration**	**Proportion of the full benefit received**		
		100%	75%	50%
1-9 years	9 months	1st, 2nd month	3rd - 6th month, but in 5th and 6th months not more than 64 EUR (45 LVL)	7th – 9th month, but not exceeding 64 EUR (45 LVL)
10-19 years	9 months	1st, 2nd month	3rd, 4th month	5th - 9th month, but in 7th – 9th month not exceeding 64 EUR (45 LVL)
More than 20 years	9 months	1st, 2nd, 3rd month	4th, 5th, 6th month	7th - 9th month

In 2012, the scheme was amended and benefit maximum duration was made dependent on employment history. The size of the benefit gradually decreased over time as shown in Table 2.5.

Table 2.5 Calculation of the unemployment benefit in 2012 (effective as of January 1, 2012)

Work experience	**Max duration**	**Proportion of the full benefit received**		
		100%	75%	50%
1-9 years	4 months	1st, 2nd month	3rd, 4th month	-
10-19 years	6 months	1st, 2nd month	3rd, 4th month	5th, 6th month
More than 20 years	9 months	1st, 2nd, 3rd month	4th, 5th, 6th month	7th, 8th, 9th month

As of 2013, the scheme was again changed, rendering benefit duration not dependent on contribution history and making it 9 months for all unemployed (see Table 2.6)

Table 2.6 Calculation of the unemployment benefit in 2013-2015 (effective from January 1, 2013)

Work experience	Max duration	Proportion of the full benefit received		
		100%	75%	50%
All unemployed	9 months	1st - 3rd month	4th - 6th month	7th - 9th month

Since January 1, 2010 and until the end of 2014, the daily amount of the unemployment benefit was restricted. In case amount of the assigned benefit per calendar day exceeded 16.38 EUR (11.51 LVL), a person was eligible for receiving 16.38 EUR daily plus 50% of the difference between 16.38 EUR and the assigned daily amount. The ceiling was abandoned as of January 1, 2015.

EUROMOD notes

For identification of work experience we use variable *liwwh*. As a proxy of unemployment duration we use *lunmy*.

2.4.4 Family state benefit (bfana_s)

The benefit is a lump sum granted to one of the parents of a dependent child.

- ***Definitions***

The unit of analysis is a family with a dependent child.

The child is considered to be dependent if

a) a child is between 1-15 years old *(dag>=1 & dag<15)*;

b) a child is between 1-19 years old *(dag>=1 & dag<19)* and continues secondary/professional education, is not married, and does not receive any education related stipends.

- ***Eligibility conditions***

The benefit is assigned to one of the parents of a dependent child in a family. Usually a mother applies for the benefit. In the model we assign the benefit to the mother. If there is no mother, then a father is eligible.

- ***Income test***

The benefit is not means-tested.

- ***Benefit amount***

In 2011-2014, the standard amount of 11.38 EUR (8 LVL) was paid for every child As of 2015, the size of the benefit for the second child equals the standard amount multiplied by the coefficient of 2, but the size of the benefit for the third and each consequent child is multiplied by the coefficient of 3.

2.4.5 Child birth benefit (bfaba_s)

The benefit is a lump sum granted to one of the parents of a new born child.

- ***Definitions***

The unit of analysis is a family with a new born child.

- ***Eligibility conditions***

The benefit is granted to one of the parents of a child. Usually a mother applies for the benefit. In the model we assign the benefit to the mother. If there is no mother, then a father is eligible. A parent can apply for the benefit starting from the child's eighth day of life.

- ***Income test***

The benefit is not means-tested.

- ***Benefit amount***

The amount of the benefit for a newly born child is 421.17 EUR (296 LVL).

EUROMOD notes

The order of birth is determined considering all children who live together with their parents (regardless of their age). The order might be determined incorrectly if one of children lives separately from the family.

2.4.6 Maternity benefit (bfama_s)

The benefit is paid in two installments. The first part is given for the last 70 days of pregnancy (56 days if a mother registered pregnancy later than after 12 weeks). The second part is generally given for a period of 56 days after a child's birth. In case two or more children were born or if a mother have health problems related to a child's birth, then 70 days after birth are covered by the benefit.

- ***Definitions***

The unit of analysis is a family with a newborn child.

- ***Eligibility conditions***

A mother is eligible for the benefit in case she has registered the pregnancy and is socially insured. In case of mother's death a farther (or a person who actually cares about a baby) is eligible for the second part of maternity benefit.

- ***Income test***

The benefit is not means-tested.

- ***Benefit amount***

The benefit is calculated as a share of the previous average income from which social insurance contributions were paid.

For employees, the relevant income is average income received over twelve months ending two months before the person is entitled to the benefit.

For self-employed, the relevant income is calculated over the period of 12 months ending three months before the quarter in which the person is entitled to the benefit.

If a person's income is a mixture of employment and self-employment income, then a weighted average is taken.

Starting from 2014, there is a ceiling on annual income from which social contributions have to be made (in 2009-2013, the ceiling was abolished as part of anti-crisis budget austerity measures). Hence, the total sum of the income from which the benefit is calculated in 2015 could not exceed the maximal object for obligatory social insurance contributions. The size of the benefit the benefit equals 80% of the relevant average income.

In the period between November 1, 2010, and December 31, 2014, the daily amount of the maternity benefit was restricted. The originally assigned benefit was paid in full amount if it did not exceed 16.38 EUR (11.51 LVL) per day and only 50% of the assigned excess benefit was paid. As of 2013, the ceiling was raised to 32.75 EUR (23.02 LVL) per day (and only 50% of the excess benefit is paid). As of 2015, the ceiling was abandoned. The same restrictions were applied also to paternity and parental benefits.

EUROMOD notes

Since there is no information on registration of pregnancy or health status of a mother, we assume benefit duration of 70+56 days (i.e. 126 days in total). If more than one child is born, then benefit duration is assumed to be 70+70 days (140 in total).

A person is considered to be socially ensured for maternity if she has a positive working history (liwwh > 0).

We can identify recipients of maternity benefit by selecting households which have children below one year old. However, we cannot identify all recipients of pregnancy benefit, because we do not observe children if they have not yet been born.

Simulations are based on previous average wage, which was calculated by using data on maternity benefit (imputed from the national data) and by inverting maternity benefit rules to obtain the benefit recipient's previous earnings. For mothers of newly born children for whom we do not observe maternity benefit in the data, we use earnings predicted by a wage equation.

2.4.7 Paternity benefit (bfapl_s)

The benefit is paid to a child's father during 10 days of a paternity leave.

- ***Definitions***

The unit of analysis is a family with a newborn child.

- ***Eligibility conditions***

A father of a newborn child is eligible for the benefit in case he is socially insured. The benefit can be claimed during the first two months of a child's life.

- ***Income test***

The benefit is not means-tested.

- ***Benefit amount***

Relevant income which is used to calculate the paternity benefit is calculated similar to that for maternity benefit (see the previous section).

Similar to maternity benefit, the benefit equals 80% of the relevant average income. Also, similar to the maternity benefit, in the period between November 1, 2010, and December 31, 2014, the amount of the benefit was restricted (see description in the previous section).

EUROMOD notes

We assume that a father is socially ensured for paternity leave if he works as an employee or self-employed (yemmy>0 or ysemy>0). We identify eligible fathers by selecting the households with children below 1 year old, and check if a child has a father.

Similar to maternity benefit, previous earnings for paternity benefit recipients were calculated by using data on paternity benefit (imputed from the national data) and by inverting paternity benefit rules.

Many fathers do not apply for paternity benefit. We account for non-take-up if the model is used with the input datasets based on SILC 2010 or SILC 2012 data. The eligibility for paternity benefit is restricted to those fathers who receive the benefit in the data. For other datasets the non-take-up is not modeled.

2.4.8 Parental benefit (bfawk_s)

The benefit was introduced in 2008. The benefit is targeted at socially insured parents of a newly born child.

- ***Definitions***

The unit of analysis is a family with a newborn child.

- ***Eligibility conditions***

A socially insured parent is eligible for the benefit during the first year of a child's life. Only one of parents can receive the benefit.

In 2011-2014 parents working during parental leave were not eligible for the benefit. Therefore, it was common that a parent staying at home with a child (usually a mother) applied for the benefit.

As of October 1, 2014 (implemented in EUROMOD in policy year 2015) parents working during parental leave became eligible for the parental benefit. If a person chooses to work while receiving the parental benefit, only 30% of the benefit amount is paid. In Latvia it is common that a mother stays at home with a child. So we assume that if a woman applies for parental benefit she will not work and she will receive the full amount of the benefit. If a man applies for the benefit, he will continue working (unless he is a lone father) and he will receive 30% of the benefit. Given these pre-determined participation decisions, the parent who can claim the highest benefit applies for it. Therefore, in EUROMOD we assign the benefit to a mother if her previous earnings exceed 30% of the father's previous earnings.

- ***Income test***

The benefit is not means-tested.

- ***Benefit amount***

The size of the benefit in 2011-2014 was 70% of the relevant previous income. Starting from October 1, 2014, a recipient of the benefit may choose the period over which the benefit is received: 1 year or 1.5 years. If 1 year is chosen, the size of the benefit is 60% of the relevant income; if 1.5 years is chosen - 43.75%. In EUROMOD we assume that all parents choose to receive the benefit for 1.5 years. First, this is more widespread according to State Social Insurance Agency data, and second, cumulatively this results in a higher total benefit amount (by one month gross earnings). Despite this change came into force on October 1, 2014, it is fully implemented in the model only in 2016. In policy year 2015, we model the change in the replacement rate – i.e., the replacement rate goes down from 70% to 43.75%. The change in the benefit duration though is fully modelled only in 2016, the reason for this being that children born after October 2014 did not reach the age of 1.5 years in 2015. Therefore, we assume that in 2015 all parents receive the benefit until the child reaches 1 year of age, but starting from the policy year 2016, we assume that if a child is between 1 and 1.5 years old, parental benefit is received for 6 months.

If the parent is working while receiving the benefit, only 30% of the benefit is paid.

In 2011-2012, the minimum amount of the benefit was 70% of a double amount of State social security benefit, i.e. 89.64 EUR (63 LVL). In 2013, the minimum amount of the benefit has been increased to 142.29 EUR (100 LVL) per month, and further increased to 171 EUR (120.18 LVL) in 2014. As of October 1, 2014 (implemented in EUROMOD policy year 2015) the minimum amount of the benefit was abolished. However, the child care benefit (that in 2015 is received also by socially insured parents) effectively serves as the minimum amount.

In the period between November 1, 2010, and December 31, 2014, the amount of the benefit was restricted (see description in the section on maternity benefit).

EUROMOD notes

Relevant income which is used to calculate the parental benefit is calculated similar to that for maternity benefit.

2.4.9 Child care benefit (bfacc_s)

The benefit is provided on a monthly basis to one of a child's parents during the first two years of a child's life. The benefit is primarily targeted at socially *uninsured* parents. Socially insured parents are eligible for a more generous parental benefit (see description of the parental benefit). However, they can receive child care benefit when the parental benefit expires. In 2014-2015 the system started to change gradually making child care benefit and parental benefit complementary.

In 2011-2013, during the first year of a child's life the benefit was provided only to parents who were *not* socially insured. During the second year of a child's life, the benefit was provided both to socially insured and socially uninsured parents (as parental benefit expired at the age of one).

Starting from January 1, 2014 and until October 1, 2014, the child care benefit for children under the age of 1 was also paid to socially insured parents in case parental benefit or maternity benefit are not paid. This situation could happen if a socially insured parent decided to continue working (instead of staying at home with a child). In EUROMOD, these rules are implemented in policy year 2014.

As of October 1, 2014, (implemented in EUROMOD in policy year 2015) the child care benefit becomes an integral (unconditional) part of payment to socially insured parents.

- ***Definitions***

The unit of analysis is a family with a child below 2 years old.

- ***Eligibility conditions***

One of a child's parents is eligible for the benefit (usually mother). In the model the benefit is assigned to the mother, if there is no mother, then to the father.

- ***Income test***

The benefit is not means-tested.

- ***Benefit amount***

The amount of the benefit in the first and in the second year of a child's life is different.

A. <u>During the 1st year of a child's life:</u>

In 2011-2012, the amount of the benefit was 71.14 EUR (50 LVL) per month. In 2013, the amount of the benefit was 142.29 EUR (100 LVL) per month; in 2014, 171 EUR (120.18 LVL) per months.

The benefit is paid from the first month of a child's life or after maternity benefit expires.

B. <u>During the 2nd year of a child's life:</u>

In 2011-2012, the amount of the benefit was 42.69 EUR (30 LVL) per month. In 2013, the amount of the benefit was 142.29 EUR (100 LVL) per month until the child is 1.5 years old, but after that the amount was 42.69 EUR (30 LVL) per month. As of 2014, the amount of the benefit is 171 EUR (120.18 LVL) per month until the child is 1.5 years old; for children of the age between 1.5 and 2 years old the benefit is paid in the amount of 42.69 EUR.

2.4.10 Guaranteed minimum income benefit (bsamm_s)

The benefit is provided to households with low income to ensure primary needs and survival.

- ***Definitions***

The unit of analysis is a household or a separately living person with low income level per household member.

- ***Eligibility conditions***

In order to be eligible for the guaranteed minimum income (GMI) benefit a separately living person or a household have to be classified as "being in need", which requires income per family member in the last three months to be lower than 128.06 EUR (90 LVL) per month. A person must have no deposits or other financial assets, private property from which it could get income *(we can identify income from property rent or land (ypr)).*

The eligibility for the benefit is reassessed every three months. Since this is not possible in EUROMOD, the assessment is made on annual basis.

- ***Income test***

The benefit is means-tested. A person or a household can receive the benefit if net income per household member is below the GMI level. Income test includes all net income excluding income from municipal social benefits, the child birth benefit and the funeral benefit. In 2011, 71.14 EUR (50 LVL) of parental benefit were excluded from the income test, however, as of 2012, full amount of parental benefit is tested.

- ***Benefit amount***

A) Standard rules

The benefit amount is calculated as the difference between the GMI level and all relevant net income.

In case the household consists of several individuals the following formula applies:

$P = GMI * n - I$, where n is the number of household members and I is monthly net income calculated as an average for three months of a given household.

The standard level of GMI is set by the Cabinet of Ministers, but municipalities have the right to set a higher level. The standard level of GMI is presented in Table 2.7 below:

Table 2.7 Standard GMI level in 2011- 2015, EUR (LVL) per month

	2011	**2012**	**2013**	**2014**	**2015**
Standard GMI level per person	56.91 EUR (40 LVL)	56.91 EUR (40 LVL)	49.80 EUR (35 LVL)	49.80 EUR (35 LVL)	49.80 EUR (35 LVL)

In 2011-2012, a higher level of GMI was granted to all children below 18 years old: 64.03 EUR (45 LVL) per month. Municipalities are free to set higher levels for disability for old-age pensioners. As of 2013, the special rate of GMI for children has been abolished and children have been added to the list of special groups for which municipalities can set a higher rate of GMI.

B) Rules of Riga municipality

We cannot account for all municipality differences in the model, because there is no detailed information on people's residence in the input dataset. However, we try to model the rules of Riga municipality separately (as they are more generous).

As of 2013, standard GMI level in Riga is higher than the level set by the Cabinet of Ministers: 56.91 EUR (40 LVL) per month (instead of usual 49.80 EUR (35 LVL)). Riga municipality sets a higher GMI levels also for certain population groups (see Table 2.8). In case a person belongs to several categories, the highest GMI level is applied (but GMI levels cannot be added up).

Table 2.8 GMI levels for certain population groups in Riga municipality, EUR (LVL) per month

	Definition	Amount, EUR (LVL)
Target group	**2011-2015**	**2011-2015**
Children	Children below 18 years old	64.03 EUR (45 LVL)
Pensioners	Disability (id variables: pdiss_s, pditx)	128.06 EUR (90 LVL)
	Recipients of old-age pensions: (id variables: poass_s, poatx)	128.06 EUR (90 LVL)

In addition since 2010 families with children (where all children are below 18 years old) are eligible for a supplement to GMI. The supplement is 50 LVL per month for every child who is between 1.5 and 6 years old (*dag*>=1.5 & *dag* <= 6).

EUROMOD notes

One of the components of sickness benefits (*bhl*) is health service benefit provided by municipality. It should not be included in the income test. However, it is not possible to separate this component from the aggregate benefit. This should not create big distortions in the income test, because health service benefit provided by municipality is a rather small benefit.

There is a special rule for persons who receive GMI benefit, and during this period find paid employment. These persons are allowed to receive a certain part of GMI benefit for three months after finding paid employment (even if they do not meet the benefit eligibility rules any more). However, it is impossible to identify such persons in the microdata, so we cannot simulate this rule.

2.4.11 Housing benefit (bho_s)

The benefit is provided to families with low income to support their primary needs for living space. Each municipality can determine own rules on eligibility and amount of this benefit.

Since rules of municipalities differ, and we have no detailed information on the residence of people, we model only rules applied by the largest municipality of Latvia: Riga municipality. We apply these rules to all population of Latvia. Since the rules of Riga municipality are more generous than elsewhere, the simulated benefit is likely to be overestimated.

- ***Definitions***

The unit of analysis is a household or a separately living individual.

- ***Eligibility conditions***

In order to be eligible for household allowance a separately living person or a household has to be classified as a “low-income household”. In addition a person must have no deposits or other financial assets, private property from which it can get income.

The income per household member must not exceed 284.57 EUR (200 LVL) per month or must not exceed 355.72 EUR (250 LVL) for a separately living person.

The eligibility for the benefit is reassessed every three months. This is not possible to simulate in EUROMOD, so the assessment is made on an annual basis.

- ***Income test***

The benefit is means-tested. The income test is the same as in case of the GMI benefit. The only difference is that the GMI benefit itself (*bsamm_s*) is also taken into account.

- ***Benefit amount***

The benefit is calculated according to the following formula:

$$P = GMI + K - I$$

Where K are normative expenses for rent and utilities and I is a total net monthly income (including an average amount of GMI benefit for the last three months).

Each municipality has its own rules for determining normative housing expenses (K). In many cases normative housing expenses will not cover all the housing expenses that households have. To determine normative housing expenses we use a proxy variable *xhc*, which shows actual housing expenses. However, since actual expenses in some cases are quite high we introduce an upper bound. It is equal to average housing expenditure calculated based on Household Budget Survey data separately in urban and rural areas and in households of different size (see Table 2.9).

Table 2.9 Average household housing expenditure by number of persons in the household (EUR per month), 2011 - 2015

Year	URBAN Households per number of household members				RURAL Households per number of household members			
	1	2	3	>3	1	2	3	>3
2011	75.3	48.7	38.0	28.3	49.4	31.7	27.3	19.1
2012	77.7	50.5	40.6	32.7	51.9	40.4	27.0	20.3
2013	79.1	51.5	41.4	33.3	52.9	41.1	27.6	20.6
2014*	83.0	54.0	43.4	34.9	55.5	43.1	29.0	21.6
2015*	83.4	54.2	43.6	35.1	55.7	43.3	29.1	21.7

Note: The numbers show total expenditure on housing, water, electricity, gas, and other fuels (excluding expenditure on maintenance and repair of the dwelling).
* Actual data is not available and is estimated using changes for actual rentals for housing (component of CPI).
Source: Central Statistical Bureau of Latvia, Household Budget Surveys, authors' calculations.

EUROMOD notes

To receive housing allowance a person has to reside and declare his/her address in a certain municipality at least one year before applying for the benefit (this rule was abandoned in Riga as of 2013), however we are not able to check this information from the data available.

2.4.12 State social security benefit (pss_s including poass_s, psuss_s, and pdiss_s)

The benefit is aimed to ensure minimum income for old-age people who are not eligible for old-age pension, dependent children of a deceased person in case they are not entitled to the survivor's pension, and disabled people who do not have right for a disability pension.

- ***Definitions***

The unit of analysis is an individual.

- ***Eligibility conditions***

A. Old age

In case of old age, a person is eligible for the benefit if his or her age exceeds pension age by more than five years, and if the person is not eligible for old-age pension (i.e. working experience is less than 10 years until 2014, 15 years as of 2015). Also a person should not receive any compensation related to the accident at work or occupational disease (including compensation for the death of a spouse).

In order to be eligible for the benefit a person has to reside in Latvia at least 5 years of his/her life and last 12 months in a row before receiving the benefit. However, we are not able to check this information from the data available.

EUROMOD notes

Since eligibility conditions cannot be simulated accurately enough, the eligibility is taken from the data.

B. Survivors

Children of age below 18 or below 24 if they continue secondary, professional or higher full-time education and are not married are eligible for the state social security benefit in case they are not eligible for survivor's pension. The benefit amount is the same independently whether there are one or two dependent children.

EUROMOD notes

From the structure of a household we cannot identify the cases when a breadwinner was lost. And we do not have information on whether a breadwinner was socially insured or not (therefore we don't know if children are eligible for survivor's pension or state social security benefit). So we take eligibility for the benefit from the data.

C. Disabled

A person has to be classified as disabled but should not receive disability pension or compensation related to the accident at work or occupational disease (including compensation for the death of a spouse).

In order to be eligible for the benefit a person has to reside in Latvia for at least five years and for the last 12 months in a row before receiving the benefit. However we are not able to check this information from the data.

EUROMOD notes

Since it is not possible to simulate eligibility criteria, eligibility is assigned from the data.

- ***Income test***

The benefit is not means-tested.

- ***Benefit amount***

The benefit amount equals 64.03 EUR (45 LVL) per month for old-age people and for survivors. In case of disability the benefit is 64.03 EUR (45 LVL) in a general case, and 106.72 EUR (75 LVL) for people disabled from childhood. As of July 1, 2014, state social security benefit in case of disability of Group I was increased to 83.24 EUR (58.50 LVL) per month, of Group II – to 76.84 EUR (54 LVL), to the disabled of Group I since childhood – to 138.74 EUR (97.51 LVL), and to the disabled of Group II since childhood – to 128.06 EUR (90 LVL). Since we have no information about the degree of disability in the data, we simulate the benefit in case of disability and in case of disability from childhood to be equal to simple average across the three groups of disability.

2.5 Social contributions

Social contributions are mandatory for all employees and self-employed persons. The contribution rate is flat and in case of private/public employment it is split between an employee and an employer.

Total contribution rate may vary, depending on the insured person's employment status, age and disability status: e.g., in general, employees are insured against all insurance cases, but employees above the retirement age are not insured against unemployment and disability.

2.5.1 Employee social contributions (tscee_s)

- ***Liability to contributions***

All employees are liable to social security contributions.

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

Social security payments are calculated based on gross income from employment (*yem*).

- ***Contribution rates***

A person below the retirement age faced a social security contributions rate of 11% of gross wage in 2011-2012, but as of 2013 the rate was decreased to 10.5%. After the person reaches the pension age, he/she is not insured against the risk of unemployment and disability and his/her wage becomes subject to a lower contributions rate. An employee receiving service pension or persons with the 3rd degree of disability are not insured against unemployment. Table 2.10 summarizes the rates of social security contributions faced by employees in 2011-2015 and the distribution of the rate across different insurance cases. In 2014-2015, there was a maximum income from which an employee could make social security contributions (see Table 2.11).

- ***EUROMOD notes***

It is impossible to simulate special social insurance rules for persons with disability and recipients of service pension, because there is no information on disability level and service pensions.

2.5.2 Employer social contributions (tscer_s)

- ***Liability to contributions***

All employers in public/private sector are liable to paying social security contributions on behalf of employees.

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

Social security payments are calculated based on gross income from employment (*yem*).

- ***Contribution rates***

An employer in a public/private sector pays social security contributions on behalf of an employee below the pension age) in the amount of 24.09% of the gross wage in 2011-2013, but as of 2014 the rate was decreased to 23.59%. The rate is lower if the insured employee has reached the retirement age, receives a service pension or is qualified as disabled of the 3rd degree (see Table 2.10).

- ***EUROMOD notes***

It is impossible to simulate special social insurance rules for persons with disability and recipients of service pension, because there is no information on disability level and service pensions.

Table 2.10 Social security contributions rate faced by employee and employer, 2011-2015

	2011	2012	2013	2014	2015
Employee under the retirement age: Total rate/ Employee rate/ Employer rate, %	**35.09/ 11.00/ 24.09**	**35.09/ 11.00/ 24.09**	**35.09/ 11.00/ 24.09**	**34.09/ 10.50/ 23.59**	**34.09/ 10.50/ 23.59**
of which					
Pension social insurance	25.56	26.74	26.60	25.16	24.39
Unemployment social insurance	2.56	1.50	1.48	1.63	2.10
Insurance against work accidents and occupational diseases	0.31	0.41	0.42	0.46	0.53
Disability social insurance	3.02	3.16	3.37	3.21	3.14
Maternity and sickness social insurance	2.27	2.28	2.28	2.46	2.79
Parents' social insurance	1.37	1.00	0.94	1.17	1.14
Employee above the retirement age: Total rate/ Employee rate/ Employer rate, %	**29.36/ 9.20/ 20.16**	**30.30/ 9.50/ 20.80**	**30.13/ 9.45/ 20.68**	**29.12/ 8.96/ 20.16**	**28.70/ 8.84/ 19.86**
of which					
Pension social insurance	25.56	26.74	26.60	25.16	24.39
Insurance against work accidents and occupational diseases	0.31	0.41	0.42	0.46	0.53
Maternity and sickness social insurance	2.12	2.15	2.17	2.33	2.64
Parents' social insurance	1.37	1.00	0.94	1.17	1.14
Employee receiving service pension or qualified as disabled of 3rd degree: Total rate/ Employee rate/ Employer rate, %	**31.78/ 9.96/ 21.82**	**32.82/ 10.29/ 22.53**	**32.55/ 10.20/ 22.35**	**31.48/ 9.69/ 21.79**	**31.07/ 9.57/ 21.50**
of which					
Pension social insurance	25.56	26.74	26.60	25.16	24.39
Insurance against work accidents and occupational diseases	0.31	0.41	0.42	0.46	0.53
Disability social insurance	2.42	2.52	2.42	2.36	2.37
Maternity and sickness social insurance	2.12	2.15	2.17	2.33	2.64
Parents' social insurance	1.37	1.00	0.94	1.17	1.14

Source: Latvijas Vēstnesis (2015)

Table 2.11 Income ceiling for employees and employers for obligatory social contributions in 2011-2015, EUR per year

2011	2012	2013	2014	2015
-	-	-	46,400	48,600

Source: Latvijas Vēstnesis (2015)

2.5.3 Self-employed social contributions (tscse_s)

- ***Liability to contributions***

All self-employed are liable to social security contributions if their income exceed the minimum threshold.

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

Social security payments by self-employed are calculated based on gross income from self-employment (*yse*). A self-employed person can choose the level of income from which to make social security contributions, but there is a minimum level of income from which contributions have to be made. This boundary is linked to the minimum monthly wage (see Table 2.12). If self-employment income is beyond the boundary paying social insurance contributions is not mandatory. In 2014 and 2015, similar to employees, self-employed faced a ceiling on annual social security contributions (see Table 2.11).

Table 2.12 Minimum income from which self-employed can make social security contributions in 2011-2015, EUR (LVL) per year

	2011-2013	2014	2015
Minimum	3,414.89 EUR (2,400 LVL)	3,840 EUR (2,698.77 LVL)	4,320 EUR (3,036.10 LVL)

Source: Latvijas Vēstnesis (2015)

- ***Contribution rates***

A self-employed person below the retirement age has to make obligatory social security contributions against all insurance cases except unemployment, work accidents and occupational diseases, thus, a self-employed person faces a lower contributions rate than the total rate borne by an employee and an employer. When a self-employed person reaches the retirement age, he or she is also not insured against the risk of disability (see Table 2.13).

Table 2.13 Social security contributions rate faced by self-employed, 2011-2015

	2011	2012	2013	2014	2015
Self-employed under the retirement age: Total rate, %	**31.52**	**32.46**	**32.17**	**31.06**	**30.58**
of which:					
Pension social insurance	25.56	26.74	26.60	25.16	24.39
Disability social insurance	2.42	2.52	2.42	2.36	2.37
Maternity and sickness social insurance	2.17	2.20	2.21	2.37	2.68
Parents` social insurance	1.37	1.00	0.94	1.17	1.14
Self-employed above the retirement age: Total rate, %	**29.05**	**29.89**	**29.71**	**28.66**	**28.17**

	2011	2012	2013	2014	2015
of which:					
Pension social insurance	25.56	26.74	26.60	25.16	24.39
Maternity and sickness social insurance	2.12	2.15	2.17	2.33	2.64
Parents` social insurance	1.37	1.00	0.94	1.17	1.14

Source: Latvijas Vēstnesis (2015)

- ***EUROMOD notes***

A self-employed person can pay social insurance contribution from any amount of income above the minimum threshold. It is assumed that if income of a self-employed exceeds this level, he/she makes contributions only from the mandatory part, this being the most common practice observed in Latvia. If annual income of a self-employed person is below the threshold, the person doesn't make any social contributions.

2.6 Personal income tax (tin_s)

2.6.1 Tax unit

Taxation in Latvia is on the individual level. However, for tax allowance purposes an extended family unit is defined. It includes a partner, dependent children and dependent parents.

2.6.2 Exemptions

The following income is exempted from taxation and can be identified in the data:

- compensation for the loss of capacity to work or the loss of breadwinner due to the occupational diseases/injury (pdint);

2.6.3 Tax allowances

The following tax allowances are simulated in EUROMOD:

- Non-taxable minimum income allowance

There is a standard non-taxable income allowance which is applied to employees or self-employed persons who do not receive old-age or disability pensions. Persons who receive pensions are eligible for a higher non-taxable minimum income allowance.

- Allowance for a dependent child, spouse or parent

For tax allowance purposes a child, a spouse or a parent can be considered dependents of a tax payer only if they do not work, do not receive unemployment benefit (or unemployment stipend), old-age or disability pension, do not receive taxable income above the allowance amount, and are not dependents of any other person. In addition a child is considered dependent if she is below 18 years old or below 24 years old and continues secondary, professional, special or higher education. Tax allowance for a dependent child is assigned to one of the parents (the one with the highest taxable income).

- Social insurance contribution by employees and self-employed

If a person is dependent she or he is not eligible for non-taxable minimum allowance. The income of dependents is declared in the income declaration of a person responsible for them (i.e. the person who receives tax allowance for these dependents).

The following tax allowances are not simulated in EUROMOD because of lack of information:

- for a grandchild or a child taken for raising
- for siblings until the age of 18, if they don't have parents capable of working
- for a person benefiting from alimony
- for a person under guardianship or trusteeship of the payer
- for politically repressed persons
- additional allowances for disabled persons

Table 2.14 summarizes the size of tax allowances that are applicable in the cases listed above:

Table 2.14 Personal income tax allowances, EUR (LVL) per month, effective on June 30, 2011-2015

Allowances	**2011**	**2012**	**2013**	**2014**	**2015**
Standard non-taxable minimum income	64.03 EUR (45 LVL)	64.03 EUR (45 LVL)	64.03 EUR (45 LVL)	75 EUR (52.71 LVL)	75 EUR (52.71 LVL)
Non-taxable minimum for pensioners	234.77 EUR (165 LVL)	234.77 EUR (165 LVL)	234.77 EUR (165 LVL)	235 EUR (165.16 LVL)	235 EUR (165.16 LVL)
Allowance for a dependant	99.60 EUR (70 LVL)	99.60 EUR (70 LVL)	99.60 EUR (70 LVL)	165 EUR (115.96 LVL)	165 EUR (115.96 LVL)
Additional allowance for the disabled of 1st and 2nd degree [a]	153.67 EUR (108 LVL)	153.67 EUR (108 LVL)	153.67 EUR (108 LVL)	154 EUR (108.23 LVL)	154 EUR (108.23 LVL)
Additional allowance for the disabled of 3rd degree [a]	119.52 EUR (84 LVL)	119.52 EUR (84 LVL)	119.52 EUR (84 LVL)	120 EUR (84.34 LVL)	120 EUR (84.34 LVL)
Additional allowance for a politically repressed person [a]	153.67 EUR (108 LVL)	153.67 EUR (108 LVL)	153.67 EUR (108 LVL)	154 EUR (108.23 LVL)	154 EUR (108.23 LVL)

Notes: [a] Not simulated in the model.
Source: Latvijas Vēstnesis (2015)

2.6.4 Tax base

Income from the following sources is included in the taxable income:

- income from employment including wage premiums, systematic or one time compensations and other work-related income (*yem* and *yot*);
- income from individual work or enterprise if it is not subject to enterprise tax (*yse*);
- income from renting private property (*ypr*);
- state pensions (*poatx, pditx, psutx*);
- taxable benefits (sickness benefit – *bhl*);
- dividends and interests (*yiy*).

The tax base is defined as the taxable income minus tax allowances and deductible expenditures (see section 2.6.6).

In the years when different tax rates are applied to different taxable income components we assume that tax allowances are first subtracted from the income with the highest tax schedule.

Note: Income from property is taxed in the same way as self-employment income. Sickness benefit and pensions are taxed similar to employment income.

2.6.5 Tax schedule

In 2011-2012, the tax rate (both for income from regular employment and self-employment) was 25%. In 2013 it was reduced to 24%, and further to 23% in 2015.

Income from capital is taxed at a reduced rate of 15% (capital increase) or 10% (other income from capital)

All tax schedules are demonstrated in Table 2.15.

As of 2014, a minimum annual personal income tax for the self-employed is set at 50 EUR. This does not apply to self-employed who made social insurance contributions in the fiscal year or paid taxes and/or social contributions also as an employee. Also, this provision does not apply to the taxpayers in the first taxable year of the registration of the economic activity and in the next fiscal year, as well as in the year in which economic activity is terminated. The latter exemptions can't be simulated because the duration of self-employment is not known.

Table 2.15 Personal income tax rate (%), 2011-2015

Income source	2011	2012	2013	2014	2015
Regular rate	25	25	24	24	23
Income from capital:					
capital increase	15	15	15	15	15
other income from capital	10	10	10	10	10
Income from self-employment	25	25	24	24	23

Source: Latvijas Vēstnesis (2015)

2.6.6 Deductible expenditure

Before calculating his/her tax obligations, a resident taxpayer is authorized to reduce his/her taxable income by the amount of the following expenditures:

- expenditures on education, health services and health insurance premiums (there is a maximum level of expenditures that can be deducted, being stipulated in the Cabinet of Ministers' regulations);
- gifts and donations to foundations and religious organisations registered in Latvia;
- expenditures on creation, publication, performance or other utilisation of works of arts, science or inventions, for which the authors receive royalty fees;
- contributions to private pension funds;
- life insurance premiums.

Except contributions to private pension funds, deductible expenditures are not possible to simulate in EUROMOD because of lack of data on expenditure in the input dataset.

2.6.7 Special taxation rules for pensioners

There are some special rules of taxation which are applied to pensioners.

- For non-working pensioners:
  Non-taxable minimum allowance is applicable to pensions.
- For working pensioners:
  Non-taxable minimum is applicable to the whole income (pension + other taxable income).

3. DATA

3.1 General description

The EUROMOD database is derived from EU-SILC, UDB version 2012-1.

The Latvian EU-SILC survey is an annual survey with a four-year rotational panel. The 2012 year survey took place in March 2012 - July 2012 and contains data on 2011 year incomes. The database is provided by Eurostat.

Table 3.1 EUROMOD database description

EUROMOD database	LV_2012_a2
Original name	EU-SILC, UDB version 2012-1
Provider	Eurostat
Year of collection	2012
Period of collection	March – July
Income reference period	2011
Sample size	6 499 households 12 964 individuals
Response rate	78.9%

3.2 Data adjustment

In order to preserve consistency between demographic data (refers to data collection moment) and income data (refers to the previous calendar year), children born after the income reference period were dropped from the sample (39 children in total).

3.3 Imputations and assumptions

3.3.1 Time period

Socio-demographic characteristics of the respondents contained in EU-SILC 2012 refer to the time of data collection, i.e., March – July 2012. Most economic and labour variables also refer to the time of the interview, however, the database also contains some information referring to the income reference period (2011), e.g., employment status of the respondent in each month of 2011. Whenever possible, the corresponding demographic, labour and socio-economic information in the EUROMOD database was based on the EU-SILC variables referring to the income reference period. The EU-SILC UDB does not provide information on the number of periods a particular income was paid to a respondent. In some cases the number of periods was derived from non-monetary variables, e.g., the number of periods a respondent receives income from employment is based on the number of months spent at full-time or at part-time work, the number of months a respondent receives unemployment benefit is based on the number of months spent in unemployment.

3.3.2 Gross incomes

In Latvian SILC, gross employee cash or near cash income (PY010G) is calculated by summing net employee cash or near cash income (PY010N) and paid income taxes and social security contributions, obtained from State Revenue Service (SRS) data. Data on net employee cash or near cash income (PY010N) is also obtained from SRS data except cases when net income reported by a respondent in the survey is higher than suggested by the SRS data.

3.3.3 Disaggregation of harmonized variables

Some information important for simulations was not available in the EU-SILC UDB dataset, hence was obtained from aggregated harmonized variables through imputations. The following key variables were fully imputed:

- Detailed degree of urbanization: residents of Riga (*dgrur00 = 1*) are imputed based on the national data[3].
- Unemployment benefit: UDB variable PY090 (unemployment benefits) includes all benefits "that replace in whole or in part income lost by a worker due to the loss of gainful employment" (European Commission, 2013). In the Latvian case it includes unemployment benefit, stipends for training courses of unemployed persons, compensation paid by employer for termination of work agreement, and in case of SILC 2012 – income received within the public works program "Paid Temporary Public Works". The unemployment benefit was imputed from aggregated PY090 variable using information from the national database.
- Previous income from employment for people who receive unemployment benefit was imputed by inverting unemployment benefit rules and using information about the benefit amount.
- Family/children-related benefits: UDB variable HY050 contains information about all benefits that are paid to families that are bringing up children. Information from the Latvian national database is used to impute major child-related benefits that exist in Latvia - state family benefit, childcare benefit, parental benefit, maternity benefit, paternity benefit and childbirth benefit.
- Previous employment income for parents eligible for contributory family benefits (maternity benefit, paternity benefit and parental benefit) was imputed by inverting maternity and paternity benefit rules and using information about the size of these benefits. For those parents of small children who do not receive maternity or paternity benefit in the database, we predict previous earnings using wage equation.
- Social exclusion benefits: information from the national database is used to impute GMI benefit from the UDB variable HY060 (social exclusion not elsewhere classified).
- State social security benefit (for old-age, survivors or disabled): recipients imputed based on information from the national database and size of the benefit.
- Taxable part of disability benefit (disability pension) was obtained by comparing net and gross values of the aggregate disability benefits. The number of recipient was adjusted in accordance with the national statistics.
- Old-age pension, survivors' pension, and non-taxable part of disability benefit were calculated as residual components of aggregate variables.
- Taxable and non-taxable part of investment income (profits from capital shares in an enterprise and dividends, interests on money deposits) were imputed comparing net and gross values of investment income.

3.4 Updating

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

[3] Selected variables from national EU-SILC 2012 survey dataset were provided by the Central Statistical Bureau of Latvia under the contract No. 1701-9/14/44. These variables were used for indirect imputations in the EUROMOD input data.

4. VALIDATION

4.1 Aggregate Validation

EUROMOD results are validated against external benchmarks. Detailed comparisons of the number of people receiving a given income component and total yearly amounts are shown in Annex 2. Both market incomes and non-simulated taxes and benefits in the input dataset as well as simulated taxes and benefits are validated against external official data. The main discrepancies between EUROMOD results and external benchmarks are discussed in the following subsections. Factors that may explain the observed differences are also discussed.

4.1.1 Components of disposable income

The differences between the definition of disposable income in EUROMOD and SILC are minor (see Table 4.1). First, in EU-SILC, variable HY020 (total disposable income) includes company car (variable PY021), while in EUROMOD the variable *kfbcc* (company car) does not enter the definition of disposable income. Second, the disposable income in EU-SILC (HY020) does not take into account pensions from private pension plans, while EUROMOD does. Private pensions are accounted for in another EU-SILC variable, HX090, which stands for equivalized household disposable income.

Table 4.1 Components of disposable income

	EUROMOD 2011-2015	EU-SILC 2012
	ils_dispy	HY020
Employee cash or near cash income	+	+
Employer's social insurance contribution	0	0
Company car	0	+
Cash benefits or losses from self-employment	+	+
Pension from individual private plans*	+	0
Unemployment benefits	+	+
Old-age benefits	+	+
Survivor' benefits	+	+
Sickness benefits	+	+
Disability benefits	+	+
Education-related allowances	+	+
Income from rental of a property or land	+	+
Family/children related allowances	+	+
Social exclusion not elsewhere classified	+	+
Housing allowances	+	+
Regular inter-household cash transfer received	+	+
Interests, dividends, etc.	+	+
Income received by people aged under 16	+	+
Regular taxes on wealth	-	-
Regular inter-household cash transfer paid	-	-
Tax on income and social contributions	-	-
Repayments/receipts for tax adjustment	+	+

Note: * Pensions from private pension plans are nevertheless taken into account in EU-SILC variable HX090 (equivalized household disposable income). Eurostat poverty rates and other income inequality indicators are based on this variable.

4.1.2 Validation of incomes inputted into the simulation

Latvia is a country with a high proportion of employment in the shadow sector. Informal employment may take a form of unregistered employment/self-employment or registered employment/self-employment with tax evasion (e.g. a part of wage is paid informally and is not subject to taxes and social contributions). The 2012 EU-SILC data may partly cover employment in the shadow sector as it collects information on income both from the registers and survey of individuals.

Table 4.2 in Annex 2 shows the number of employed and unemployed in the EUROMOD input data and in the external statistics, which is based on Labour Force Survey. Number of employed from Latvian SILC 2012 is slightly lower than suggested by LFS data. This might be in part due to different definitions of employment status in two surveys or different degree of undeclared employment covered by SILC and LFS. Another possible reason for the slight underestimation of the number of employed is that in EUROMOD output it is represented in full-time units, while LFS data shows the number of employed (employees and self-employed) irrespective of the number of hours worked. The number of unemployed, on the contrary, is slightly overestimated in SILC data. Latvian EUROMOD input data is not adjusted for the changes in the labour market characteristics of individuals which occurred over the period 2011 – 2015.[4] Because of that, and taking into account that employment increased in 2011-2015, but unemployment went down, the gap between SILC data on employment and unemployment and external LFS data increased (see Table 4.2).

Table 4.3 reports the number of market income recipients. Here SILC data strongly overestimates number of employees receiving income from employment based on LFS, while the number of self-employed is slightly underestimated. First, the reason for the fact that in Table 4.3 we report overestimation, while report underestimation in Table 4.2 is that in Table 4.3 we report the number of employees receiving income from employment without adjusting it for number of hours worked. The most likely reason for overestimation compared to LFS data, according to the Central Statistical Bureau (2015) is different degree of shadow economy covered by different databases.

In the EU-SILC, information on state benefits comes from the administrative records (State Social Insurance Agency), while information on municipality benefits is based on the survey. Therefore, most state benefits included in the EUROMOD data correspond quite well to external statistics, while municipality benefits (main components of social exclusion benefits) are slightly underreported (see Tables 4.5 and 4.6 in Annex 2). Also some minor benefits (e.g. compensation for loss of work capacity) are not well captured in the input data.

4.1.3 Validation of outputted (simulated) incomes

Table 4.7 and Table 4.8 in Annex 2 provide comparison of the benefits and taxes simulated in the model to external statistics.

In 2011-2013, the model underestimates the number of unemployment benefit recipients. In case of child-related benefits, we underestimate the number of benefit recipients and total amounts for all benefits except the state family benefit. This is mainly due to the fact that children born after income reference year are excluded from the database, while SILC weights are calibrated taking into account these children. As a result, the number of small children (aged less than 1 year) in EUROMOD database is smaller than the number of small children in external statistics. At the same time, the number of recipients and the benefit amount for the state family benefit is simulated very accurately, as this benefit is paid to all children until they reach 15 or 19, if they continue education. Over 2012-2015 accuracy of simulation of child birth, parental, maternity and paternity benefits deteriorates, because EUROMOD input data is not adjusted for demographic changes (e.g., the number of newly born babies).

State social security benefit is overestimated. The simulation of eligibility is based on eligibility from the data (and the number of eligible persons in the data is different from that in external statistics). This benefit covers a small group of people, so difference between the data and the external statistics can be a result of sample selection.

[4] Labour market adjustments are included in EUROMOD for Latvia as a part of a separate exercise on estimating current poverty indicators. More information is available in Rastrigina et al (2015).

The number of GMI recipients is simulated quite accurately, while the number of recipients of the other municipal benefit – housing benefit – is strongly overestimated. First of all, the number of recipients is overestimated because it is likely that not all incomes are correctly declared in the data (data on municipal benefits in Latvian SILC is taken from the survey, while data on the state benefits is taken from administrative data). Second, full take-up is assumed, while in reality some eligible persons do not apply for the benefits because benefits are rather small. Third, the eligibility rules and amounts of the benefits differ by municipality, and we cannot reproduce all municipality specific rules in the model. In case of housing benefit we use Riga rules for all citizens of Latvia. This is likely to result in less precision and overestimation of the benefit amounts.

The number of tax payers and people who pay social insurance contributions is overestimated in the model because (1) the data is likely to include a part of people employed in the shadow economy, (2) some tax allowances and deductible expenses cannot be simulated. Tax revenues are overestimated for the same reasons. The model especially poorly simulates social contributions of self-employed. However, this is a very small group of people. It is also likely that tax evasion is more widespread among self-employed (because it is more difficult to control their income flows).

4.2 Income distribution

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

4.2.1 Income inequality

Table 4.9 in Annex 2 compares income distribution generated by the EUROMOD with external statistics from Eurostat. The mean and the median income are slightly underestimated in the model. This partly due to oversimulation of taxes (as full tax compliance is assumed). The income quintile ratio and GINI coefficient are also lower than in the external statistics. This is mainly because income at the bottom is overestimated, which in turn is (1) due to oversimulation of social assistance and housing benefits and (2) due to different degree of overestimation of taxes for individuals with different income levels (for more details, see section Poverty rates below).

4.2.2 Poverty rates

Table 4.10 shows the poverty rates calculated by the model and compares them to external statistics from the Eurostat. The model underestimates poverty rates for the cut-off points 40% and 50%, however, in the baseline for the cut-off points of 60% and 70% the estimates are very close to the external figures. By age groups, the poverty rate is especially strongly underestimated for elderly. The main reason for this is overestimation of tax payments. As cannot account for tax evasion and some tax deductions, we simulate higher tax payments and hence lower disposable income of working-age population. For elderly people who mainly get their income from old-age pensions, taxes constitute a smaller share of their income due to a higher non-taxable allowance, and, even though we overestimate tax payments also for pensioners (mainly because we can't account for all tax deductions), the resulting effect on disposable income of the elderly is smaller. As a result, we undersimulate disposable income in all income groups, but the degree of underestimation for the elderly is smaller and hence we underestimate poverty rate for the elderly.

4.3 Summary of "health warnings"

This section summarizes particular aspects of the Latvian part of EUROMOD or its database that should be borne in mind when planning appropriate uses of the model and in interpreting results.

- The EUROMOD input data is not adjusted for any demographic or labour market changes taking place in the period from 2011 to 2015 (except for updating of monetary incomes).

- Tax evasion, undeclared work and wages in envelopes are widely spread in Latvia. However, the model does not account for it. This results in overestimation of simulated taxes and social insurance contributions.

- Full take up of benefits is assumed for simulation of GMI benefit and housing benefit. This results in overestimation of both number of recipients and aggregate expenditure on these benefits.

- Income test for GMI and housing benefit cannot be simulated precisely because some benefits (which must be included) in the income test cannot be separated from aggregate variables. This should not create big distortions in the income test, nevertheless a user of the model should be aware of this. Moreover, in the model income test in performed on annual income while in reality income of the previous three months is assed.

- Simulating municipality benefits (GMI benefit and housing benefit) we cannot reproduce all the rules of Latvia's municipalities because they are quite complicated and the data does not provide detailed regional information. Therefore we model only rules applied by the largest municipality of Latvia, Riga municipality (and in case of GMI we also model a standard GMI regime). In case of housing benefit we use Riga rules for all citizens of Latvia. Since the rules of Riga municipality are more generous than elsewhere, this is likely to result in less precision and overestimation of the benefit amounts

5. REFERENCES

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Rastrigina, Olga, Chrysa Leventi and Holly Sutherland (2015). "Nowcasting: estimating developments in the risk of poverty and income distribution in 2013 and 2014," Euromod Working Paper Nr. 12/15, August 2015.

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

On-line legislation (mainly in Latvian):

http://www.likumi.lv

ANNEX 1: UPDATING FACTORS

UPDATING FACTORS FOR MONETARY NON-SIMULATED VARIABLES IN 2011-2015

All uprating factors are equal to 1 in 2011 (base year)

Variable	*Description*	*Type of index used in uprating factor; source of the data*	2012	2013	2014	2015
Afc	ASSETS: Financial Capital	Harmonised CPI; Eurostat	1.023	1.023	1.031	1.036
Bed	BENEFIT/PENSION: Education	Harmonised CPI; Eurostat	1.023	1.023	1.031	1.036
bfaot	BENEFIT/PENSION: Family – other	Family benefits, weighed average; SSIA	1.056	1.291	1.427	1.505
Bhl	BENEFIT/PENSION : Health	Average monthly wage in the economy, gross (with one year lag); CSB	1.043	1.081	1.131	1.208
Bho	BENEFIT/PENSION : Housing	HICP - actual rentals for housing; Eurostat	1.096	1.158	1.215	1.221
bsafu	BENEFIT/PENSION : Social Assistance – funeral benefit	Average monthly wage in the economy, gross (with one year lag); CSB	1.043	1.081	1.131	1.208
bsaot	BENEFIT/PENSION : Social Assistance – other	Social assistance benefit, weighed average, EUR; SSIA, Ministry of Welfare	0.922	0.795	0.817	0.821
bunot	BENEFIT/PENSION : Unemployment – other	Unemployment benefit, average monthly benefit, EUR; SSIA	1.067	1.273	1.324	1.398
Kfb	IN KIND : Fringe benefit	Harmonised CPI; Eurostat	1.023	1.023	1.031	1.036
kfbcc	IN KIND: Fringe benefits - Company car	Harmonised CPI; Eurostat	1.023	1.023	1.031	1.036
kivho	IN KIND : Imputed value : Housing		1.096	1.158	1.215	1.221
pdint	BENEFIT/PENSION: Pension - Disability (Invalidity) - non-taxable part	Average monthly wage in the economy, gross (with one year lag); CSB	1.043	1.081	1.131	1.208
pditx	BENEFIT/PENSION : Disability - Taxable part (below 200LVL)	Growth based on indexation rules; authors' calculations	1.000	1.013	1.033	1.024
pditx	BENEFIT/PENSION : Disability - Taxable part (above 200LVL)	Growth based on indexation rules; authors' calculations	1.000	1.000	1.006	1.023
poatx	BENEFIT/PENSION : Old Age - Taxable part (below 200LVL)	Growth based on indexation rules; authors' calculations	1.000	1.013	1.033	1.024
poatx	BENEFIT/PENSION : Old Age - Taxable part (above 200LVL)	Growth based on indexation rules; authors' calculations	1.000	1.000	1.006	1.023
psutx	BENEFIT/PENSION : Survivors - Taxable part (below 200LVL)	Growth based on indexation rules; authors' calculations	1.000	1.013	1.033	1.024
psutx	BENEFIT/PENSION : Survivors - Taxable part (above 200LVL)	Growth based on indexation rules; authors' calculations	1.000	1.000	1.006	1.023
tad	TAX : Repayments/Receipts	Average monthly wage in the economy, gross; CSB	1.037	1.085	1.159	1.223
tpr	TAX : Property tax	Property tax, average monthly payment; State Treasury	1.065	1.102	1.119	1.119
xhc	EXPENDITURE : Housing cost	HICP - actual rentals for housing; Eurostat	1.096	1.158	1.215	1.221
xhcmomi	EXPENDITURE : Housing cost : Mortgage Payment (interest+capital) : Mortgage Interest	HICP - actual rentals for housing; Eurostat	1.096	1.158	1.215	1.221
xhcot	EXPENDITURE : Housing cost : Other	HICP - actual rentals for housing; Eurostat	1.096	1.158	1.215	1.221
xhcrt	EXPENDITURE : Housing cost : Rent	HICP - actual rentals for housing; Eurostat	1.096	1.158	1.215	1.221
xmp	EXPENDITURE : Maintenance Payment	Harmonised CPI; Eurostat	1.023	1.023	1.031	1.036
xpp	EXPENDITURE : Private Pension (voluntary)	Harmonised CPI; Eurostat	1.023	1.023	1.031	1.036
yem	INCOME: Income from employment (private sector)	Average monthly wage in the private sector, gross; CSB	1.036	1.083	1.165	1.229
yem	INCOME: Income from employment public sector)	Average monthly wage in the public sector, gross; CSB	1.045	1.094	1.161	1.225

Variable	*Description*	*Type of index used in uprating factor; source of the data*	2012	2013	2014	2015
yempv	INCOME: Income from previous employment	Average monthly wage in the economy, gross (with one year lag); CSB	1.043	1.081	1.131	1.208
yivwg	INCOME : Imputed value : Wage/Salary	Average compensation per employee, total in the economy, based on national accounts, EUR per year per employee; Eurostat	1.088	1.147	1.225	1.293
yivwg01	INCOME: Imputed value: Wage/Salary for mothers of new born children (monthly)	Average compensation per employee, total in the economy, based on national accounts, EUR per year per employee (with one year lag); Eurostat	1.054	1.146	1.208	1.291
yivwg02	INCOME: Imputed value: Wage/Salary for recipients of parental, maternity and paternity benefit	Average compensation per employee, total in the economy, based on national accounts, EUR per year per employee (with one year lag); Eurostat	1.054	1.146	1.208	1.291
yiynt	INCOME: Non-taxable investment income	Harmonised CPI; Eurostat	1.023	1.023	1.031	1.036
yiytx	INCOME: Taxable investment income	Harmonised CPI; Eurostat	1.023	1.023	1.031	1.036
yot	INCOME : other	Harmonised CPI; Eurostat	1.023	1.023	1.031	1.036
ypp	INCOME : Private Pension	Harmonised CPI; Eurostat	1.023	1.023	1.031	1.036
ypr	INCOME : Property	HICP - actual rentals for housing; Eurostat	1.096	1.158	1.215	1.221
ypt	INCOME : Private Transfers	Average monthly wage in the economy, gross; CSB	1.037	1.085	1.159	1.223
yse	INCOME : Self Employment	Average compensation per employee in the private sector, based on national accounts, EUR per year per employee; Eurostat	1.104	1.164	1.252	1.321

Notes: (1) HICP – Harmonised Index of Consumer Prices; SSIA – State Social Insurance Agency; CSB – Central Statistical Bureau of Latvia.

ANNEX 2: VALIDATION

Table 4.2-Number of employed and unemployed

	EUROMOD	External				Ratio					
	2011	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Number of employed	819375	861600	875600	893900	884600	N/A	0.95	0.94	0.92	0.93	N/A
Number of unemployed	189672	166600	155100	120400	107600	N/A	1.14	1.22	1.58	1.76	N/A

Note: External statistics on employment is based on National Accounts data, external statistics on unemployment is based on data from Labour Force Surveys
Source: Eurostat (National Accounts), CSB (LFS)

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

		EUROMOD	External				Ratio				
years		2011	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
yem	Employment income	967.2	789.3	805.8	818.1	811.1	N/A	1.23	1.20	1.18	1.19	N/A
yse	Self-employment income	92.4	99.2	101.4	105.6	103.6	N/A	0.93	0.91	0.87	0.89	N/A
ypp	Private pensions	1.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ypr	Rent income	9.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
yiy	Investment income	38.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: External data on recipients of employment income is based on LFS data, data on recipients of self-employment income – on National Accounts.
Source: Eurostat (National Accounts), CSB (LFS)

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

		EUROMOD					External					Ratio				
years		2011	2012	2013	2014	2015	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Av_yem	Average employment income (in EUR)	6633	7201	7579	8120	8567	8686	9459	10402	N/A	N/A	0.76	0.76	0.73	N/A	N/A
yem	Employment income	6415	6965	7330	7853	8286	6575	7257	8146	N/A	N/A	0.98	0.96	0.90	N/A	N/A
yse	Self-employment income	353	390	411	442	467	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ypp	Private pensions	1	1	1	1	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ypr	Rent income	9	10	11	11	11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
yiy	Investment income	46	47	47	47	47	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Source: Eurostat (National Accounts)

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

		EUROMOD	External				Ratio				
years		2011	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
	Benefits											
Bhl	Sickness and injury benefits	183.6	181.9	182.5	205.7	199.2	N/A	1.01	1.01	0.89	0.92	N/A
Poatx	Old-age pensions	478.3	484.5	488.0	479.8	491.0	N/A	0.99	0.98	1.00	0.97	N/A
Pditx	Disability pensions	77.4	69.2	71.0	71.2	72.5	N/A	1.12	1.09	1.09	1.07	N/A
Psutx	Survivor pensions	24.8	22.8	21.4	20.0	18.3	N/A	1.09	1.16	1.24	1.35	N/A
Bsafu	Funeral benefit	11.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Taxes and Social Insurance contributions											
tpr	Property tax	660.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Source: local governments' consolidated budget report, State Social Insurance Agency, Central Statistical Bureau

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

		EUROMOD					External					Ratio				
years		2011	2012	2013	2014	2015	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
	Benefits															
bhl	Sickness and injury benefits	107.9	112.5	116.7	122.0	130.4	78.0	75.1	85.7	87.4	N/A	1.38	1.50	1.36	1.40	N/A
poatx	Old-age pensions	1582.6	1582.6	1595.3	1630.2	1664.9	1487.7	1536.7	1585.9	1586.5	N/A	1.06	1.03	1.01	1.03	N/A
pditx	Disability pensions	145.1	145.1	146.5	150.5	153.9	145.3	144.0	140.5	141.2	N/A	1.00	1.01	1.04	1.07	N/A
psutx	Survivor pensions	32.3	32.3	32.7	33.8	34.6	36.7	33.8	31.8	29.6	N/A	0.88	0.95	1.03	1.14	N/A
bsafu	Funeral benefit	7.0	7.3	7.6	7.9	8.5	11.9	12.1	12.3	12.9	N/A	0.59	0.60	0.62	0.61	N/A
	Taxes and Social Insurance contributions															
tpr	Property tax	47.65	50.77	52.50	53.30	53.30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Source: local governments' consolidated budget report, State Social Insurance Agency, Central Statistical Bureau

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

		EUROMOD					SILC	Ratio	External					Ratio				
Years		2011	2012	2013	2014	2015	2011	2011	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
	Benefits																	
Pss	State social security benefit	19.7	19.7	19.7	19.7	19.7	20.0	0.98	16	17	17	17	N/A	1.21	1.18	1.15	1.13	N/A
bun00	Unemployment benefit	58.8	57.2	57.2	57.2	57.2	59.0	1.00	83	80	83	N/A	N/A	0.71	0.71	0.69	N/A	N/A
Bfaba	Childbirth benefit	15.2	15.2	15.2	15.2	15.2	17.6	0.86	19	20	21	22	N/A	0.81	0.77	0.74	0.70	N/A
Bfama	Maternity benefit	10.0	10.0	10.0	10.0	10.0	11.6	0.86	14	15	14	N/A	N/A	0.71	0.67	0.72	N/A	N/A
Bfapl	Paternity benefit	4.6	4.6	4.6	4.6	4.6	5.6	0.82	7	8	9	10	N/A	0.65	0.58	0.53	0.46	N/A
Bfawk	Parental benefit	10.0	10.0	10.0	10.0	10.9	20.8	0.48	10	10	12	13	N/A	1.01	0.99	0.86	0.80	N/A
Bfacc	Childcare benefit	19.3	19.3	19.3	22.8	32.7	40.1	0.48	27	26	26	28	N/A	0.71	0.75	0.75	0.82	N/A
Bfana	State family benefit	230.3	230.3	230.3	230.3	230.3	240.8	0.96	229	218	230	N/A	N/A	1.00	1.06	1.00	N/A	N/A
Bsamm	Benefit for ensuring GMI level	115.0	103.9	86.3	78.1	67.6	20.3	5.67	119	93	64	46	N/A	0.97	1.12	1.35	1.71	N/A
Bho	Housing benefit	184.8	175.4	141.0	125.6	117.2	73.7	2.51	86	66	58	51	N/A	2.15	2.66	2.42	2.46	N/A
	Taxes and Social Insurance contributions																	
Tin	Income tax	1113.7	1128.2	1148.1	1161.5	1188.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tscee	Employee social insurance contributions	967.1	967.1	967.1	967.1	967.1	N/A	N/A	748	771	785	790	N/A	1.29	1.25	1.23	1.22	N/A
Tscse	Self-employed' social insurance contributions	49.8	51.9	53.9	52.9	51.4	N/A	N/A	14	10	9	10	N/A	3.61	5.38	5.79	5.46	N/A
Tscer	Employer social insurance contributions	967.2	967.2	967.2	967.2	967.2	889	1.09	748	771	785	790	N/A	1.29	1.25	1.23	1.22	N/A

Source: State Social Insurance Agency, Central Statistical Bureau, State Revenue Service, local governments' consolidated budget

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

		EUROMOD					SILC					Ratio				
Years		2011	2012	2013	2014	2015	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
	Benefits															
Pss	State social security benefit	20.5	20.5	20.5	20.5	23.7	20.4	20.4	20.4	20.4	20.4	1.0	1.0	1.0	1.0	1.2
bun00	Unemployment benefit	51.3	47.6	58.6	61.2	67.0	52.2	52.2	52.2	52.2	52.2	1.0	0.9	1.1	1.2	1.3
Bfaba	Childbirth benefit	6.4	6.4	6.4	6.4	6.4	8.1	8.1	8.1	8.1	8.1	0.8	0.8	0.8	0.8	0.8
Bfama	Maternity benefit	16.2	17.0	20.0	21.0	23.2	19.9	19.9	19.9	19.9	19.9	0.8	0.9	1.0	1.1	1.2
Bfapl	Paternity benefit	0.9	0.9	1.1	1.1	1.3	1.0	1.0	1.0	1.0	1.0	0.8	0.9	1.1	1.1	1.2
Bfawk	Parental benefit	35.6	37.3	43.6	46.1	32.9	51.9	51.9	51.9	51.9	51.9	0.7	0.7	0.8	0.9	0.6
bfacc	Childcare benefit	9.9	9.9	21.5	32.8	50.2	13.6	13.6	13.6	13.6	13.6	0.7	0.7	1.6	2.4	3.7
bfana	State family benefit	46.0	46.0	46.0	46.0	63.8	45.1	45.1	45.1	45.1	45.1	1.0	1.0	1.0	1.0	1.4
bsamm	Benefit for ensuring GMI level	41.0	38.5	27.6	26.0	23.0	15.1	15.1	15.1	15.1	15.1	2.7	2.6	1.8	1.7	1.5
bho	Housing benefit	46.6	47.2	40.5	39.4	37.0	16.9	18.5	19.5	20.5	20.6	2.8	2.6	2.1	1.9	1.8
	Taxes and Social Insurance contributions															
tin	Income tax	1333.4	1463.2	1490.0	1538.2	1575.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tscee	Employee SIC	700.0	761.0	800.8	807.2	851.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tscse	Self-employed' SIC	40.5	43.1	43.7	46.7	50.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
tscer	Employer SIC	1533.1	1666.7	1753.7	1813.6	1912.7	927.6	961.6	1006.0	1074.8	1134.1	1.7	1.7	1.7	1.7	1.7

Source: State Social Insurance Agency, Central Statistical Bureau, State Revenue Service, local governments' consolidated budget

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

		EUROMOD					External					Ratio				
years		2011	2012	2013	2014	2015	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
	Benefits															
pss	State social security benefit	20.5	20.5	20.5	20.5	23.7	18.13	18.99	19.80	21.06	N/A	1.13	1.08	1.04	0.97	N/A
bun00	Unemployment benefit	51.3	47.6	58.6	61.2	67.0	62.23	58.13	74.23	85.23	N/A	0.82	0.82	0.79	0.72	N/A
bfaba	Childbirth benefit	6.4	6.4	6.4	6.4	6.4	7.92	8.45	8.54	9.20	N/A	0.81	0.76	0.75	0.70	N/A
bfama	Maternity benefit	16.2	17.0	20.0	21.0	23.2	23.42	23.80	30.56	34.57	N/A	0.69	0.71	0.65	0.61	N/A
bfapl	Paternity benefit	0.9	0.9	1.1	1.1	1.3	1.23	1.38	1.88	2.22	N/A	0.71	0.66	0.58	0.52	N/A
bfawk	Parental benefit	35.6	37.3	43.6	46.1	32.9	53.55	46.98	61.28	70.88	N/A	0.67	0.79	0.71	0.65	N/A
bfacc	Childcare benefit	9.9	9.9	21.5	32.8	50.2	15.65	14.96	32.05	40.38	N/A	0.64	0.66	0.67	0.81	N/A
bfana	State family benefit	46.0	46.0	46.0	46.0	63.8	45.49	43.59	43.16	42.97	N/A	1.01	1.06	1.07	1.07	N/A
bsamm	Benefit for ensuring GMI level	41.0	38.5	27.6	26.0	23.0	30.60	22.52	12.73	9.77	N/A	1.34	1.71	2.17	2.66	N/A
bho	Housing benefit	46.6	47.2	40.5	39.4	37.0	11.62	9.51	8.58	7.80	N/A	4.01	4.96	4.72	5.05	N/A
	Taxes and Social Insurance contributions															
tin	Income tax	1333.4	1463.2	1490.0	1538.2	1575.0	1131.10	1268.20	1322.30	N/A	N/A	1.18	1.15	1.13	N/A	N/A
tscee	Employee SIC	700.0	761.0	800.8	807.2	851.4	546.70	597.70	603.40	N/A	N/A	1.28	1.27	1.33	N/A	N/A
tscse	Self-employed' SIC	40.5	43.1	43.7	46.7	50.7	10.60	11.20	11.10	N/A	N/A	3.82	3.84	3.93	N/A	N/A
tscer	Employer SIC	1533.1	1666.7	1753.7	1813.6	1912.7	1197.40	1308.90	1322.10	N/A	N/A	1.28	1.27	1.33	N/A	N/A

Source: State Social Insurance Agency, Central Statistical Bureau, State Revenue Service, local governments' consolidated budget

Table 4.9-Distribution of equivalised disposable income

	EUROMOD					External					Ratio				
years	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
D1	3.1	3.0	2.8	2.7	2.7	2.3	2.3	2.2	N/A	N/A	1.4	1.3	1.3	N/A	N/A
D2	4.5	4.4	4.3	4.3	4.2	4.3	4.3	4.3	N/A	N/A	1.0	1.0	1.0	N/A	N/A
D3	5.5	5.3	5.3	5.2	5.2	5.4	5.4	5.4	N/A	N/A	1.0	1.0	1.0	N/A	N/A
D4	6.4	6.3	6.3	6.2	6.2	6.4	6.4	6.4	N/A	N/A	1.0	1.0	1.0	N/A	N/A
D5	7.6	7.4	7.4	7.3	7.3	7.5	7.5	7.6	N/A	N/A	1.0	1.0	1.0	N/A	N/A
D6	8.7	8.7	8.7	8.7	8.7	8.8	8.8	8.8	N/A	N/A	1.0	1.0	1.0	N/A	N/A
D7	10.2	10.2	10.2	10.3	10.3	10.4	10.6	10.4	N/A	N/A	1.0	1.0	1.0	N/A	N/A
D8	12.2	12.2	12.3	12.4	12.5	12.4	12.6	12.6	N/A	N/A	1.0	1.0	1.0	N/A	N/A
D9	15.3	15.4	15.5	15.5	15.6	15.5	15.8	15.7	N/A	N/A	1.0	1.0	1.0	N/A	N/A
D10	26.5	26.9	27.2	27.3	27.4	27.1	26.1	26.6	N/A	N/A	1.0	1.0	1.0	N/A	N/A
Median	4191.5	4416.8	4610.8	4966.0	5230.8	4450.0	4666.0	5203.0	N/A	N/A	0.9	0.9	0.9	N/A	N/A
Mean	5178.9	5484.6	5767.5	6209.1	6559.8	5463.0	5732.0	6324.0	N/A	N/A	0.9	1.0	0.9	N/A	N/A
Gini	34.0	34.7	35.4	35.7	36.1	35.7	35.2	35.5	N/A	N/A	1.0	1.0	1.0	N/A	N/A
S80/S20	5.5	5.7	6.0	6.1	6.3	6.5	6.3	6.5	N/A	N/A	0.8	0.9	0.9	N/A	N/A

Source: Eurostat

Table 4.10-Poverty rates by gender and age

		EUROMOD					External					Ratio				
years		2011	2012	2013	2014	2015	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
	40% median HDI															
poor40	Total	4.9	5.6	6.9	7.5	7.8	8.2	8.1	7.9	N/A	N/A	0.6	0.7	0.9	N/A	N/A
poor_male40	Males	5.7	6.4	7.8	8.4	8.6	9.2	8.6	8.6	N/A	N/A	0.6	0.7	0.9	N/A	N/A
poor_fem40	Females	4.3	4.9	6.1	6.8	7.1	7.4	7.6	7.3	N/A	N/A	0.6	0.6	0.8	N/A	N/A
	50% median HDI															
poor50	Total	11.2	11.6	12.3	12.7	13.0	13.5	12.9	13.2	N/A	N/A	0.8	0.9	0.9	N/A	N/A
poor_male50	Males	11.9	12.3	13.1	13.3	13.5	14.2	13.4	13.3	N/A	N/A	0.8	0.9	1.0	N/A	N/A
poor_fem50	Females	10.6	11.1	11.7	12.2	12.6	12.8	12.5	13.1	N/A	N/A	0.8	0.9	0.9	N/A	N/A
	60% median HDI															
poor60	Total	17.9	18.4	18.9	20.2	20.9	19.2	19.4	21.2	N/A	N/A	0.9	0.9	0.9	N/A	N/A
poor_male60	Males	18.4	18.6	18.6	19.0	19.6	19.3	18.9	19.5	N/A	N/A	1.0	1.0	1.0	N/A	N/A
poor_fem60	Females	17.4	18.3	19.2	21.1	22.1	19.1	19.8	22.5	N/A	N/A	0.9	0.9	0.9	N/A	N/A
	70% median HDI															
poor70	Total	27.2	28.2	28.2	28.3	28.8	28.2	28.1	29.2	N/A	N/A	1.0	1.0	1.0	N/A	N/A
poor_male70	Males	26.2	26.8	26.5	26.2	26.6	26.6	25.9	26.8	N/A	N/A	1.0	1.0	1.0	N/A	N/A
poor_fem70	Females	28.1	29.4	29.7	30.1	30.7	29.5	29.9	31.1	N/A	N/A	1.0	1.0	1.0	N/A	N/A
	60% median HDI															
poor_age1	0-15 years	21.7	21.8	22.0	21.2	20.6	23.9	22.1	23.7	N/A	N/A	0.9	1.0	0.9	N/A	N/A
poor_age2	16-24 years	21.4	21.1	20.9	20.8	20.9	21.6	22.2	19.2	N/A	N/A	1.0	0.9	1.1	N/A	N/A
poor_age3	25-49 years	18.1	17.9	17.6	17.6	17.6	18.7	17.4	17.4	N/A	N/A	1.0	1.0	1.0	N/A	N/A
poor_age4	50-64 years	19.6	20.1	20.1	20.7	21.4	20.1	20.8	20.5	N/A	N/A	1.0	1.0	1.0	N/A	N/A
poor_age5	65+ years	10.2	13.2	16.3	23.3	27.0	13.9	17.6	27.6	N/A	N/A	0.7	0.8	0.6	N/A	N/A

Source: Eurostat

ANNEX 3: POLICY EFFECTS

POLICY EFFECTS IN 2013-2014 AND 2014-2015

Table A1 and Figure A1 show the effect of policy changes in 2013-2014 on mean equivalised household disposable income by income component and income decile group, as a percentage of mean equivalised household disposable income in 2013. Table A2 and Figure A2 show the effect of policy changes in 2014-2015.

Each policy system has been applied to the same input data, deflating monetary parameters of Year 2 (i.e., 2014 in case of Table A1 and Figure A1 and 2015 in case of Table A2 and Figure A2) policies by Eurostat's Harmonized Index of Consumer Prices (HICP).

Table A1: Policy effects in 2013-2014, using the CPI-indexation, %

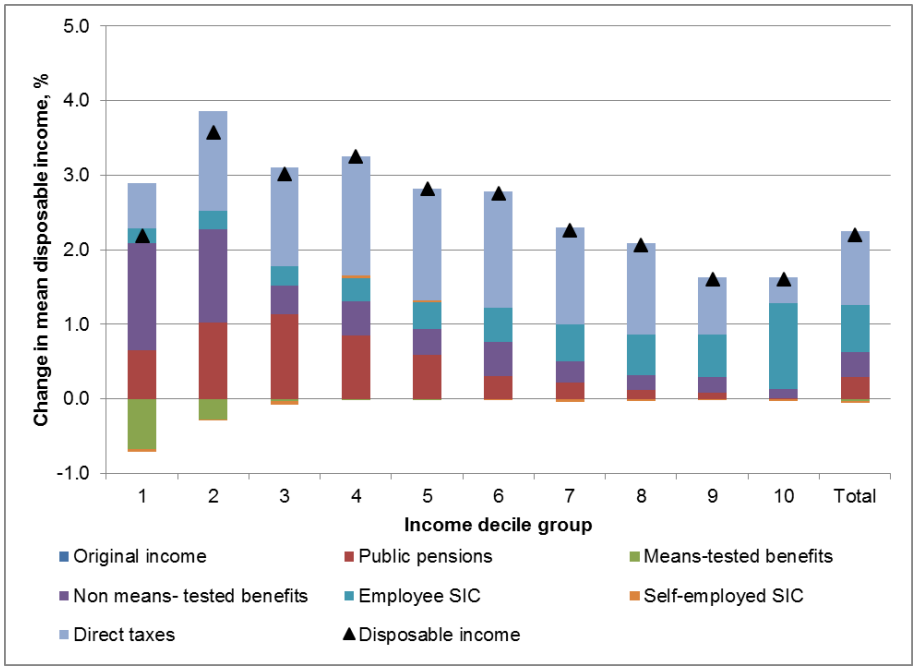
Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Direct taxes	Disposable income
1	0.00	0.65	-0.67	1.43	0.20	-0.03	0.61	2.19
2	0.00	1.02	-0.28	1.26	0.25	0.00	1.33	3.58
3	0.00	1.13	-0.03	0.38	0.27	-0.06	1.32	3.02
4	0.00	0.85	0.00	0.46	0.31	0.03	1.60	3.25
5	0.00	0.59	0.00	0.35	0.36	0.02	1.51	2.82
6	0.00	0.31	0.00	0.46	0.45	-0.02	1.56	2.76
7	0.00	0.21	0.00	0.29	0.50	-0.04	1.30	2.26
8	0.00	0.12	0.00	0.19	0.55	-0.03	1.23	2.06
9	0.00	0.09	0.00	0.21	0.56	-0.02	0.77	1.60
10	0.00	0.01	0.00	0.13	1.15	-0.03	0.35	1.60
Total	0.00	0.30	-0.03	0.33	0.63	-0.02	0.99	2.20

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 2013, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2014 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).

On the whole, policies in 2013-2014 had a positive impact on disposable income throughout income distribution, but more so at the bottom. One of the factors ensuring the progressive impact was growth of public pensions. In October 2013, pensions were indexed at a rate exceeding inflation, ensuring an increase in pensioners' disposable income. The impact was progressive, first - because only pensions below a certain threshold were indexed and second, a larger effect of pensions in the bottom deciles is due to the fact that pensioners in Latvia are clustered in the lower tail of income distribution.

Progressivity of the policy effect was also ensured by changes in non means-tested benefits, and was mainly driven by changes in parental and childcare benefits (broadening eligibility for the childcare benefit, raising the minimum amount of parental benefit and increasing childcare benefit). These benefits comprise a larger share of disposable income for people in the bottom distribution deciles, hence the effect is stronger in the lower deciles.

Figure A1: Policy effects in 2013-2014, using the CPI-indexation, %



Social Insurance Contributions (SIC) ensured an increase in disposable income across the distribution due to a reduction in the SIC rate, but the effect was stronger in the upper deciles. The smaller effect in the bottom is due to a smaller proportion of employed individuals. Moreover, an additional factor behind the increase in disposable income in the top deciles was introduction of income cap over which SIC is not applied.

Contribution of self-employed SIC is slightly negative in most deciles, which is determined by increasing minimum income from which self-employed SIC have to be paid (we assume in the model that self-employed pay SIC only from the minimum income, even if their income from self-employment exceeds the threshold, which is a commonly observed situation in Latvia), offsetting the positive impact coming from a reduction in SIC rate for self-employed.

Means-tested benefits contributed to a reduction in disposable income in the lowest deciles (this is where the recipients of means-tested benefits are mainly concentrated), despite there were no policy changes in means-tested benefits in 2013-2014. The reason for the reduction was that less individuals remained eligible for GMI and housing benefit following changes in child-related benefits described above.

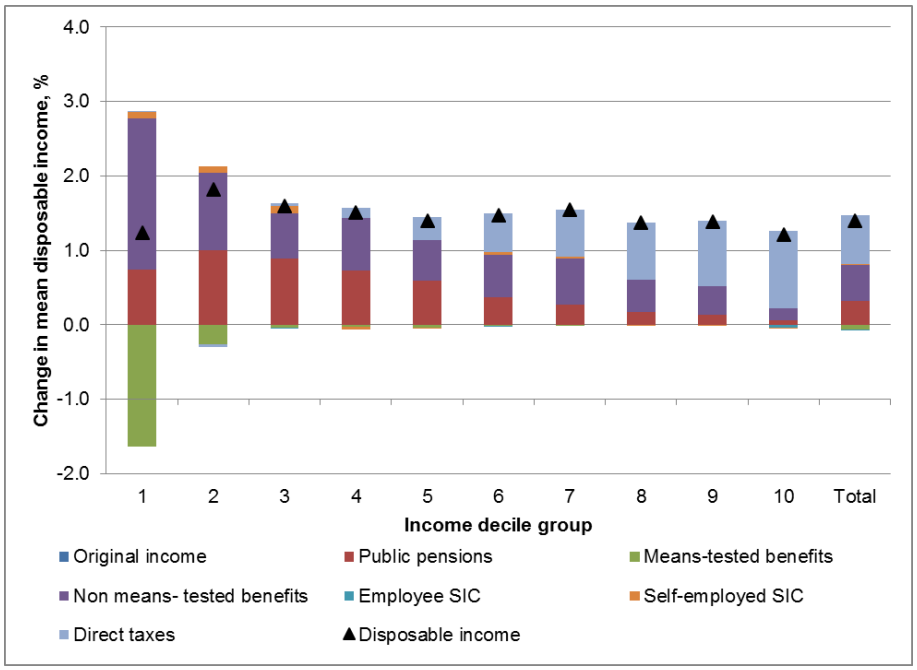
The positive effect of direct taxes in 2013-2014 is due to an increase in tax allowances, in particular tax allowance for dependents. The effect is especially strong in the middle deciles, and weaker in the bottom and top deciles, which is due to the fact that (i) the share of employed individuals in the bottom deciles is relatively small, which explains the relatively weak effect, (ii) allowances are set in absolute terms, which explains their relatively weak effect on high income earners.

Table A2: Policy effects in 2014-2015, using the CPI-indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Direct taxes	Disposable income
1	0.00	0.74	-1.63	2.04	0.00	0.08	0.01	1.24
2	0.00	1.00	-0.26	1.04	0.00	0.08	-0.04	1.82
3	0.00	0.89	-0.04	0.60	0.00	0.10	0.04	1.60
4	0.00	0.73	-0.02	0.70	0.00	-0.04	0.15	1.51
5	0.00	0.60	-0.04	0.55	0.00	0.00	0.31	1.40
6	0.00	0.37	-0.01	0.57	0.00	0.03	0.52	1.48
7	0.00	0.27	0.00	0.62	0.00	0.02	0.63	1.55
8	0.00	0.17	0.00	0.43	0.00	-0.01	0.77	1.37
9	0.00	0.14	0.00	0.39	0.00	-0.01	0.88	1.38
10	0.00	0.05	0.00	0.17	-0.04	-0.01	1.04	1.21
Total	0.00	0.32	-0.06	0.49	-0.01	0.01	0.66	1.39

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 2014, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2015 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).

Figure A2: Policy effects in 2014-2015, using the CPI-indexation, %



The effect of policies in 2014-2015 was progressive, but the difference between the effect in the top and bottom deciles was less pronounced than in 2013-2014.

The overall effect of pensions on disposable income was slightly higher than in 2013-2014, and was more evenly distributed across income deciles. The reason for a more even impact was that

all pensions, irrespective of the size, were indexed in October 2014 (but only part of the pension below a certain threshold, as opposed to 2013 indexation, when only low pensions were indexed). Like in 2013-2014, the effect of non means-tested benefits remained positive, and was even stronger in 2014-2015, especially in the bottom deciles. The changes in non-means tested continued to be mainly driven by childcare and parental benefit, as the system was gradually reformed in 2014-2015 to make the benefits complementary. In addition to that, ceilings on contributory benefits (child-related and unemployment benefits) were removed in 2015, which had a positive effect on disposable income, mainly in the upper deciles of income distribution.

Like in 2013-2014, growth of non means-tested benefits had a crowding out effect on means-tested benefit in the bottom income deciles, especially in the first decile where the share of recipients of means-tested benefits is the highest; as a result, overall policy effect in the first decile is lower than that in the second decile.

The only policy change in employees' SIC was an increase in the income threshold above which contributions are not paid. This had a negative effect on disposable income, but affected only the top income decile. For self-employed, a decrease in SIC rate was again accompanied by an increase in income subject to contributions, which had a mixed overall effect on disposable income across deciles. Effect of direct taxes in 2014-2015 was regressive, reflecting a reduction in personal income tax rate and unchanged tax allowances.