EUROMOD

COUNTRY REPORT

LITHUANIA (LT)

2013-2016

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EUROMOD version G4.0

EUROMOD is a tax-benefit microsimulation model for the European Union (EU) that enables researchers and policy analysts to calculate, in a comparable manner, the effects of taxes and benefits on household incomes and work incentives for the population of each country and for the EU as a whole.

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

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

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The results presented in this report are derived using EUROMOD version G4.0. EUROMOD is continually being improved and the results presented here may not match those that would be obtained with later versions of EUROMOD.

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

CONTENTS

1. BASIC INFORMATION

1.1 Basic information about the tax-benefit system

- The Lithuanian benefit system is organized mainly on the state level. Municipalities provide a few local benefits based on local rules. These include municipal support which is given to families in need (e.g. asocial or dysfunctional families). In other cases, municipal authorities set parameters which indicate local living standards, but are used by state defined benefits or tax programs[1].

- Tax-benefit system is a unified national system in Lithuania. The one exception is business certificate (see more details on this type of taxation in chapter 1.6), which acquisition price varies across municipalities.

- The "fiscal year" runs from 1st January to 31st December.

- Main benefit and tax changes often happen at different times of the fiscal year, i.e. such as 1st July. For example, basic pension amount and minimum monthly salary are usually changed as of 1st July.

- Retirement age: The statutory retirement age in Lithuania is increased gradually to reach 65 years for both men and women by 2026. The state pension age on 30th June, 2005 was 59.5 for women and 62.5 for men. As of 2006: 62.5 and 60 respectively. It did not change during the course of 2006-2011. Since 1st January, 2012 the state pension age gradually increases by 4 months yearly from 60 to 65 years for women and by 2 months yearly from 62.5 to 65 years for men Effectively, the state pension age on 30th June, 2012 was 60 years and 4 months for women and 62 years and 8 months for men For all the changes in pension age for women and for men from 2012 until 2026 see Table 1.

Table 1 Pension age for women and men effective on June 30, 2012-2026

Year	Women	Men
2012	60 years 4 months.	62 years 8 months
2013	60 years 8 months	62 years 10 months
2014	61 years	63 years
2015	61 years 4 months	63 years 2 months
2016	61 years 8 months	63 years 4 months
2017	62 years	63 years 6 months
2018	62 years 4 months	63 years 8 months
2019	62 years 8 months	63 years 10 months
2020	63 years	64 years
2021	63 years 4 months	64 years 2 months
2022	63 years 8 months	64 years 4 months
2023	64 years	64 years 6 months
2024	64 years 4 months	64 years 8 months
2025	64 years 8 months	64 years 10 months
2026	65 years	65 years

- The minimum school leaving age is 16 years old. Compulsory education is from age 7 to 16. The age of majority is 18[2].

- *Dependent child* definition:

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[1] For example, provision of cash social assistance is administered by municipalities with some discretion on defining eligibility and exceptions from the general rules. The general rules, nevertheless, are set at the country level.

[2] Majority is an age threshold, recognized by the law, as a moment when a child assumes control over his/her actions, thereby terminating the legal control and legal responsibilities of parents or guardians.

a. By default, the "*dependent child*" status is lost (unless recognized by the court otherwise) if a person has a partner (married or legally cohabitating) or becomes a parent herself.

b. Generally, *for tax and benefit purposes*, dependent children are own or adopted children (except fostered children) under 18 years of age.

c. *For benefit purposes*, persons between ages 18 (hereinafter referred to as inclusive) up to 24 years (hereinafter referred to as exclusive) old are *often* considered to be dependent children, if they are (a) unmarried and not living together with another person, (b) not parents themselves, and (c) full-time pupils and students of general education schools or other institutions of formal education, as well as persons from the day of finishing general education schools which they attended as full-time pupils until 1st September of the same year. The precise "dependent child" definition is usually a benefit specific definition, and could cover different conditions, as in the two examples below:

- For social assistance, persons up to the age of 24, (unless married, living together with another person or parents themselves) if unemployed or studying full-time, can only be treated as dependent children, therefore, restricting their rights to claim the benefit as a "single person".

- For child benefit purposes, enrolment in full-time secondary education is required for children at the age of 18 or older, who are raised in families with up to two children. Children up to the age of 24 are eligible, if raised in families with three or more children and enrolled in secondary, vocational, post-secondary or higher education.

d. For *tax purposes*, dependent children are defined as children under the age of 18 or older, if in full-time secondary education.

- Lone parent is defined as a parent of a dependent child, not legally married or officially cohabiting (cohabitation is approved by the official contract) to anyone.

- The income tax system is an individual system, with the spouses being assessed independently.

- Taxpayers can fill a tax return form in order to make deductions from income tax or to return unused annual tax allowance at the end of the financial year, although it is not obligatory, unless in cases of gaining non-work related income.

- Generally, no statutory indexing regimes are applied for Lithuanian benefits or taxes. Indexation of benefits is agreed on annually on an ad-hoc basis, conventionally on an annual base.

- The means-tested benefit system assesses entitlement according to the average per capita monthly income of benefit unit according to the last three or twelve months' income history. The benefit unit is the nuclear family - the married couple or single adult plus any dependent children.

- Currency: Lithuanian currency was Litas (LTL) with a fixed exchange rate to Euro (EUR) of 1 EUR = 3.45280 LTL since 2002 to 1st January 2015. Lithuania joined the Eurozone in 2015. The national currency is EUR since 1st January 2015.

- ***Commonly used parameters and definitions***

Social benefits, pensions and compensations are often calculated in relation to reference amounts, as indicated below.

Basic Social Allowance *(bazinė socialinė išmoka),* hereinafter referred to as "**BSA**", is the Government approved social indicator mainly used for defining and calculating of different social protection benefits and other statutory values. Table 1.1 shows BSA levels which were effective on 30th June 2011-2016.

The State Supported Income *(valstybės remiamos pajamos)* level (hereinafter referred to as "**SSI**") is the Government approved personal income level after taxes and contributions, but before transfers of cash social assistance. Table 1.1 shows SSI levels which were effective on 30th June 2011-2016.

Table 1.1 Monthly BSA and SSI levels effective on June 30, 2011-2016, LTL and EUR

	2011	2012	2013	2014	2015	2016
Currency: LTL						
BSA	130	130	130	130		
SSI	350	350	350	350		
Currency: EUR						
BSA					38	38
SSI					102	102

Source: Based on *the relevant version of Government of Lithuanian Republic Resolution* „Dėl bazinės socialinės išmokos dydžio patvirtinimo" and „Dėl valstybės remiamų pajamų dydžio patvirtinimo".

A number of other commonly used definitions for benefit calculations, such as income lists, are presented here:

Insured Income *(draudžiamosios pajamos),* hereinafter referred to as "**II**", defines the <u>list</u> of the person's *insured income* on the basis of which a number of contributory benefits, such as maternity leave and paternity leave benefits, sickness benefit or unemployment benefit, are paid. *Insured income* includes all income of a person on which state social insurance contributions were (or had to be) paid:
- earnings;
- income from sports, incomes paid under authorship agreements, income of self-employed persons and with some extent incomes received by some groups of people that were previously not covered by social insurance (solicitors, bailiffs, individual business owners, farmers and partners, etc.)
- sickness benefit (including the first two days of sickness for which the employer pays), vocational rehabilitation, maternity leave, paternity leave, maternity (paternity) leave benefits set by *the Law on Sickness and Maternity Social Insurance*;
- sickness benefits due to occupational accidents or occupational disease allowances payable in accordance with *the Law on Social Insurance of Occupational Accidents and Occupational Diseases*;
- unemployment social insurance allowances payable in accordance with *the Law on Unemployment Social Insurance*. [3]

There were no major changes made to the insured income list during the period of 2011-2014.

The **average monthly insured income (AMII)** is the sum of the insured incomes (**II**) averaged over the last several months before the right to the relevant benefit has been granted. For example, the right to maternity leave, paternity leave and maternity (paternity) leave benefits rely on AMII which is based on the averaged income calculated over the last 12 months period

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[3] *Insured income is defined by the "Lietuvos Respublikos Valstybinio socialinio draudimo įstatymas".*

(excluding the month the benefit is claimed).[4] Other benefits, such as vocational rehabilitation allowance and occupational disease allowance are based on insured income averaged over 3 months' period. No major changes were made in 2011-2016.

Current year's insured income (*einamųjų metų draudžiamosios pajamos*), is the state approved income threshold mainly used for the purpose of state social insurance benefit calculations and defined by the *Law on State Social Insurance Pensions*. Table 1.2 shows *current year's insured income* (hereinafter referred to as "**CYI**") levels which were effective on 30th June 2011-2016.

Table 1.2 Current year's insured income (monthly), 30th June 2011-2016, LTL

Current year's insured income (CYI)	2011	2012	2013	2014	2015	2016
Currency: LTL	1,170*	1,488	1,488	1,488		
Currency: EUR					431	445

Source: Based on *the Government of Lithuanian Republic Resolution "Dėl Valstybinės Socialinio Draudimo Bazinės Pensijos Padidinimo ir Einamųjų 2005 Metų Draudžiamųjų Pajamų Naujo Dydžio Patvirtinimo" [25.05.2005] and relevant changes. Note: * In 2011 the CYI of LTL 1,170 was applied for calculation of all applicable benefits, except of the state social insurance pensions, in which case the 2009 level of CYI (1,488 LTL) should be taken into account[5].*

State social insurance basic pension *(valstybinio socialinio draudimo bazinė pensija)* is the state approved amount, mainly used for the calculation of social insurance benefits, such as old-age pension or vocational rehabilitation allowance.

Table 1.3 Basic monthly pension, 30th June 2011-2016, LTL

Basic monthly pension, LTL	2011	2012	2013	2014	2015	2016
Currency: LTL	360	360	360	360		
Currency: EUR					105	112

Source: Based *on the Law of State Social Insurance Pensions LRG Decision "Dėl Valstybinės Socialinio Draudimo Bazinės Pensijos Didinimo ir Einamųjų Metų Draudžiamųjų Pajamų Patvirtinimo"*, 2004 March 24, No. 235, and its relevant amendments and changes.

Most of the state pensions in Lithuania are calculated in relation to the **state pension base** *(valstybinių pensijų bazė),* the amounts of which during the period of 2011-2016 are indicated below:

Table 1.4 State pension base and minimum monthly salary, 30th June 2011-2016, LTL

	2011	2012	2013	2014	2015	2016
Currency: LTL						
State pension base	200	200	200	200		
Minimum monthly salary (MMS)	800	800	1000	1000		
Currency: EUR						
State pension base					58	58
Minimum monthly salary (MMS)					325*	350

Source: Based on the Government of Lithuania Republic Resolution *"Dėl valstybinių pensijų bazės dydžio patvirtinimo"* [27.12.2007] and *"Dėl minimaliojo darbo užmokesčio dydžio didinimo"* [17.12.2008] and their relevant changes. * 325 EUR starting 17.06.2015, 300 EUR since 01.01.2015.

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[4] Based on the following law "Lietuvos Respublikos Ligos ir motinystės socialinio draudimo įstatymo 3, 4, 5, 6, 8, 9, 16, 18, 19 straipsnių pakeitimo ir papildymo Įstatymas". 2008.12.18 Nr. XI-71. http://www3.lrs.lt/pls/inter2/dokpaieska.showdoc_l?p_id=334539 .

[5] Based on the following Government resolution: 2011 m. vasario 23 d. Nr. 210 "Dėl einamųjų 2011 metų draudžiamųjų pajamų, ribinio motinystės (tėvystės) socialinio draudimo pašalpos ir ribinio valstybinės pensijos dydžių patvirtinimo". Žin., 2011, Nr. 24-1160. http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=393060&p_tr2=2

Minimum monthly salary (*minimali mėnesinė alga),* hereinafter referred to as "**MMS**" which is listed in Table 1.4, This reference amount is also used for defining (credited) social contributions (see more details in section 2.5.3).

1.2 Social Benefits

- *Non-contributory benefits*

All non-contributory benefits are non-taxable.

Birth grant *(vienkartinė išmoka gimus vaikui):* a lump-sum cash benefit paid upon the birth of a child. Since 2011 the birth amounts to 11 BSA per child.[6] No changes were made afterwards except of conversion to EUR in 2015.

Child benefit *(išmoka vaikui):* a monthly cash benefit paid to a family raising one or more dependent children. The benefit level is calculated in relation to BSA and varies based on the number of children in the family and their age. Since the 1st March, 2009 entitlement to the benefit became means tested for families that raise one or two children aged 3-18 or 21 if in full-time education.[7] Starting from January 1, 2010 both eligibility criteria and the income test were tightened according to the Temporary Law on Recalculation and Payment of Social Benefits. Since the 1st January, 2012 entitlement to the benefit became means tested also for families that raise one or two children aged less than 3 years as well. Since then no changes were made except of conversion to EUR in 2015.

Benefit to a conscript's child *(išmoka privalomosios tarnybos kario vaikui):* a monthly benefit paid for each child in the amount of 1.5 BSA during the military service of the father. The level of the benefit did not change during the course of 2005-2015 except of conversion to EUR in 2015. According to *Law on the Benefits to Children*, the benefit is paid to the mother of the child of a conscript, unless she is not a permanent resident of the Republic of Lithuania. In that case, the benefit is paid to the child's father. The recipient of this benefit is also entitled to a child benefit as described above.

Guardianship benefit *(globos (rūpybos) išmoka):* a monthly benefit to a child placed under guardianship in a family or non-governmental guardianship institution during the period of the guardianship (curatorship). Since the 1st January 2009 the amount of the guardianship benefit for a child who is under guardianship in a family-type guardianship institution (with more than 6 children) was set to 8 BSA, or the difference between 8 BSA and cumulative amount of an orphan's pension and (or) a child maintenance obligation.[8] If the child under guardianship is on free boarding at a secondary or vocational school the amount of the guardianship benefit decreases to 2 BSA. No major changes were made until 30th of June, 2015 except of conversion to EUR in 2015.

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[6] Based on the following law "Lietuvos Respublikos Išmokų vaikams įstatymo 1, 2, 3, 5, 6, 7, 8, 9, 10, 12, 13, 14, 18, 20, 22 straipsnių ir antrojo, trečiojo skirsnių pavadinimų pakeitimo įstatymas". 2008.07.01. Nr. X-1664: http://www3.lrs.lt/pls/inter2/dokpaieska.showdoc_l?p_id=324329

[7] Based on the following law "Lietuvos Respublikos Išmokų vaikams įstatymo 6, 8, 12, 13, 20 straipsnių pakeitimo ir papildymo ir 22 straipsnio pripažinimo netekusiu galios įstatymas". 2008.12.19 Nr. Xi-90: http://www3.lrs.lt/pls/inter2/dokpaieska.showdoc_l?p_id=334470

[8] Based on the following law "Lietuvos Respublikos Išmokų vaikams įstatymo 6, 8, 12, 13, 20 straipsnių pakeitimo ir papildymo ir 22 straipsnio pripažinimo netekusiu galios įstatymas". 2008.12.19 Nr. Xi-90. http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=334470.

Grant for housing (settlement) *(vienkartinė išmoka įsikurti):* a lump sum of 75 BSA is given to a child upon the expiration of a guardianship due attaining the legal age of 18, emancipation, or contracting a marriage. The benefit is given to purchase a dwelling or to cover accommodation related expenses. The benefit cannot be paid in cash unless the unused part of the grant is less than 1 BSA. No changes were made in 2011-2015 except of conversion to EUR in 2015.

Pregnancy grant *(vienkartinė išmoka nėsčiai moteriai):* a lump-sum benefit to a pregnant woman who is not eligible to receive a maternity leave benefit. The grant amounts to 2 BSA and is paid 70 days before the term of child birth. The benefit remained unchanged during the course of 2011-2015 except of conversion to EUR in 2015.

Social benefit (*socialinė pašalpa***):** granted to families or single persons if they pass established eligibility, assets and income tests. In 2011 monthly per capita benefit was equal to 90% of the difference between 1*SSI and per capita family income. Social assistance benefit was granted for three months. The application needed to be re-submitted upon benefit expiration, unless local authorities had granted the benefit for the period exceeding three months. Since 1st January 2012 several changes were introduced: equivalence scales for benefit amount, reduction of benefit amount for long term dependants on Social benefit and payment of Social benefit for former long-term unemployed during the first 6 months of employment, etc.[9]

All municipalities pay social assistance benefits to residents from targeted subsidies allocated to them from the national budget. However since 1st January 2012 in 5 municipalities (Municipality of Akmenė, Panevėžys, Radviliškis, Raseiniai, Šilalė) Social benefit providing function was transferred to municipalities' discretion and this benefit is paid from their budgets. Thus, after the assessment of specific local conditions and circumstances these municipalities had more power in granting social assistance benefit (for example, to pay additional social assistance benefit, to reduce the amount of social assistance benefit, etc.). Since 1st January 2014 not only those in those five, but in all municipalities social benefit providing function was transferred to municipalities' discretion[10]. No major changes were made afterwards except of conversion to EUR in 2015.

State social assistance benefits/pensions (*valstybinės šalpos išmokos***):** there are five types of social assistance pensions: social assistance pensions; orphan's social assistance pension; targeted compensations for nursing expenses; nursing allowances; relief compensations. Social assistance pensions are calculated in relation to a *basic monthly pension* (see Table 1.3).

Compensations for special working conditions (*kompensacijos už ypatingas darbo sąlygas***)** are paid to people who have worked in hazardous jobs. The monthly compensation is equal to 150% of the basic monthly pension (see Table 1.3). It was affected by the Provisional Law on Recalculation and Payment of Social Benefits of the Republic of Lithuania which came into effect on January 1, 2010 and was hold on until 31 12 2011. Since 1st January 2012 beneficiaries of compensation for special working conditions receive the same amount of benefit which they had been receiving until benefits were temporary reduced. No major changes were made in 2013-2015.

State pensions:

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[9] Based on the following law 2011-12-01, No. XI-1772 „Lietuvos Respublikos Piniginės socialinės paramos nepasiturinčioms šeimoms ir vieniems gyvenantiems asmenims įstatymo pakeitimo įstatymas". 2011-12-20, No. 155-7353.
[10] Based on the following law, 2013-11-26, No. XII-621 „Lietuvos Respublikos piniginės socialinės paramos nepasiturintiems gyventojams įstatymo 4, 23 straipsnių pakeitimo ir papildymo įstatymas". 2013-12-10, No. 126-6414.

State pensions of degree one or two of the Republic of Lithuania *(Lietuvos Respublikos pirmojo ir antrojo laipsnių valstybinės pensijos)* are awarded to citizens for distinguished achievements or for individual or respective status (i.e. top-level state officials, prizemen of Olympic Games, etc.), if these persons have attained an old-age retirement age or have partially or fully lost their capacity to work. The limit for assigning new state pensions is not more than 15 new degree one pensions and not more than 45 new degree two pensions per year. A state pension of the first degree is equal to 4 *state pension bases*. A state pension of the second degree amounts to 2 *state pension bases* (see Table 1.4). It was affected by the Provisional Law on Recalculation and Payment of Social Benefits of the Republic of Lithuania which came into effect on January 1, 2010 and it is hold on until 31 12 2012. According to the decision made at the end of 2012, provisions of this law remain in force until 31 12 2013. Thus during the period of 2010-2013 state pensions of degree one or two of the Republic of Lithuania were recalculated applying appropriate coefficient[11]. Since 1st January 2014 this coefficient is not applied and no major changes were made afterwards.

State pensions for victims (*nukentėjusiųjų asmenų valstybinės pensijos*) are given to the persons recognised as incapable or partially capable of work due to a number of state recognized aggressions (i.e. 11-13 January 1991 events), political imprisonment, deportations, participation in the resistance to the occupation, for participants in elimination of the consequences of the accident at the Chernobyl Nuclear Power Plant, or persons who became disabled due to military service in the Soviet Army. These pensions are paid if persons have attained an old-age retirement age or have partially or fully lost their capacity to work. The pension amount is calculated in relation to the *state pension base* (see Table 1.4) and varies for different victim groups.

State pensions for officers and soldiers (*pareigūnų ir karių valstybinės pensijos)* are awarded to officers and soldiers or their family members. There are three types of these pensions: for the service; for lost capacity for work; for widows and orphans. The assigned pension amount is calculated based on the service record and former wage. It was affected by the Provisional Law on Recalculation and Payment of Social Benefits of the Republic of Lithuania which came into effect on January 1, 2010 and it is hold on until 31 12 2012. According to the decision made at the end of 2012, provisions of this law remain in force until 31 12 2013. Thus during the period of 2010-2013 state pensions for officers and soldiers were recalculated applying appropriate coefficient. Since 1st of January 2014 this coefficient is not applied and no major changes were made afterwards.

State pensions for scientists *(mokslininkų valstybinės pensijos)* are awarded to scientists on the basis of *the temporary Law on State Pensions for Scientists*. These pensions are given to individuals with an academic degree or title and at least a 10 year career of a doctor or habilitated doctor at the age of old-age pension or having lost 60–100% of their capacity for work. The size of the pension depends on the insurance record and is calculated in relation to the *state pension base (see* Table 1.4*).* It was affected by the Provisional Law on Recalculation and Payment of Social Benefits of the Republic of Lithuania which came into effect on January 1, 2010 and it is hold on until 31 12 2012. According to the decision made at the end of 2012, provisions of this law remain in force until 31 12 2013. Thus during the period of 2010-2013 state pensions for officers and soldiers were recalculated applying appropriate coefficient. Since 1st of January 2014 this coefficient is not applied and no major changes were made afterwards.

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[11] Based on the following law: 2009-12-09, No. XI-537 „Lietuvos Respublikos socialinių išmokų perskaičiavimo ir mokėjimo laikinasis įstatymas". 2009, No, 152-6820.

State pensions for judges *(teisėjų valstybinės pensijos)* are awarded to the retiring persons, who worked as judges of the Constitutional Court, the Supreme Court of Lithuania, the Court of Appeal of Lithuania, the Supreme Administrative Court of Lithuania and other Lithuanian general jurisdiction and specialized courts as well as judges of any international court elected or delegated by Lithuania, if they have at least five years of judicial service. The pension amount depends on the service record and is calculated as a percentage of the average salary over the last five years of the judicial work. It was affected by the Provisional Law on Recalculation and Payment of Social Benefits of the Republic of Lithuania which came into effect on January 1, 2010 and it is hold on until 31 12 2012. According to the decision made at the end of 2012, provisions of this law remain in force until 31 12 2013. Thus during the period of 2010-2013 state pensions for officers and soldiers were recalculated applying appropriate coefficient. Since 1st of January 2014 this coefficient is not applied and no major changes were made afterwards.

Persons entitled to receive state pension also have a right to receive state social insurance pension, unless otherwise provided by the law.

- *Contributory benefits*

Taxable contributory benefits:

Maternity leave benefit (*motinystės pašalpa*): a lump sum benefit paid to a pregnant woman who has a right to the *Sickness and Maternity Social Insurance*. The benefit is paid for a total of 126 calendar days, covering the period before and after the child birth. Maternity benefit is equal to 100% of the recipient's average monthly insured income (AMII) (see section 2.4.4 for more details) with minimum and maximum amounts specified. The level of the benefit didn't change in 2011-2016.

Paternity leave benefit (*tėvystės pašalpa*): a lump sum benefit, which is effective since 1st July 2006 and is granted on the basis of *the Law on Sickness and Maternity Social Insurance*. This benefit could be claimed by a father for the first month of child care (from the child birth until the child reaches the age of one month). The benefit is granted on the basis of *the Law on Sickness and Maternity Social Insurance* if a person before the first day of paternity leave had no less than 12 months over the last 24 months of sickness and maternity social insurance record. The amount of paternity benefit is 100% of the benefit recipient's AMII (see chapter 2.4.5 for more details) with minimum and maximum thresholds specified. Since 2011 amount of the benefit is reduced if additional income (eligible for sickness and maternity social insurance contributions) is received. No changes have been made afterwards.

Maternity (paternity) leave benefit (*motinystės (tėvystės) pašalpa*): a monthly payment granted on the basis of *the Law on Sickness and Maternity Social Insurance* if a person before the first day of childcare leave had no less than 12 months over the last 24 months of sickness and maternity social insurance record. The benefit is paid to one of the parents (adoptive parents) or a guardian until the child reaches the age of 1 year (or 2 years). The benefit is calculated in relation to AMII (see more details in section 2.4.4) with minimum and maximum levels specified. Since 1st January 2012 beneficiaries may choose the duration of leave (1 or 2 years) and this is tied to the different replacement rates of Maternity (paternity) leave benefit (100% if the option of 1 year leave is chosen or 70 and 40% for first and second years). No major changes were made in 2013-2016.

Non-taxable contributory benefits:

Old-age pension *(senatvės pensija):* monthly pension paid for persons who attain the old-age retirement age as specified by the *Pensions'* law and have the minimum or obligatory insurance period specified for the old-age pension. A state social insurance pension consists of three parts: the basic part which is lump-sum, the supplementary part depending on person's previous insured income and the extra supplement for each additional working year exceeding obligatory 30 years insured period. The basic pension cannot be less than 110% of BSA. Since 2004 every person insured for full pension insurance (basic and supplementary parts of pension) may voluntarily choose either to stay only in the social insurance system or switch to the 2nd pension pillar by directing a part of social insurance contributions to a personal account in a chosen privately managed pension fund. This cumulative part of the pension adds to the supplementary part of the old-age pension. At the same time because of lower contributions to the state's social insurance fund, the old-age pension will be respectively lower.

Early old-age pension (*išankstinė senatvės pensija*) can be claimed up to five years before the regular retirement age with 30 years of insurance. Until 1st of January 2012 the requirement of one year of unemployment was applied for persons wanting to receive early old-age pension[12]. The early old-age pension was affected by the Provisional Law on Recalculation and Payment of Social Benefits of the Republic of Lithuania which came into effect on January 1, 2010 and was hold on until 31 12 2011. Amendments to the Law on State Social Insurance Pensions, which envisage a gradual increase in the retirement age, became effective as of 1 January 2012. The retirement age is increased by 4 months per calendar year for women and 2 months per calendar year for men, until it reaches 65 years in 2026.

Work incapacity pension *(netekto darbingumo pensija)*[13]*:* assigned to a person for whom a certain level of incapacity for work is established. The pension varies according to the assessed degree of disability, as well as a person's attained period of insurance. The *minimum* and *obligatory* insurance periods are defined based on a person's age. The work incapacity pension is calculated in analogy to the old age pension, its basic part is calculated in relation to the basic pension amount (see Table 1.3). It was affected by the Provisional Law on Recalculation and Payment of Social Benefits of the Republic of Lithuania which came into effect on January 1, 2010 and was hold on until 31 12 2011. No major changes were made in 2012-2015.

Survivor's or orphan's pension *(našlių ir našlaičių pensija):* pension paid monthly to the spouse and children of a deceased person if the deceased person had been entitled or received the state disability (work incapacity) pension or old-age pension (see above). Survivor pension is a lump-sum monthly amount, equal to 70 LTL (since January 1st 2010 until 31 12 2011 a coefficient of 0.95 was applied according to a Temporary Law on Recalculation and Payment of Social Benefits). This level is set to 21 EUR after currency conversion to EUR in 2015. Orphan's pension is linked to the deceased person's pension. No major changes were made in 2012-2015.

Unemployment social insurance benefit (*nedarbo draudimo išmoka*) is a monthly benefit paid to the unemployed people if they have a sufficient unemployment social insurance record. The required service record is at least 18 months during the last three years and a person must be actively looking for a job. The duration of benefit payment depends on the unemployment insurance history. The benefit amount is comprised of fixed and variable components, which relate to the SSI, CYI and the averaged *insured income* levels. With the adoption of the Temporary Law on Recalculation and Payment of Social Benefits starting from the 1st January 2010 the monthly benefit was capped at LTL 650 for the entire period of the benefit payment.

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[12] Based on the following law: 2003-11-18, No. IX-1828 „Lietuvos Respublikos valstybinių socialinio draudimo senatvės pensijų išankstinio mokėjimo įstatymas". 2003, No. 114-5116.
[13] Until 1st July 1, 2005 defined as invalidity *(invalidumo)* pension.

No changes in 2011-2014. Since January 1st 2015 the cap on benefit was removed and the the maximum monthly benefit restored to 70% of current year's insured income (CYI).

Sickness benefit (*ligos pašalpa*): granted on the basis of *the Law on Sickness and Maternity Social Insurance* and is given to people who have required social insurance coverage. The benefit is calculated on the basis of insured income (II) with maximum and minimum thresholds applied. The benefit is paid partly by the employer (for initial days) and partly by the State Social Insurance Fund. No changes in 2011-2014. Since January 1st 2015 sickness benefit which is paid from the State Social Insurance Fund was increased (to 80% of beneficiary's reimbursed remuneration).

Vocational rehabilitation allowance (*profesinės reabilitacijos pašalpa*): granted on the basis of *the Law on Sickness and Maternity Social Insurance.* The allowance is paid monthly for the entire period of the rehabilitation programme, but not for longer than 180 calendar days. The allowance is equal to 85% of AMII, and it cannot be lower than 2 times *basic monthly pensions* (see Table 1.3), valid before the start of rehabilitation. The benefit has been introduced since 1st July 2005. The upper limit for this type of allowance was set since January 1, 2010 until December, 2011 with the introduction of the Temporary Law on Recalculation and Payment of Social Benefits. During 2010-2011 the maximum reimbursed remuneration for calculation of vocational reahabilitation allowance could not exceed the sum of the 4 times the amount of the insured income approved by the Government for the current year[14]. Since 1st of January 2012 the upper limit for this type of allowance is 3,2 times CYI[15]. No changes were made in 2013-2016.

Occupational disease allowance *(profesinės ligos pašalpa):* monthly allowance paid to people, covered by social insurance, at the moment when the right to this benefit has occurred. The benefit is paid until the person's return to work or until the assignment of other benefit, i.e. work incapacity pension. The benefit is calculated on the basis of insured income (II) and is equal to 100% of the AMII.

Work incapacity grant *(netekto darbingumo vienkartinė kompensacija)*: a lump-sum amount paid in the amount of 10% of the sum of RI, averaged over the last 12 salary months, times 24 (months) if up to 20% of work capacity is (temporarily) lost; or 20% of the sum of II, averaged over the last 12 salary months, times 24 (months) if less than 30%, but more than 20% of work incapacity is (temporarily) lost. If the lost work incapacity is permanent, then the grant is three times higher than the relevant grant amount, indicated under different degrees of lost (temporary) work incapacity.

Work incapacity periodical compensation *(netekto darbingumo periodinė kompensacija)* is a monthly compensation for insured persons who lost 30% or more of his/her work capacity because of an accident at work or professional disease.

- *Abolished benefits*

State and state social insurance loss of breadwinner's pensions *(valstybinės maitintojo netekimo pensijos ar valstybinės socialinio draudimo maitintojo netekimo pensijos)* are awarded for the persons deceased before January 1, 1995. The persons who are entitled to receive or who receive these pensions also have a right to simultaneously receive one of the following (if entitled) pensions: the state social insurance old-age, work incapacity, invalidity, retirement,

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[14] Based on the following law: 2009-12-09, No. XI-537 „Lietuvos Respublikos socialinių išmokų perskaičiavimo ir mokėjimo laikinasis įstatymas". 2009, No, 152-6820.
[15] Based on the following law: 2000-12-21, No. IX-110 „Lietuvos Respublikos Ligos ir motinystės socialinio draudimo įstatymas". 2000, No. 111-3574.

survivor's or orphan's pension. The exception is the orphan's pension which should be paid together with the loss of breadwinner's pension if the other parent was deceased before 1ˢᵗ January 1995. For those still in receipt, it was affected by the Provisional Law on Recalculation and Payment of Social Benefits of the Republic of Lithuania which came into effect on January 1, 2010 and was hold on until 31 12 2011.

Retirement pensions *(ištarnauto laiko pensijos)* are paid if the entitlement to these pensions has been granted before January 1, 1995. A person could choose to opt for old-age or work incapacity pensions instead of the retirement pension. For those still in receipt, it was affected by the Provisional Law on Recalculation and Payment of Social Benefits of the Republic of Lithuania which came into effect on January 1, 2010 and was hold on until 31 12 2011.

Invalidity pensions *(invalidumo pensijos)* are pensions for the disability reasons and awarded before July 1, 2005. Invalidity pensions are paid until the expiration of their entitlement or until other pensions types, such as old-age or work-incapacity pensions have been assigned. Paid invalidity pensions are updates with major parameter changes (i.e. change in social pension base). If people at the same time are entitled to receive the old-age pension, they are entitled to choose a larger pension or one of these pensions at their own choice. For those still in receipt, it was affected by the Provisional Law on Recalculation and Payment of Social Benefits of the Republic of Lithuania which came into effect on January 1, 2010 and was hold on until 31 12 2011.

- *Not strictly benefits*

Promotional education stipends *(skatinamosios stipendijos)*: educational stipends given to students from all type of higher public educational institutions. The stipends are paid from the institutional scholarship funds based on specific institutional educational performance criteria, while the government defines overarching maximum stipend levels. Maximum levels also depend on the educational institution type. The rate and criterions for receiving promotional education stipends are determined by the schools themselves according to the regulations on the provisions of stipends. No major changes applied in 2011-2016.

Social stipends (*socialinės stipendijos***):** is a type of educational stipend given to students from low income families if they study at public educational institutions. Social stipends are assigned to educational establishment, as part of their institutional scholarship fund. Social stipends (3 BSA[16]) are paid only for the students in higher education, students have a right to get social stipends and promotional stipends at the same time; students from vocational training institutions can get lump sum payments from the school budget on decision of appropriate administrative body. Since the July 1, 2011 the State Studies Foundation is responsible for Social stipends payment.[17] No changes were made afterwards.

Compensations for heating of a dwelling, cold and hot water expenses, and sewage *(kompensacijos už būsto komunalines paslaugas)* (hereinafter referred to as "compensations"): granted to families and single persons if the value of family's or person's assets does not exceed

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[16] Based on the following resolution "Nutarimas dėl Lietuvos Respublikos Vyriausybės 1995 m. kovo 31 d. nutarimo Nr. 473 „Dėl valstybinių aukštųjų mokyklų dieninės studijų formos pagrindinių, vientisųjų ir antrosios studijų pakopos studentų stipendijų" pakeitimo". 2008.10.14 Nr. 1033. http://www3.lrs.lt/pls/inter2/dokpaieska.showdoc_l?p_id=329076.

[17] Based on the following resolution "Socialinių stipendijų aukštųjų mokyklų studentams skyrimo ir administravimo tvarkos aprašas". Patvirtinta Lietuvos Respublikos Vyriausybės 2009 m. gruodžio 23 d. nutarimu Nr. 1801. http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=390234.

the established ratio of property value and if all family members (single persons) meet the same eligibility criteria as described for the receipt of the social benefit. Compensations are only paid for the specified ratios of expenses, based on the notional defined sizes of useful space and ratios for certain types of utilities. Since 1st January 2012 Compensations are paid also for those, who rent apartments (only owners of apartments were eligible before). The notional defined size of useful space applied for compensations calculation was increased since 1st January 2012. No major changes were made afterwards.

Municipal support *(vienkartinės pašalpos iš savivaldybių biudžetų):* municipalities have a right to grant a one-time social support benefit for the families or single persons if they do not pass the income test or the eligibility criteria imposed on the family members. The rules of granting a one-time municipal social support are set at the local authorities' level.

Social assistance to pupils (socialinė parama mokiniams): means-tested non-cash benefit that consists of free meals to pupils and free school's supplies prior to the beginning of a new school year.

Compensation for drugs and medical devices (*vaistų ir medicinos pagalbos priemonių įsigijimo išlaidų kompensavimas***):** awarded to insured people based on *the Law of Health Insurance*. Children until age of 18 and 1st degree disabled people have a right to 100% compensation for approved drugs and medical devices. Pensioners, other disabled people, or people ill with certain disease have a right to partial compensation of approved drugs and medical devices. People get immediate discounts at pharmacies for particular approved drugs or medical devices.

Medical rehabilitation and compensation for sanatorium expenses (*medicininės reabilitacijos ir sanatorinio gydymo išlaidų kompensavimas)***:** awarded to insured people based on *the Law of Health Insurance*. 100% of medical rehabilitation expenses are compensated for children until the age of 18, 1st degree disabled people and people ill with certain diseases. 90% of basic sanatorium expenses are compensated for children until age 7 and disabled people until age 18. Basic sanatorium prices are defined by the Health Ministry.

Funeral Benefit (*laidojimo pašalpa***):** non-contributory lump-sum benefit (equal 8 BSA in 2011-2016) for the family member of the deceased or for another individual who arranges a burial.

Periodical compensation in case of death of insured *(Periodinė draudimo išmoka apdraustajam mirus)*: is paid monthly to family members and the amount is equal to work incapacity periodical compensation divided by the number of persons qualifying for the compensation. This compensation is paid as an entitlement due to occupational accidents or occupational disease insurance social insurance. The benefit calculation rules did not change over the period of 2011-2016.

Grant in case of death of insured *(Vienkartinė draudimo išmoka apdraustajam mirus)*: a lump-sum amount paid for the family members of the deceased in the amount of 100* applicable CYI (see Table 1.2). The grant is equally divided for each family member. This grant is paid as an entitlement due to occupational accidents or occupational disease insurance social insurance. The benefit calculation rules did not change over the period of 2011-2015.

Severance pay/compensation (*Išeitinė kompensacija***):** paid if the labour contract is terminated at the employer's initiative and no fault of employee is identified. The severance pay/compensation is paid by the employer in relation to the employment duration at the company. This benefit is subject to personal income tax.

1.3   Social contributions

Social insurance contributions (*socialinio draudimo įmokos*) to the State Social Insurance Fund (*Socialinio draudimo fondas, SoDra*) are compulsorily paid by all employers and employees of private and public sectors as well as main categories of self-employed people. Contributions are flat-rate without ceilings, but they differ for employees and self-employed. Furthermore, contribution rates vary considerably among different categories of self-employed people. Social insurance contributions are paid for pension, health care, sickness and maternity, employment injuries, occupational diseases and unemployment insurances.

Employee's contributions: All employees of private and public sector pay 3% of gross wages and salaries as social insurance contributions to pension social insurance and 6% to health social insurance.[18]

Employer's contributions: All employers of private and public sector pay on behalf of their employees 31% of gross wages and salaries to pension social insurance, sickness and maternity social insurance, unemployment social insurance, health insurance, employment injuries and occupational diseases social insurance.

Contributions for self-employed: Since 2009 self-employed persons, with the exception of the persons engaged in individual activities under business certificates, pay social insurance contributions for the basic and additional pension part as well as sickness and maternity social insurance (insured only to receive maternity leave benefit, paternity leave benefit and maternity (paternity) benefit).[19] Social insurance contributions have to be paid on income from sports, performing or authorship/copyright agreements (until 2009 were only taxed by PIT). In 2011 the owners of the individual enterprises and 'real members' of agricultural communities are not subject to sickness and maternity social insurance contributions. On behalf of certain individual groups government pays contributions (so called *credited contributions)* for all kinds of social insurance (see section 2.5.3). No major changes in 2012-2016.

Self-employed persons engaged in individual activities under business certificates compulsory pay social insurance contributions for the basic pension part. The contribution is equal to 50% of the state basic pension.

Compulsory health insurance contributions (*privalomojo sveikatos draudimo įmokos*): Compulsory health insurance contributions are set to 9% rate of the taxable income, gross wage or the MMS corresponding to the group the insured person belongs to. The annual compulsory contribution cannot be less than 9% of the 12 MMS valid on the last day of the each month of the year. On behalf of certain individual groups government pays contributions (see Section 2.5.3 for details).

Payments to the Guarantee Fund (*įmokos į garantinį fondą*): Enterprises pay contributions to the Guarantee Fund. The rate was 0.1% of the employees' gross salary (which is the basis for calculating social insurance contributions) in 2011.[20] Since 1st January 2012 the rate of

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[18] Based on the following laws "*Lietuvos Respublikos Valstybinio socialinio draudimo fondo biudžeto 2009 metų rodiklių patvirtinimo įstatymas*". *Žin., 2008, Nr.149-5998. and "Lietuvos Respublikos sveikatos draudimo įstatymas*". *Žin., 1996, Nr. 55-1287.*

[19] Based on the following law "*Lietuvos Respublikos Valstybinio socialinio draudimo įstatymo 2, 4, 6, 7, 8, 9 straipsnių pakeitimo ir papildymo įstatymas*". *Žin.., 2009, Nr. 25-972.*

[20] Based on the following law "*LR Garantinio fondo įstatymo 1, 2, 4, 5, 6, 8, 9, 10, 11, 12, 13 straipsnių pakeitimo ir papildymo įstatymas*". *Žin., 2008, Nr.79-3100*

payments to the Guarantee Fund was increased up to 0.2%[21]. Resources from the Guarantee Fund are allocated to current and past employees of bankrupted enterprises, which are indebted to employees. Since 1st March 2013 payments to the Guarantee Fund must pay not only employers – juridical persons, but also employers – natural persons, farmers and others natural persons engaged in individual activity[22]. No changes in 2014-2015.

1.4 Taxes

Personal Income Tax (*asmens pajamų mokestis)* is a flat rate tax applied on an individual basis. This tax is paid according to the *Law on Income Tax.* In 2011-2013 all income, except income from distributed profit and income which is subject to a tax rate of 5%, were subject to a uniform tax rate of 15%. During the period of 2011-2013 income from distributed profit was taxed by 20% rate. Since the 1st January 2014 income from distributed profit is subject to a tax rate of 15%. Since 2011 a tax rate of 5% is applied to income from individual activities, except of income from "free occupations" and from securities. Also a tax rate of 5% is applied to income from agriculture activity (for persons who are engaged in agriculture and who must register or are registered as payers of VAT). Since the beginning of 2014 the 5% rate is also applied to income from not individual activities when this income is received from the sale or other transfer of ownership of base metal scrap. The income tax of a fixed amount is paid to acquire a business certificate. According to the *Law on Income Tax*, the list of tax-exempt incomes includes more than 50 categories, most importantly, all state social assistance or social insurance benefits, paid from state and municipal budgets or *Social Insurance Fund* (except sickness, maternity leave, paternity leave and maternity (paternity) leave benefits). No major changes in 2015 and 2016.

Corporate Income Tax (*pelno mokestis*) is paid by Lithuanian and foreign entities. For the purpose of calculating taxable profits of a Lithuanian entity non-taxable income and allowable deductions can be deducted. In the 2011-2016 period the tax rate on the taxable profits of Lithuanian entities and permanent establishments was 15%. A tax rate of 15% is also applied to income from distributed profits. Received financial support, used not in accordance to The Law on Charity and Financial Support, and financial support exceeding a total amount of 250 BSA is taxed without any deductions by 15%. Moreover, 15% tax rate applies to fixed corporate income tax base of shipping entities (without any deduction). In 2011-2016 the tax rate of 10% without any deduction was applied to the income of a foreign entity, sourced in the Republic of Lithuania, received otherwise than through its permanent establishments situated in Lithuania. Under the *Law on Corporate Income Tax*[23], different rates (0%, 5%, 15%) may apply according to the size (number and status of employees) and type of the entity and the profit amount.

Inheritance tax (*paveldimo turto mokestis*) is charged using a progressive tax schedule. 5% rate applies if a value of inherited property is up to 0.5 mln LTL (150 thous. EUR since 2015), if the value is higher, 10%. No tax is applied to property that is inherited by spouses, close kin and for property with value is up to 10,000 LTL (3,000 EUR since 2015). Some allowances or deductions may be made by municipalities.

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[21] Valstybinė mokesčių inspekcija: http://mic.vmi.lt/documentpublicone.do?&id=1000122600&tree_id=1000007371
[22] Based on the following law „Lietuvos Respublikos Garantinio fondo įstatymas". Žin., 2000, Nr. 82-2478. http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=450163.
[23] Based on the following law: 2001-12-20 No. IX-675 "Lietuvos Respublikos pelno mokesčio įstatymas". 2001, No. 110-3992.

Land taxes *(žemės mokestis)* are based on the assessed value of the land and paid by the land owner. The rate of land tax is 1.5% of the assessed value of land. The land tax calculation is based on land value, which is estimated according to land assessment methodology proven by the Government.[24] Generally, a land tax value is based on immovable property register data and it is calculated by the local State Tax Inspectorate. Some people are exempt from land tax liability, e.g. disabled, pensioners, and children. Some allowances or deductions may be made by municipalities. Since 1st January 2013 the rate of land tax ranges from 0.01% to 4% of the assessed value of land and is defined individually by each council of municipality[25]. No changes were applied afterwards.

Value Added Tax (*pridėtinės vertės mokestis***):** In 2011-2016, the standard VAT rate is 21%. Reduced 9% VAT rate applied to heating energy used for heating of the living dwellings, hot water and cold water used for preparing hot water, including heating energy used for the heating of water, for the living dwellings. Before 1ˢᵗ January 2015 9% VAT rate also applied to printings (books and non-periodical publications). In 2013-2014 reduced 9% VAT rate is also applied to newspapers, magazines and other periodical publications with the exception of publications of erotic and/or violent content or publications which were recognized as violating professional ethics by a competent authority or printed materials in which payable advertisements take more then 4/5 of the whole space. 5% VAT rate applied to state-compensated medicine and medical assistance tools. 0% rate applied to export and transit of goods and related services. From the 1ˢᵗ January 2011 till the end of 2011 and since 1ˢᵗ January 2015 the 9% VAT rate was applied to hotel-type and other accommodation services foreseen by laws on tourism activities. Since 2013 reduced 9% VAT rate is applied to passenger transport by regular routes as determined by the Ministry of Transport and Communications or an institution authorized by it or by municipalities, as well as to transportation of passenger luggage in the aforementioned transport passenger transport was reintroduced again (it was effective until 2011). Since 2013 reduced 5% rate also applies to technical aids for disabled and its' maintenance.

Excise Duties (*akcizai***)** are charged on alcohol and alcoholic beverages, beer, tobacco, fuel and electric power and electrical production.

Social Tax (*socialinis mokestis***)** was a temporary tax, effective from 1ˢᵗ January 2006 and applied only for the years 2006 and 2007. This social tax was paid by the legal entities which were obliged to pay corporate income tax. The tax base was the same as for corporate income tax. The social tax rate for 2006 was 4%, while for 2007 it was 3%.

Immovable Property Tax (*nekilnojamo turto mokestis***):** This tax is paid by natural and legal persons. 'Immovable property' means the premises, engineering and other structures registered in the Real Property Register. This tax is imposed on 1) the immovable property (or part) belonging to natural persons by the right of ownership and located in Lithuania, with the exception of the structures (premises) intended for dwelling purposes, gardens, garages, homesteads, greenhouses, farms, subsidiary farms, science, religion, and recreation, fish-farming structures as well as engineering structures, where they are not the immovable property used for economic or individual activities or have not been transferred, for an indefinite period or for a period exceeding one month, for use to legal persons; 2) the immovable property belonging to legal persons by the right of ownership and located in Lithuania. In 2011, the tax

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[24] Based on the following resolution "LR Vyriausybės 1993 m. rugpjūčio 3 d. nutarimas Nr. 603 „Dėl žemės mokesčio".

[25] Based on the following law "Lietuvos Respublikos Žemės mokesčio įstatymo pakeitimo įstatymas". Žin., 2011, Nr. 163-7743.
http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=415667&p_query=&p_tr2=2

rate was 0.3-1% of average market value of the immovable property, depending on the municipality. Since 1st January 2013 the tax rate is 0.3-3% of the taxable value of immovable property[26.] The exact tax rate is determined by municipalities. New Immovable Property Tax on real estate was introduced since January 1, 2012. The tax base is market value of immovable property above 1 000 000 LTL (290 thous. EUR). The tax rate is 1%[27]. No major changes were made in 2014. Since 1st January 2015 the tax rate is 0.5% and the tax base is market value of immovable property above 220,000 EUR (non-taxable value of real estate is increased by 30% for families with 3 or more children (adopted children) under 18 years old, and for families with disabled children (adopted children) under 18 years old and older children which has established a special need for permanent care.

Other taxes

Other indirect taxes include Income Deductions according to Forest Law, Sugar Sector Taxes, Lottery and Gambling Tax, Vehicle Tax, Environment Pollution Taxes, Tolls and International Trade and Transaction Taxes.

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 in EUROMOD. Some of the taxes or benefits are beyond the scope of EUROMOD (i.e. indirect or business taxation) and are therefore excluded from further simulations or imputations into the EUROMOD underlying database. Their descriptions serve primarily as a tool for a better understanding of the overall tax-benefit structure in Lithuania. Some of the direct taxes and benefits are also not possible to simulate based on the available data. If feasible, though, they are included (as observed in the original data source) in the EUROMOD database either as individual or/and aggregate income sources.

Table 2.1 and Table 2.2 list the main Lithuanian tax-benefit instruments, as discussed in Section 1, and provide a brief explanation as to why the instrument is not (fully) simulated or in which format it is included in the EUROMOD database. Most of the benefits that are simulated in EUROMOD are family benefits that depend on the number of children and their age. Furthermore, simulations are possible for a number of contributory (social insurance based) benefits, such as maternity leave or benefits assigned to low income households. A number of benefits with entitlement rights dependent on contribution history (i.e. pensions, sickness benefit, disability benefits, etc.) are not simulated due to the lack of data on previous employment history and salaries received, some event occurrence (i.e. disability or accident at work), or lack of information on previous partner entitlements (i.e. survival pensions).

Most of the direct income taxes and social insurance contributions are simulated (except some minor ones), as they are calculated as percentages of gross labour earnings, which are available in the EU-SILC database. Nevertheless, application of some income tax allowances (or

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[26] Based on the following law "Lietuvos Respublikos Nekilnojomojo turto mokesčio įstatymo 6 straipsnio pakeitimo įstatymas". Žin., 2012, Nr. 82-4265. http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=429549

[27] Based on following law: "Lietuvos Respublikos Nekilnojamojo turto mokesčio įstatymo 2, 4, 6, 7, 11, 12, 14 straipsnių pakeitimo ir papildymo Įstatymas", 2011 m. gruodžio 21 d. Nr.XI-1828. http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=415666

estimation of some income taxation is not possible) or not accurate enough due to the lack of more detailed information on a person's disability degree, economic activity type or other specific socio-economic information that is not collected in the EU-SILC database. In such cases, basic tax allowance levels or other general income taxation rules are applied.

Table 2.1 Simulation of benefits in EUROMOD

Benefit	Variable name(s)	Treatment in EUROMOD				Main limitations/other remarks
		2013	2014	2015	2016	
Birth grant	bchba_s	S	S	S	S	
Child benefit	bch00_s	S	S	S	S	
Benefit to a conscript's child	-	E	E	E	E	No recipients could be observed due to the very limited scope of the benefit.
Guardianship benefit	bchor	I	I	I	I	No data on guardianship (curatorship); also included in the variable bfa.
Grant for housing (settlement)	-	E	E	E	E	Not identified in the UDB
Pregnancy grant	bmaprnc_s	S	S	S	S	No data on contribution history
Maternity leave benefit	bmaprct_s	S	S	S	S	No data on contribution history
Paternity leave benefit	bplct_s	S	S	S	S	No data on contribution history
Maternity (paternity) leave benefit	bmact_s	S	S	S	S	No data on contribution history
Social benefit	bsa00_s	PS	PS	PS	PS	No data on assets
Compensations for heating of a dwelling, cold and hot water expenses, and sewage	bho	I	I	I	I	No data on expenditures available
Unemployment social insurance benefit	bunct_s	PS	PS	PS	PS	No data on contribution history
Old-age pension	boa	IA	IA	IA	IA	No data on contribution & wage history;
Early retirement (old-age) pension	byr	I	I	I	I	No data on contribution & wage history or application for early-retirement; also included within aggregate variable bun

Benefit	Variable name(s)	Treatment in EUROMOD				Main limitations/other remarks
		2013	2014	2015	2016	
Work incapacity pension	bdi/boa	IA	IA	IA	IA	No data on disability occurrence; information included in variables bdi or boa (hereinafter referred to as bdi/boa), splitting by retirement age.
Invalidity pension	bdi/boa	-	-	-	-	No data on disability occurrence;
Survivor's or orphan's pension	boa/bsu	IA	IA	IA	IA	No data on the loss of family members; included in variables boa or bsu, based on recipient's retirement age.
Sickness benefit	bhl	IA	IA	IA	IA	No data on sickness duration
Vocational rehabilitation allowance	bdi	IA	IA	IA	IA	No data on event occurrence
Occupational disease allowance	bdi	IA	IA	IA	IA	No data on event occurrence
Work incapacity grant	bdi/boa	IA	IA	IA	IA	No data on incapacity occurrence
Work incapacity periodical compensation	bdi/boa	IA	IA	IA	IA	No data on incapacity occurrence
State pensions of degree one or two	boa	IA	IA	IA	IA	No data on occupational achievements
State pensions for victims	bdi	IA	IA	IA	IA	No data on participation in recognized aggressions, political imprisonment, deportations, etc.
State pensions for officers and soldiers	boa	IA	IA	IA	IA	No data on occupation history
State pensions for scientists	boa	IA	IA	IA	IA	No data on academic career length
State pensions for judges	boa	IA	IA	IA	IA	No data on detailed occupational segregation and history
Compensations for special working conditions	boa	IA	IA	IA	IA	No data on hazardous jobs worked
State social assistance benefits/pensions	boa/bdi	IA	IA	IA	IA	No information on relevant conditions, as disability occurrence, nursing at home, etc.

Benefit	Variable name(s)	Treatment in EUROMOD				Main limitations/other remarks
		2013	2014	2015	2016	
Loss of breadwinner's pension	bsu	IA	IA	IA	IA	No data on previous rights to the benefit;
Retirement pension	boa	IA	IA	IA	IA	No data on previous rights to the benefit
Educational stipends and other financial support for unemployed	bed	IA	IA	IA	IA	No data on participation in non-formal education programmes;
Social stipends	bed	IA	IA	IA	IA	No data on affiliation to different type of educational establishments
Promotional education stipends	bed	IA	IA	IA	IA	No information on grades
Municipal support	bsals	I	I	I	I	No information on different benefit rules by municipalities; inclusive of NGO support.
Free meals to pupils	-	E	E	E	E	Value of the meal could only be based on the maximum subsidy amounts to food providers.
Free school's supplies prior to the beginning of a new school year	-	E	E	E	E	No rules for benefit distribution in 2005-2006. No information on families being at "social-risk or special conditions set by education institutions.
Compensation for drugs and medical devices	-	E	E	E	E	No information on consumption of drugs
Funeral Benefit	bsu	IA	IA	IA	IA	No information on the loss of family members or benefit split among the relatives
Severance pay	yunsv	I	I	I	I	No information on circumstances upon termination of the job contract.

[a] Variable extension *"_s"* indicates variable that has been simulated. Other variables are taken/ imputed from the used micro-data.

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

Taxes and social contributions	Variable name(s)	Treatment in Euromod				Main limitations
		2013	2014	2015	2016	

Taxes and social contributions	Variable name(s)	Treatment in Euromod				Main limitations
		2013	2014	2015	2016	
Personal Income Tax on wages	tin_s	S	S	S	S	Comment for 2009: main tax rate applied to more categories of income
Personal Income Tax (from authorship contracts, royalties)	tin_s	S	S	S	S	Comment for 2009: main tax rate apply on authorship, contracts, royalties
Personal Income Tax on rent	tin_s	S	S	S	S	Rent is a component of the other property related income. Comment for 2009: main tax rate apply on rent
Personal Income Tax on income from individual activity	tin_s	S	S	S	S	Comment: for 2009 main tax rate apply on income from individual activity
Personal Income Tax (acquisition of business certificate)	-	E	E	E	E	No information on income gained from activities with business certificate
Corporate Income Tax	-	n.a.	n.a.	n.a.	n.a.	Outside the scope of the model
Social Tax	-	n.a.	n.a.	n.a.	n.a.	Outside the scope of the model
Land Tax	-	E	E	E	E	Outside the scope of the model
Inheritance tax	-	E	E	E	E	No information available
Immovable property tax	-	E	E	E	E	Outside the scope of the model
VAT	-	n.a.	n.a.	n.a.	n.a.	Outside the scope of the model
Income Deductions according to Forest Law	-	E	E	E	E	Outside the scope of the model
Income Deductions according to Law on Road Maintenance and Development Programme Financing	-	-	-	-	-	Outside the scope of the model
Excise	-	n.a.	n.a.	n.a.	n.a.	Outside the scope of the model
Sugar Sector taxes	-	E	E	E	E	Outside the scope of the model
Lottery and Gambling tax	-	E	E	E	E	Outside the scope of the model
Vehicle Tax	-	E	E	E	E	Outside the scope of the model
Environment Pollution Taxes	-	E	E	E	E	Outside the scope of the model
Tolls	-	n.a.	n.a.	n.a.	n.a.	Outside the scope of the model
International trade and transaction taxes	-	n.a.	n.a.	n.a.	n.a.	Outside the scope of the model
Credited social contributions	ils_sicct	PS	PS	PS	PS	Only some of the eligible groups identified.

Taxes and social contributions	Variable name(s)	Treatment in Euromod				Main limitations
		2013	2014	2015	2016	
Credited contributions for health insurance	-	S	S	S	S	Simulated since 2009. Before 2009 no information available on amounts to be credited
Employers social insurance contributions:	ils_sicer	S	S	S	S	
- pension social insurance	tscerpi_s	S	S	S	S	
- sickness and maternity social insurance	tscersi_s	S	S	S	S	
- unemployment social insurance	tscerui_s	S	S	S	S	
- health insurance	tscerhl_s	S	S	S	S	
- employment injuries and occupational diseases social insurance	tscerac_s	S	S	S	S	
-payments to the guarantee fund	tscersf_s	S	S	S	S	
Employees social insurance contribution:	ils_sicee	S	S	S	S	
- pension social insurance	tsceepi_s	S	S	S	S	
- sickness and maternity social insurance	tsceesi_s	-	-	-	-	
- health insurance	tsceehl_s	S	S	S	S	
Self-employed social insurance contributions:	ils_sicse	S	S	S	S	
- for pensions	tscsepi_s	S	S	S	S	
- for compulsory health insurance	tscehl_s	S	S	S	S	No data on income received from authorship contracts. No data on land size.
- sickness and maternity social insurance	tscsesi_s	S	S	S	S	

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; "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.

In addition to changes in the level of taxes and benefits, as well as their related calculation parameters or income lists, the following are the main structural changes in the LT system (simulated policies) since 2011:

- ***Structural changes between 2011 and 2012***

Maternity (paternity) leave benefit duration and its amount became optional. It may be paid for 1 or 2 years by the decision of beneficiaries. If benefit is paid for 1 year, the replacement rate of

the benefit is 100% of insured person's income (subject to ceilings). If benefit is paid for 2 years, 70% for the first year and 40% for the second year is paid (subject to ceilings).

Several changes were introduced for Social benefit: equivalence scales for benefit amount, reduction of benefit amount for long term dependants on Social benefit and payment of Social benefit for former long-term unemployed during the beginning of new employment.

Because of financial crises contributory and non-contributory pensions were cut since January 1, 2010 (they were affected by the Provisional Law on Recalculation and Payment of Social Benefits of the Republic of Lithuania which came into effect on January 1, 2010). Contributory pensions were restored since January 1, 2012. Non-contributory pensions were restored since January 1, 2014.

New Immovable Property Tax on personal (natural persons') real estate above 1 000 000 LTL was introduced since January 1, 2012[28].

- *Structural changes between 2012 and 2013*

None.

- *Structural changes between 2013 and 2014*

None.

- *Structural changes between 2014 and 2015*

Lithuanian currency was Litas (LTL) with a fixed exchange rate to Euro (EUR) of 1 EUR = 3.45280 LTL since 2002 to 1st January 2015. Lithuania joined the Eurozone in 2015. The national currency is EUR since 1st January 2015. Hence the currency of the system's parametered are set to EUR since 2015 as well as outputs for all years.

- *Structural changes between 2015 and 2016*

None.

2.2   Order of simulation and interdependencies

- *Order of simulation in 2011-2016*

In 2011-2016 the order of simulation remains the same as in 2005-2010 besides the following changes (see Table 2.3):

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[28] Source: "Lietuvos Respublikos Nekilnojamojo turto mokesčio įstatymo 2, 4, 6, 7, 11, 12, 14 straipsnių pakeitimo ir papildymo Įstatymas", 2011 m. gruodžio 21 d. Nr.XI-1828. Vilnius. http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=415666.

- Self-employed social insurance contributions for pensions, sickness/maternity, health insurance (tscse_lt) are calculated after the personal income tax.

- Child benefit has become means-tested and is no longer included in the incomes' list when defining eligibility to the social benefit. Hence, the child benefit policy is calculated after the social benefit.

- Employment adjustments' module (empl_lt) was introduced for 2009-2011 in order to account for labour market changes during the financial crisis in Lithuania. This policy is switched off in the baseline.

- Structural cuts in public pensions in 2010-2011 are simulated in EUROMOD (boa_lt policy). The cuts were implemented due to financial crisis, they were of progressive nature and had different impact on different groups of pensioners (see Annex II for details).

- Compensations in 2014 due to the cuts in old age, early retirement, disability pensions made in 2010 and 2011 are simulated in EUROMOD (boa_lt policy) (see Annex II for details).

Table 2.3 EUROMOD Spine: order of simulation, 2013-2016

Policy	Grp/No	LT_2013	LT_2014	LT_2015	LT_2016	Comment
▸ ● SetDefault_lt		on	on	on	on	DEF: DEFAULT VALUES FOR VARIABLES
▸ ● uprate_lt		on	on	on	on	DEF: UPRATING FACTORS
▸ ● ConstDef_lt		on	on	on	on	DEF: CONSTANTS
▸ ● ILDef_lt		on	on	on	on	DEF: INCOME CONCEPTS
▸ ● TUDef_lt		on	on	on	on	DEF: ASSESSMENT UNITS
▸ ● random_lt		on	on	on	on	DEF: generate random number
▸ ● yem_lt		off	off	off	off	SWITCH: Minimum wage
▸ ● neg_lt		on	on	on	on	SWITCH: recode negative income to zero
▸ ● bmaprct_lt		on	on	on	on	BEN: maternity leave benefit (motinystes pasalpa)
▸ ● bmaprnc_lt		on	on	on	on	BEN: pregnancy grant (vienkartine ismoka nesciai moteriai)
▸ ● bmact_lt		on	on	on	on	BEN: maternity (paternity) leave benefit (motinystes (tevystes) pasalpa)
▸ ● bplct_lt		on	on	on	on	BEN: paternity leave benefit (tevystes pasalpa) - since 2007
▸ ● bunct_lt		on	on	on	on	BEN: unemployment insurance benefit (nedarbo draudimo ismoka): PART SIMULATED
▸ ● boa_lt		on	on	on	on	BEN: recalculation of public pensions in 2010-2011
▸ ● tscsepi_lt		n/a	n/a	n/a	n/a	SIC: self-employed social insurance contributions
▸ ● tin_lt		on	on	on	on	TAX: personal income tax (asmens pajamu
▸ ● tscsehl_lt		n/a	n/a	n/a	n/a	SIC: self-employed social insurance contributions
▸ ● tscer_lt		on	on	on	on	SIC: employer social insurance contributions
▸ ● tscee_lt		on	on	on	on	SIC: employee social insurance contributions
▸ ● bch00_lt		on	on	on	on	BEN: child allowance (ismoka vaikui)
▸ ● bchba_lt		on	on	on	on	BEN: birth grant (vienkartine ismoka gimus vaikui)
▸ ● bsa00_lt		on	on	on	on	BEN: social benefit (socialine pasalpa)
▸ ● tscct_lt		on	on	on	on	SIC: credited social insurance contributions
▸ ● tscse_lt		on	on	on	on	SIC: self-employed social insurance contributions
▸ ● output_std_lt		on	on	on	on	DEF: STANDARD OUTPUT INDIVIDUAL LEVEL
▸ ● output_std_hh_lt		off	off	off	off	DEF: STANDARD OUTPUT HOUSEHOLD LEVEL

2.3 Policy switches

There are two standard switches included into the spine (see above):

- **neg_lt**: switched ON by default
  - recodes negative income to zero; currently this policy only recodes negative self-employment income to zero, initial value stored in i_yse0

- **yem_lt**: switched OFF by default
  - if hourly wage is lower than hourly minimum wage recalculate in accordance to the minimum wage, leaving hours of work as recorded in the data; if ON overwrites yem.

2.4 Social benefits

2.5 Birth grant *(bchba_s)*

- *Brief description*

This benefit is a lump-sum cash benefit paid upon the birth of a child to one of the parents or a guardian.

- *Definitions*

The primary unit of analysis is family, which consists of partners and their own dependent children. Dependent children are persons aged under 18 or under 24 if in full-time education; they cannot be married, cohabiting with a partner nor parents themselves.

- *Eligibility conditions*

Based on the benefit rules, the benefit is paid to one of the parents or a guardian of a child born that year.

- *Income test*

No income test applied.

- *Benefit amount*

The benefit amounted to 11 BSA per eligible dependent child during the entire 2011-2014 (applicable on 30th June) period.

No changes to the rules since 2014.

2.6 Child benefit *(bch00_s)*

- *Brief description*

It is a monthly cash benefit paid to a family raising one or more children up to the age of 18 or older if in full-time educational system.

- *Definitions*

The unit of analysis is the family as defined in section 2.3.1.

- *Eligibility conditions*

Children from large families (i.e. Type II) are eligible if aged up to 18 or until the age of 24 if enrolled in secondary, vocational, post-secondary or higher education – which is the same condition as used to define dependent children in the assessment unit.

Starting from the 1st January 2010 children living in the Type I families who are over 7 years are not eligible for child benefits.[29]

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[29] According to "Lietuvos Respublikos socialinių išmokų perskaičiavimo ir mokėjimo laikinasis įstatymas". Žin., 2009, Nr. 152-6820.

- *Income test*

In order to receive a child benefit an income test is applied. Starting from the 1st January 2010 till 31st December 2011 children below 2 years were eligible only if their parents or foster parents didn't receive maternity (paternity) leave benefit or this benefit is below 1.5 SSI. In 2011-2012 for both Type I and Type II families with children aged 2 to 7 years and for Type II families with children aged 7 and over, monthly income per family member can't exceed threshold of 1.5 SSI. Since January 1st, 2012 income test was introduced for all groups irrespective of age of child: monthly income per family member can't exceed threshold of 1.5 SSI. No major changes were made in 2013-2016.

- *Benefit amount*

The benefit level is calculated in relation to BSA and varies based on the number of children in the family and their age as presented in Table 2.4.

Table 2.4 Child benefit entitlements on June 30, 2010 – 2016

Year/Family type	2010-2016	
	Type I	Type II
Child until age 2	0.75	0.75
Child aged 3 to 6	0.4	0.4
Child aged 7 to 8	-	0.4
Child aged 9 to 17	-	0.4
Child aged 18 to 23	-	0.4

Notes: (a) Type I refers to children, raised in families with one or two children, Type II refers to children raised in families with three or more children; (b) Age boundaries are inclusive.
Source: Based on *Law of Benefits to Children* and its relevant amendments & *Temporary Law on Recalculation and Payment of Social Benefits*.

No changes to the rules until 30th June, 2016.

2.6.1 Pregnancy grant *(bmaprnc_s)*

- *Brief description*

This benefit is a lump-sum cash benefit paid to a pregnant woman upon the 28th week of the pregnancy.

- *Definitions*

In principle, the primary unit of analysis would be family as defined in section 2.3.1. However, for technical reasons we define a separate family unit, which consists of partners and their own dependent children who are less than 3 years old.

- *Eligibility conditions*

The benefit is paid to pregnant women who are not eligible to receive the maternity leave benefit. See more benefit details in Section 2.3.4.

- *Income test*

No income test applied.

- *Benefit amount*

The benefit is equal to 2 BSA.

No changes to the rules between 2013-2016.

EUROMOD notes

Instead of pregnant women, mothers with an own child aged 0 are considered.

2.6.2   Maternity leave benefit (bmaprct_s)

- *Brief description*

This benefit is a cash benefit paid to a pregnant woman on the basis of *the Law on Sickness and Maternity Social Insurance*. The maternity leave benefit is paid as a lump sum amount for the number of working days in the *applicable period (see below)*. If the applicable period stretches into a different calendar year, the benefit could be paid in two lump-sum amounts.

Applicable period:
The benefit is paid to women for a total of 126 calendar days, which covers the period before the child birth (70 days) and after delivery (56 days). In the case of complicated confinement or if more than one child was born, an additional 14 days are added to the total period.

- *Definitions*

The unit of analysis is the family as defined in section 2.3.1.

- *Eligibility conditions*

The benefit is paid if women before the first day of maternity leave, had sickness and maternity social insurance record for no less than 12 months over the last 24 months, except of those who previously were in full-time secondary, professional or higher education (up to the age of 26) or in civil or military service and the start of the gap between the change of the status and the beginning of the insurance record was not more than 3 months

- *Income test*

No income test applied.

- *Benefit amount*

The maternity benefit is equal to 100% of the recipient's average monthly insured income AMII (see chapter 1.4.1 for more details), and is calculated as:
B = S*100% * D, *where:*
B is maternity benefit; and B>= min B (minimum level)
S is a daily compensatory salary; S<= max (levels specified)
D is the number of working days in the applicable period;

The daily compensatory salary ("S") is calculated by dividing the beneficiary's monthly income (using the month, when the beneficiary has been granted a right to this entitlement) by the number of working days in that month.

"S" has maximum compensatory amounts specified, which are calculated in relation to the CYI. On 30 of June 2011 the upper limit was set to 4 times CYI for newly awarded benefits. Since 1st January 2012 the upper limit was set to 3.2 times CYI for newly awarded benefits and CYI was increased (Table 1.6).

The minimum and maximum benefit levels are calculated based on corresponding CYI level (see Table 1.2). Since 2008 the minimum threshold for the benefit was set as equal to 1/3 of the corresponding year's insured income (CYI). Until end of 2011 AMII used for calculations could not be higher than 4 times of CYI. Since 1st January 2012 the upper limit was set to 3.2 times CYI for newly awarded benefits.

Until 30th of June, 2011 benefit B was multiplied by the number of born children. Since July 1, 2011 this rule was abolished and the maternity benefit was no longer multiplied by the number of born children.

No other changes since then.

EUROMOD notes

The payment for additional 14 days is currently not simulated (due to data constraints).

As social insurance contribution information is not available, all mothers with an own child aged 0 in EUROMOD are considered eligible if they have been in work for more than six months in the current year[30] (as suggested by observed patterns in the underlying data).

The AMII is approximated in EUROMOD (thereby, also for other relevant family benefits) using either estimated hourly wage rate multiplied by work hours per month (i.e. 168 hours on average) or observed monthly earnings.

2.7 Paternity leave benefit *(bplct_s)*

- *Brief description*

The benefit was introduced from 1st July 2006, and is granted on the basis of *the Law on Sickness and Maternity Social Insurance*. It could be claimed by a father who has a newborn child. The benefit is paid up to one month (from the child birth until the child reaches the age of one month).

- *Definitions*

The unit of analysis is the family as defined in section 2.3.1. Insured income definition is presented in section 1.1.

- *Eligibility conditions*

Before the first day of paternity leave, a father must have no less than 12 months over the last 24 months, except of those who previously were in full-time secondary, professional or higher education (up to the age of 26) or in civil or military service and the start of the gap between the change of the status and the beginning of the insurance record was not more than 3 months.

There is a statutory requirement to have a legal acknowledgement of the fatherhood of the child in case child was born outside marriage.[31]

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[30] Note that being on maternity leave is considered as in work in the underlying data source, i.e. EU-SILC.

[31] According to the following law: Lietuvos Respublikos Ligos ir motinystės socialinio draudimo įstatymo 3, 5, 6, 8, 10, 15, 16, 17, 18, 181, 183, 19, 20, 21 straipsnių pakeitimo ir papildymo įstatymas. 2007 m. Gruodžio 4 d. Nr. X-1338: http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=310952

- *Income test*

No income test applied.

- *Benefit amount*

The amount of paternity benefit is 100% of the benefit recipient's AMII (see chapter 1.1 for more details). Until end of 2011 AMII used for calculations could not be higher than 4 times of CYI. Since 1st January 2012 the upper limit was set to 3.2 times CYI for newly awarded benefits and CYI was increased (Table 1.2). The benefit cannot be lower than 1/3 of CYI per month.

Starting from the 1st January 2011, the paternity benefit is reduced proportionally to the amount of the income eligible for sickness and maternity social insurance contributions received during the paternity leave, except of the payments for copyright agreements if the job was performed before the start of the paternity leave.

No other changes to the rules between 2013-2016.

EUROMOD notes

As information on social insurance record is not available in EUROMOD, all fathers with an own child aged 0 are considered eligible. The requirement of having a legal acknowledgement of fatherhood (since 2008), cannot be simulated in the model.

2.8   Maternity (paternity) leave benefit *(bmact_s)*

- *Brief description*

This benefit is a monthly benefit granted on the basis of *the Law on Sickness and Maternity Social Insurance* in order to support early child care at home. The benefit is paid to one of the parents (adoptive parents) or a guardian on the childcare leave after the end of maternity leave or paternity leave payment until the child reaches the age of 1 year (or 2 years). If the mother did not receive maternity leave benefit, this benefit would be calculated as of the child birth day.

- *Definitions*

The unit of analysis is the family as defined in section 2.3.1. Insured income definition is presented in section 1.1.

- *Eligibility conditions*

The benefit is granted if a person, before the first day of childcare leave, have no less no less than 12 months over the last 24 months, except of those who previously were in full-time secondary, professional or higher education (up to the age of 26) or in civil or military service and the gap between the change of the status and the beginning of the insurance record was not more than 3 months.

No income test applied.

- *Benefit amount*

Since 1st January 2012 maximum Maternity (paternity) leave benefit duration and its amount can be chosen between two available options. It may be paid 1 or 2 years by decision of beneficiaries. Mother or father can choose to take benefit only during the 1st year with

compensation rate is being equal to 100%, or to take benefit during the two years period: compensation rate is 70% during the first year and 40% during the second year. It is allowed to work (have insured income) and to receive full amount of eligible benefit during the second year.

The amount of the child care benefit is paid as a percentage of the recipient's AMII (see more details in chapter 1.1). During the entire receipt period, this benefit also has a minimum amount specified: it cannot be less than 1/3 of CYI per month. The used AMII cannot be higher than 3.2 times CYI for newly awarded benefits since the 1st January 2012.

Since the 1st July 2011 benefit size multiplied with number of births but cannot exceed 100% of compensation rate.

If a person has any type of *insured income*, the originally calculated maternity (paternity) leave benefit is reduced by the amount of this income during the first year of receipt. It is not reduced during the second year of receipt.

The level and duration of benefit entitlement has not changed during the period of 2013-2016 (See Table 2.5).

Table 2.5. The rate of maternity (paternity) benefit, 2013-2016 (as of 30th June)

	2013-2016
Duration	Optional, 1 or 2 years in total
Compensation rate 1st year, %	100/70
Max. benefit duration the 1st year, months*	12
Compensation rate 2nd year, %	0/40
Max. benefit duration the 2nd year, months	0/12
Benefit size multiplied with # of births	Yes, but cannot exceed 100%

Notes:* If a mother/father has received a maternity leave or paternity leave benefit, the payment duration is reduced by the time (56 days and 1 month respectively) for which the relevant benefit has been paid.
Source: Based on the *Law on Sickness and Maternity Social Insurance*

EUROMOD notes

- As social insurance contribution information is not available, all mothers with an own child aged 2 or below are considered eligible if they have been in work for more than six months in the current year[32] (as suggested by observed patterns in the underlying data).
- Simulations of opting for different options of maternity (paternity) benefit are built in accordance with administrative statistics: in 2012 14% of eligible mothers had chosen to receive their maternity (paternity) benefit for one year and 86% for two years. Mothers opting for either choice are selected randomly. Mothers with several children are randomly assigned to a single choice for all children. In 2013 only 9.6% chose to receive maternity (paternity) benefit for one year, while the rest 90.4% for two years. In 2014 the majority of benefit recipients opted for the two year benefit (93.1%) and only 6,9% (1817 out of 26256) chose to receive the benefit for 1 year. In 2015 8.2% chose to receive maternity (paternity) benefit for one year and 91.8% - for two years[33]. No

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[32] Note that being on maternity leave is considered as in work in the underlying data source, i.e. EU-SILC.

[33] Based on information from Atvira Sodra: http://atvira.sodra.lt/lt-eur/

information available on 2016 at the time of writing, hence same split between the two options is assumed.

- In 2013, among those who chose to receive benefit for one year more than 1/3 are men, however it constitutes only around 3.5 percent of all beneficiaries. Among those who had chosen to receive benefit for two years, only 4% of fathers took child care leave during the first year, meanwhile the share of men taking child care leave during the second year grew up to almost 20 percent. In 2014 among those who receive one year benefit men constituted around 41 percent, however it accounts for only 2,9% or all recipients). Among those who had chosen to receive benefit for two years, about 25.5% are men. Benefit take-up decisions are not modelled. The recipient is always assumed to be the mother; father if there is no female partner in the household or mother not eligible.

2.8.1 Social benefit (*bsa00_s*)

- *Brief description*

This monthly benefit is granted to families or single persons in case of income maintenance need. Social assistance benefit is granted for three months. The application must be re-submitted upon benefit expiration, unless local authorities have granted the benefit for the period exceeding three months (i.e. if the composition and income of the family has not changed).

- *Definitions*

The unit of analysis is family, which consists of partners and their own dependent children. Dependent children are persons aged under 18 or under 24 if in full-time education or unemployed; they cannot be married, cohabiting with a partner nor parents themselves.

Single persons are persons aged 18 and above:
- who are not married and reside alone;
- who are married childless persons, but residing alone by the court's judgement;
- who are married persons residing alone, as their children are staying with their spouse by the court's judgement.

Family definition for the purpose of granting social assistance includes the following persons:
- spouses or cohabitating couples;
- their children and adopted children under 18 years of age;
- single persons (children) between the ages of 18 and 24 who are unemployed, unmarried and not cohabitating: if they are full-time pupils and students of general education schools and other institutions of formal education.

- *Eligibility conditions*

All family members or single persons during the income calculation period must comply with at least one of the following major conditions (applicable during 2005-2012, unless specified otherwise).

During the income calculation period, persons over 18 years of age should (those in italic could not be simulated):

- be full-time pupils and students of general education schools and other institutions of formal education if under 24 years of age;
- be employed *for at least two thirds of the duration of working time or working part-time*
- be of the old-age retirement age (see section 1.4.4. on old-age pensions);

- receive pensions (except the state social insurance disability pension granted to a person with Group III disability) or social assistance benefits;
- be unemployed receiving unemployment social assistance benefit (effective until 01 01 2012);
- be the persons who have registered with the state territorial labour exchange for at least six months (effective until 01 01 2012), be the persons who have registered with the state territorial labour exchange without term requirement (effective since 01 01 2012);
- receive education grant during the period of studying or doing public works (effective until 01 01 2012);
- *be a person nursing (assistance, care) another family member in the manner prescribed by legal acts;*
- *be a person undergoing treatment in a in-patient health care institution for at least a month;*
- *be a woman who is pregnant and less than 70 calendar days are left before a baby is due (28 or more weeks of pregnancy);*
- be a mother or a father (a guardian or a curator) who raises at home a child under certain age and care conditions as prescribed in the same law:
  - o if a family raises a child under three years old, who does not attend a pre-school educational establishment;
  - o if a family raises three or more children under age of 14 and at least one of the children is under age 8 and does not attend a pre-school educational establishment or a school;
  - o if a child under 8 years old does not attend a pre-school educational establishment due to medical recommendations or due to overcrowded schools**;**

  In 2007-2012 two more qualifying conditions for a mother or a father (a guardian or a curator) who raises at home a child under certain age and care conditions have been added:
  - o if a family raises three or more children under age of 14 and at least one of the children is under age 8 and does not attend a pre-school educational establishment due to the family's countryside residence, which is farther than 3 km away from the closest pre-educational establishment;
  - o a mother or a father, if their spouse is not able to take care of the children due to disability or other acknowledges reasons, raises a child under 14 years old (8 years old since 1 January, 2012) and works on a land plot, which is not smaller than 2 hectares (either owned or rented). (Note: this condition is not simulated)
2. Persons from 16 and up to 18 years of age should attend institutions of formal education; be disabled, registered with the state territorial labour exchange (i.e. unemployed) or *pregnant women*.
3. Persons under 16: included unconditionally.
4. In 2012 extra benefit payment was introduced for former long term unemployed, i.e. person has registered with the state territorial labour exchange during at least last 12 months. The benefit is granted during the six months if person has started to work and earn monthly no more as two minimal wages.

The benefit is granted to families or single persons if they pass the following assets and income tests: 1) the value of *family's* or person's assets does not exceed the *ratio of state established property value* (RP) and if 2) the *average* family or person's *income* (IL) is lower than 1 SSI per each family member.

- ***Income test***

Assets' and incomes' test is applied

Assets' test:
Family's or person's actual assets (AS) must be lower than the *ratio of state established property value* (RP), which is calculated in the following way: AS <= RP = RE+RM, where

AS is the actual value of a family's or person's assets. AS is established by calculating the value of the following family's or person's assets (effective from 30th June 2005-2013, unless specified otherwise):
- construction works, including construction works under construction;
- vehicles subject to registration;
- agricultural machinery subject to registration;
- land (including that occupied with forests and water bodies);
- livestock, poultry, animals, hives, if their total value exceeds LTL 4,000;
- stocks, bonds, bills of exchange, and other securities, shares, if their total value exceeds LTL 2,000;
- works of art, gems, jewellery; precious metals, when the value of a unit exceeds LTL 2,000;
- cash resources if their total value exceeds LTL 2,000;
- received (unpaid) loans, if their total value exceeds LTL 2,000 – as of 2007 onwards exception condition added: except of state loans for the students studying at the higher education institutions.
- money lent to other individuals (and unpaid), if their total value exceeds LTL 2,000;
- any other property, which has been acquired into the ownership during the last 12 months preceding the month from which cash social assistance begins to be granted, provided that the value of a unit (set) of such property exceeds LTL 2,000: this condition was abolished from 2007 onwards.
- As of 2007 *onwards one more asset was added to the list: state compensations for real property purchased by the State, restored savings and other restored resources.*

In order to evaluate AS, applicants for social assistance must declare their assets. Then the declared number of property is checked with the registry data.[34] If the value of the declared property is extraordinarily low, officials have a right to establish property value using *average market value*, as approved by the Commission for the Assessment of Property Subject to Registration.

RE is the "ratio of real estate value" and is calculated as:
RE =
Notional size of residence (60m^2 for the 1st person + 15m^2 for each additional family member) x *average market price of the residence* (which is approved by the Commission for the Assessment of Property Subject to Registration on 1st February, 1st May, 1st August and 1st November of each year).
+
Notional size of land plot per family or person x *average market price of the land*.

The state requires application of the following notional sizes of land per family:
- residential purpose land: in cities – 6 Ares,[35] in towns and villages – 25 Ares;
- agricultural purpose land (if the plot does not exceed 1 hectare[36]): in cities – 6 Ares, in towns and villages – 25 Ares;

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[34] Based on Methodology of Asset Evaluation (*Turto vertinimo metodika*),
[35] 1 Are = 100 square meters
[36] 1 Hectare = 10000 sq. meters or 100 Ares

- agricultural purpose land (if the plot exceeds 1 hectare): in cities – 6 Ares, in towns and villages – 3.5 hectares;
- other non-industrial purpose land: in cities – 6 Ares, in towns and villages – 3.5 hectares.
- if a person does not have a land - the value of the notional size of the land plot is based on 1 hectare of agricultural purpose land.

RM is the "ratio of value of movables", which is calculated per family member:
- 45 SSI for the first person aged 18 or above;
- 30 SSI for each additional person aged 18 or above;
- 15 SSI for each person (child) under 18 years old.

- ***Income test:***

For the purpose of means testing, the average family or person's income (IL) is calculated as: the average income of all family members during the period of three months prior to the month when the family (single resident) acquired the right to social benefit. All income should be taken after the deduction of withholding income tax and employee social insurance contributions. Incomes defined by the same social assistance law, namely compensations for housing utilities and social benefit itself, are not taken into account for means testing.

The following incomes are included in the means-test for the period of 2005-2012[37] unless otherwise specified (**those in italic could not be simulated**):
- all types of pension benefits *(except of nursing allowances)*;
- dividends and interests;
- *income of an owner of an individual company, received from the taxable profit of such company;*
- alimony;
- education grants - excluded from the list as of 2007 onwards;
- all income of a social nature, such a family benefits and other state transfers, *with the exception of compensations of transport costs for the handicapped and the disabled and compensations to diabetics and donors. As of 2007 onwards, the exception condition is narrowed down to 'the exception of compensations of transport costs for the handicapped and compensations for donors'. As of 1st July 2008, child benefits, social stipends and assistance money are not included into IL;*
- unemployment social insurance benefit, severance pay or compensation paid upon the termination of an employment contract or upon the dismissal of public servants;
- sickness, maternity, and maternity/paternity benefit and – from 2007 onwards – occupational rehabilitation.
- Child benefit (since 01 01 2012)
- compensation for property and non-pecuniary damage (including one time compensation for lost working capacity);
- *cash donations if their total amount exceeds the amount of 4*SSI.*
- *cash resources received as a gift;*
- *inherited cash resources;*
- *cash resources received abroad or from a foreign state;*

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[37] Changes effective on the 30th June, 2009 indicated according to the following law: "Lietuvos Respublikos Piniginės socialinės paramos nepasiturinčioms šeimoms ir vieniems gyvenantiems asmenims įstatymo 15 ir 22 straipsnių pakeitimo įstatymas". 2008.06.17 Nr. X-1611: http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=323463

- state compensation for the property appropriated for public needs – excluded from this list as of 2007 onwards.
- income from property rent and – from 2007 onwards – income from property sale (unless it is included into assets).
- *lottery and other cash winnings, prizes;*
- income from individual activities, including the income received from engaging in the activities with a business certificate;
- income from agricultural activities *(except of income from gardens of members of gardeners' societies, the area of land plots of which does not exceed 6 Ares);* <u>as of 2007 onwards, the exception condition is granted for land plots which do not exceed 1 hectare:</u>
  a) in the absence of accounting documents, average monthly income should be calculated by applying the ratios of income from agricultural activities evaluated according to the state approved notional costs;
  b) if there is no possibility for determining income according to these ratios, average monthly agricultural income should be calculated by applying a state approved income rate per hectare of agricultural land (see Table 2.6 for rates).

- *Benefit amount*

Social benefit per family or single person was calculated as: 90% x (SSI x number of people in family – IL), before 1st January 2012.

From 1st January 2012 equivalent scales for Social benefit were introduced. So, benefit amount now depends on number of people in family:
- for single person or first person in family Social benefit is calculated as the difference between income and 100% x SSI;
- for second person in family - 80% x SSI;
- for third and following person in family- 70% x SSI.

Social benefit for former long term unemployed paid during the first six months of employment is calculated as 50% of social benefit paid before the employment (effective from 01 01 2012).

From 1st January 2012 benefit amount has to be reduced for single person able to work but not working or family of person able to work but not working and receiving benefit during the long period:

Benefit amount will be reduced (before 2013.06.01):
- by 20% after 36 months of payment;
- by 30% after 48 months of payment;
- by 40% after 60 months of payment for families having children;
- after 60 months benefit payment has to be abolished for single person or family without children.

Benefit amount will be reduced for single able-bodied working-age unemployed recipient or their family excluding children (since 2013.06.01):
- by 20% after 12 months of payment;
- by 30% after 24 months of payment;
- by 40% after 36 months of payment;
- by 50% after 48 months of payment;
- after 60 months benefit payment is cancelled for 24 months for single unemployed person or their family excluding children.

The calculated social benefit should be equal to at least 5 LTL in order to be paid.

- *Social experiment in 5 municipalities since 01/01/2012*

All municipalities pay social assistance benefits to residents from targeted subsidies allocated to them from the national budget. However in 5 municipalities (Municipality of Akmenė, Panevėžys, Radviliškis, Raseiniai, Šilalė) Social benefit providing function is transferred to municipalities' discretion and this benefit is paid from their budgets. Thus, after the assessment of specific local conditions and circumstances these municipalities will have more power in granting social assistance benefit (for example, to pay additional social assistance benefit, to reduce the amount of social assistance benefit, etc.).

Since 1st January 2014 in all municipalities social benefit providing function is transferred to municipalities and the benefit is provided at their discretion and covered from their budgets[38].

EUROMOD notes

The EU-SILC database does not contain information on assets' value. Therefore, most of the information on the assets listed above is not available in EUROMOD. Proxy for the assets' test is based on the notional size of dwelling and land compared to reported and/or imputed actual size of dwelling and land in the national SILC data. The following imputations have been made:

- Residential property: actual size based on the EU-SILC variables on housing characteristics (area in m2); notional size as described above ($60m^2$ for the 1st person + $15m^2$ for each additional family member).
- Actual land property size: reported values of residential and agricultural land (for datasets before 2012) and imputed values thereafter. Imputations based on reports on owning land; 0 ha of residential land for those living in flats, values for others imputed based on information on the area of the house, etc. Agricultural land imputed based on a dummy of owning land and information on earning from own agricultural activities.
- Notional land property size: according to the notional size of residential and agricultural land per family reported above.
- Financial assets: based on the EU-SILC information on investment income and external information on the average yield of LT government bonds during the period of 2005.

  Other imputations and assumptions:

- Social experiment in 5 municipalities since 01.01.2012 is not simulated in EUROMOD.
- Benefit reduction for those able to work but not working is not simulated due to data limitation and lag in time until this rule effectively will be implemented.
- Social benefit for the former long-time unemployed during the first six months of employment is not simulated due to data constraints.

2.9 Unemployment social insurance benefit (*bunct_s*)

- *Brief description*

This monthly benefit is organized via compulsory insurance system and covers individuals receiving remuneration for work.

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[38] Based on the following law, 2013-11-26, No. XII-621 „Lietuvos Respublikos piniginės socialinės paramos nepasiturintiems gyventojams įstatymo 4, 23 straipsnių pakeitimo ir papildymo įstatymas". 2013-12-10, No. 126-6414.

- *Definitions*

The unit of analysis is the individual. *Unemployed person* – unemployed, *working age* person:

- who does not study full-time,
- is registered with the local Labour Exchange Authority,
- does not receive an early retirement benefit and
- is ready to start working

- *Eligibility conditions*

Eligible people are the working age persons, who are defined as aged 16 up to the old age retirement limit. The required service record is at least 18 months during the last three years and a person must be actively looking for a job. The duration of benefit payment depends on the unemployment insurance history. The benefit is paid for:

- 6 months – if insurance record is less than 25 years;
- 7 months – if insurance record is 25-29 years;
- 8 months – if insurance record is 30-34 years;
- 9 months – if insurance record is 35 years or more.

The duration of the payment is extended:

- By two months - if on the last unemployment payment day, a person has no more than 5 years until the old-age retirement age, and if a person does not receive an early retirement pension.
- By actual number of sickness days (max one month) – if a person gets sick during the time of unemployment benefit payment.
- By the maternity leave period (based on the rules of maternity benefit) – if a woman gets entitlement right to maternity benefit when the unemployment benefit is paid.

- *Income test*

No income test applied.

- *Benefit amount*

The benefit amount comprises fixed and variable components:

$U=F+V$, where

U – monthly unemployment benefit. As of 2008, the ceiling for the full unemployment benefit is introduced: $U<=0.7*CYI$. The ceiling is applicable during the entire period of benefit payment. With the adoption of the Temporary Law on Recalculation and Payment of Social Benefits starting from the 1st January 2010 the monthly benefits was capped at LTL 650 for the entire period of benefit payment. The monthly unemployment benefit could not be larger than LTL 650 for the period of 2011-2014. Since January 1st 2015 the cap was dropped and the maximum monthly benefit amount restored to 70% CYI.

F – a fixed benefit component, which is equal to 1 SSI (see Table 1.1);

V – a variable benefit component, which is equal to 40% of the former insured income. The insured income is calculated as the average CYI (see Table 1.2) indexed wage of the previous 36 months before registering as unemployed. The indexation is done in the following way:

$$\frac{36 \times CYI_u}{\sum_{i=1}^{36} CYI_i}$$

where: i - indicates the applicable CYI of each month during the 36 months period before registering as unemployed; u - indicates the CYI amount applicable in a month, when the unemployment benefit is to be paid.

The calculated unemployment benefit is paid proportionally to benefit payment duration:
- During the first three months – U is paid (full benefit);
- The remaining unemployment duration period – F+0.5*V (fixed component plus 50% of the variable component) is paid.

The unemployment benefit cannot be paid together with the old-age pension (as well as an early retirement pension). The unemployment benefit is reduced by the amount of other pensions, in case a person has a right to receive a few other social insurance benefits at the same time: state social insurance pensions, state social assistance benefits/pensions or state pensions (except survivor and orphan pensions), also work incapacity periodical compensations due to occupational injuries and occupational diseases, also vocational rehabilitation, maternity, paternity or maternity (paternity) social insurance benefits.

EUROMOD notes

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

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

Among eligibility conditions, the requirement of actively looking for a job is not applied in EUROMOD as it is enforced very loosely in practice.

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

- For those currently employed (ils_earns != 0 & lunmy_s = 0 & bunct = 0), this is used.

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

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

At this point, working age people who are unemployed (lunmy_s > 0), have sufficient contribution history, are not in education and not in receipt of early retirement benefit are considered eligible. It is assumed that all of them are involuntary unemployed and capable and available for work (there is a variable in the SILC data identifying the latter but only filled in for those currently unemployed).

Benefit duration (bunmy_s) is calculated according to the rules above, using modelled contribution history, while also controlling for the unemployment duration (lunmy_s). Extended duration due to sickness or maternity leave is ignored. For currently employed, a further cap is imposed corresponding roughly to the average duration observed in administrative sources (and national SILC data).

Benefit entitlement is calculated based on previous earnings and benefit duration, subject to the lower and upper thresholds. For those currently employed, current earnings are used. For those currently unemployed and in receipt, previous earnings are used which have been imputed by reversing unemployment insurance benefit rules. For those currently unemployed and not in receipt, imputed wage is used. Finally, benefit amount is adjusted with the number of months in receipt (bunmy_s).

2.10   Social contributions

Social insurance contributions (*socialinio draudimo įmokos*) to State Social Insurance Fund (*Socialinio draudimo fondas, SoDra*) are compulsorily paid by all employers and employees of private and public sectors as well as main categories of self-employed people.

Contributions are flat rates without ceilings, but they differ for employees and self-employed. Furthermore, contribution rates vary considerably among different categories of self-employed people (see below for more details). Social insurance contributions are paid for pension, health care, sickness and maternity, employment injuries, occupational diseases and unemployment insurances. Conditions regarding contributions made in the past determine eligibility and amount of contributory benefits.

All social contributions are calculated on the individual tax unit basis.

2.11   Employee social insurance contributions *(ils_sicee)*

All *employees* of private and public sector paid a total of 9% of gross wages and salaries as social insurance contributions (these rates remained unchanged for 2011-2016):
- 3% to pension social insurance
- 6% to compulsory health insurance.[39]

2.11.1   Employer social insurance contributions *(ils_sicer)*

As of 30th June 2011-2016 all *employers* of private and public sector pay on behalf of their employees 31% of gross wages and salaries. 31% is split into five components, as indicated in Table 2.7.

Additionally, 0.1% of gross salary was paid by employers to the Guarantee Fund (*įmokos į garantinį fondą)* until the end of 2011.[40] Since 1st of January 2012 the rate of payments to the Guarantee Fund was increased up to 0.2%[41]

Table 2.6 Employers' social insurance contributions (% of gross salary)

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[39] Employee 6% contributions to the compulsory health insurance is also mentioned in the section 2.4.6.

[40] Resources from the Guarantee Fund are allocated to current and past employees of bankrupted enterprises, which are indebted to employees.

[41] Valstybinė mokesčių inspekcija:
http://mic.vmi.lt/documentpublicone.do?&id=1000122600&tree_id=1000007371

	2011	2012	2013	2014	2015	2016
1. Pension social insurance	23.3	23.3	23.3	23.3	23.3	23.3
2. Sickness and maternity social insurance	3.4	3.4	3.4	3.4	3.4	3.4
3. Unemployment social insurance	1.1	1.1	1.1	1.1	1.1	1.1
4. Health insurance	3.0	3.0	3.0	3.0	3.0	3.0
5. Employment injuries and occupational diseases social insurance*	0.2	0.2	0.2	0.2	0.2	0.2
Total	31.0	31.0	31.0	31.0	31.0	31.0
6. Contributions to the guarantee fund	0.1	0.2	0.2	0.2	0.2	0.2

Notes: *Main rate. Other rates may apply ranging from 0.18% to 1.8% according to the group to which the insurer belongs.*

2.11.2   Credited social contributions *(ils_sicct)*

Credited social contributions – social insurance contributions paid by the government on behalf of certain individual groups (for all or particular types of insurance). Credited social insurance contributions include unemployment, pension and/or health social insurance contributions.

The contribution base for credited unemployment and pension social insurance contributions is 1 MMS. The government pays contribution at the same rates as they are set for employers. Most importantly, such contributions are paid monthly for the following persons:

- If a mother or father (stepmother, stepfather) or guardian (curator) taking care of a child under age 3 has no taxable income, he/she is insured for basic and supplementary parts of pension and for unemployment social insurance. Only one of the parents can be insured.
- Priests of accepted confessions and monks working in monasteries are compulsorily insured for basic social insurance pension.
- One of the pre-pension age parents (stepparents) or guardian (curator) taking care after disabled has no taxable income, he/she is insured for basic and supplementary pension parts and for the unemployment social insurance.
- Conscripts are insured for all types of social insurance.
- Vocational, tertiary school students and individuals who are directed by territorial job center for vocational training are insured for employment injuries and occupational diseases social insurance for training period.
- Individuals in social or psychological rehabilitation institutions who get a salary are insured for employment injuries and occupational diseases social insurance during labour hours.
- Prisoners who get salary are insured for employment injuries and occupational diseases social insurance during labour hours.
- Since 1st January 2011 authors of arts not receiving income are insured for basic and supplementary pension parts and for the sickness and maternity benefits.

Contribution rates for credited unemployment and pension social insurance contributions in 2011-2016 are indicated in the Table 2.8.

Table 2.7 Contributions for pension social insurance (employer's part) and unemployment insurance, 2011-2016 (%)

	2011	2012	2013	2014	2015	2016
Contributions for pension social insurance (employer's part)	23.3	23.3	23.3	23.3	23.3	23.3
Unemployment insurance	1.1	1.1	1.1	1.1	1.1	1.1

The contributions for credited health social insurance contributions are flat rate and approved annually. It is calculated as a percentage of the two-year previous average monthly wage for four quarters (34% in 2011, 35% in 2012, 36% in 2013, 37% in 2014)[42]. Annual amounts of health social insurance contributions per person were as follows: LTL733,23 per annum (LTL 61,10 per month) in 2011; LTL 725,4 per annum (LTL 60.45 per month) in 2012; LTL 762,3 per annum (LTL 63.53 per month) in 2013; LTL 804,3 per annum (67.03 per month) in 2014; EUR 336 per annum ((EUR27*6 + EUR29*6)/12 = EUR28 on average per month) in 2015, EUR378 per annum (EUR31,50 per month) in 2016.[43]

Groups of persons who are insured for compulsory health insurance by the state:
1. Persons who receive any kind of pensions or assistance benefits/ compensations;
2. Officially unemployed persons (those unemployed who are registered with the local Labour Exchange and are willing and able to work);
3. Unemployed persons of the working age who have compulsory contributions history for the state social old-age pension;
4. Women on maternity leave and unemployed pregnant women 70 days before childbirth and 56 days after childbirth;
5. One of (foster) parents looking for a child up to 8 years old and one of (foster) parents looking for two or more children;
6. Persons up to 18 years old;
7. Full-time students and pupils of Lithuanian secondary, vocational schools, colleges, universities and those who permanently live in Lithuania and study full-time in the EU high schools;
8. Persons who receive social benefits;
9. One of (foster) parents or guardians who nurse at home a person with disability up to 24 years old (with some exceptions up to 26 years old) or a person who requires permanent nursing;
10. Persons who have disability of any level;
11. Persons infected with communicable diseases that are dangerous for society and included into a special list;
12. Participants of the resistance struggles;
13. Persons who helped to liquidate the outcomes of the Chernobyl accident;
14. Ex-prisoners of the ghetto and fascist's prisons;
15. Priests and monks of the traditional religious communities and students of the priests' academy;
16. Persons who participated in the Afghanistan war;
17. Unaccompanied underage foreign citizens;
18. Foreign citizens who are provided with additional and temporary shelter in Lithuania;
19. Unemployed spouse of an acting President of Lithuania who has no insured income.
20. Since 1st January 2012 authors of arts not receiving income.

EUROMOD notes:

Pension and unemployment social insurance contributions are simulated in EUROMOD only for mothers or fathers (stepmothers, stepfathers) or guardians (curators) with no taxable income taking care of a child under age 3 with the following assumptions:

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[42] Source: "Lietuvos Respublikos sveikatos draudimo įstatymo 16 straipsnio pakeitimo įstatymas. 2011 12 08" http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=413636

[43] Source: "Lietuvos respublikos 2012 metų valstybės biudžeto ir savivaldybių biudžetų finansinių rodiklių patvirtinimo įstatymas" 2011 m. gruodžio 20 d. Nr. XI-1823 and relevant ammendments.
 "Lietuvos Respublikos 2014 metų valstybės biudžeto ir savivaldybių biudžetų finansinių rodiklių patvirtinimo įstatymas" 2013 m. gruodžio 12 d. Nr. XII-659 and relevant ammendments.

- The recipient of this contribution is the parent, who does not have taxable income. If neither parent has, then the recipient is the mother.
- A person should have no taxable income and should live in a family tax unit with a child under age 3.

Credited health social insurance contributions are simulated in EUROMOD for groups 1, 2, 4-8 and 10, which make up the majority of eligible persons. Compulsory health insurance contributions are not simulated for other groups due to lack of information on their status.

2.12 Self-employed social contributions *(ils_sicse)*

From 2009 *self-employed* persons, with the exception of the persons engaged in individual activities under business certificates, have to pay social insurance contributions for the basic and additional pension part (26.3%) as well as sickness and maternity social insurance (2.2% insured only to receive maternity leave benefit, paternity leave benefit and maternity (paternity) benefit).[44] Since 2010 the owners of individual enterprises and the real members of agricultural communities were not subject to sickness and maternity social insurance contributions, contribution for pension insurance remained unchanged (26.3%). Social insurance tax rate for self-employed groups mentioned above hasn't changed during the period of 2011-2016. The contribution base for these groups of self-employed is taxable income of the self-employed persons after deduction of income taxes.

A reduced contribution's rate of 10% in total applied for *self-employed* persons with exception of persons engaged in individual activities under business certificates during the transitional year 2009 (full rate applies in 2010 and 2011).[45] Rates for farmers and their partners were even lower, i.e. 8% in 2009 (16% rate applied in 2010, full rate from 2011).[46] No minimum liability applies (as of June 30, 2010 minimum liability for farmers and their partners applies – the minimum social contribution base being 12 MMS per year). Maximum annual base for contributions was capped at 4*CYI per month or 48*CYI per year in 2009-2016 (12*CYI per year in 2010-2011 for some groups of farmers and their partners).

Since 2009 social insurance contributions also have to be paid on income from sports, performing or authorship/copyright agreements with lower social insurance contribution rates set for the transitional period (the year 2009).

As of June 30, 2010 social contribution base for self-employed persons engaged in individual activities and also for those who receive income from sports or authorship agreements is equal to 50% of the taxable income from individual activities (before personal income tax). No changes in 2011-2016.

Self-employed persons engaged in individual activities under business certificates compulsory pay social insurance contributions for the basic pension part. The contribution is equal to 50% of the state basic pension (BP equalled to 360 LTL in 2011-2014, 105 EUR in 2015 and 112 EUR in 2016).

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[44] *Lietuvos Respublikos Valstybinio socialinio draudimo įstatymo 2, 4, 6, 7, 8, 9 straipsnių pakeitimo ir papildymo įstatymas. Žin.., 2009, Nr. 25-972*

[45] *Reduces rate of contributions is split proportionally between pensions and sickness and maternity social insurance, e.g. 10% of contributions for the self-employed are split to 9,23 % to pensions and 0,77 % to sickness and maternity social insurance.*

[46] *Lietuvos Respublikos Valstybinio socialinio draudimo fondo biudžeto 2009 metų rodiklių patvirtinimo įstatymas. Žin., 2008, Nr.149-5998*

Table 2.9 shows MMS and BP levels and state defined annual amounts of contributions for social insurance applicable to self-employed people, which were effective on 30th June 2011-2016 State defined annual contribution amounts were often used in practice in order to reduce ambiguities due to accrued changes in applicable MMS or PB amounts.

Table 2.8 Monthly MMS, MHW, PB levels and amounts of annual contributions effective on June 30, 2011-2014, LTL & 2015-2016 EUR

	2011	**2012**	**2013**	**2014**	**2015**	**2016**
	LTL				**EUR**	
Minimum monthly salary (MMS)	800	800	1000	1000	325	350
Average MMS that year*	800	800	1000	1000	325	350
Minimum hourly wage (MHW)	4.85	4.85	6.06	6.06	1.97	2.12
Basic monthly pension (PB)	360	360	360	360	105	112
Average monthly PB that year*	360	360	360	360	105	112
Annual contributions for basic pension	2160	2160	2160	2160	630	672
Minimum annual contributions for additional part of pension	1440	1440	1800	1800	525	560

Notes: *Almost all changes in minimum monthly salary and basic monthly pension were taking place in the middle of the year, that is, 1st July (except of the latest two increases, which were made on 1st January). Sources: Based *on the Law of State Social Insurance Pensions LRG Decision "Dėl Valstybinės Socialinio Draudimo Bazinės Pensijos Didinimo ir Einamųjų Metų Draudžiamųjų Pajamų Patvirtinimo", 2004 March 24, No. 235, and its relevant amendments and changes; and „Lietuvos Respublikos Vyriausybes nutarimas "Dėl minimaliojo darbo užmokesčio didinimo", 2005 April 4, No. 361, its relevant amendments and changes. Information available at: http://www.sodra.lt/index.php?cid=284 and http://www.socialiniszemelapis.lt/index.php?-1492246947 ("Baziniai socialiniai rodikliai") and relevant ammendments.*

Compulsory health insurance contributions for the self-employed:

Since 2009 the compulsory health insurance contributions were set to 9% rate of the taxable income, gross wage or the MMS corresponding to the group the insured person belongs to. The annual compulsory contribution cannot be less than 9% of 12 times of MMS.

Since 2009 self-employed persons and farmers have to pay compulsory health contributions 9% of their taxable income[47]. The members of the farmer's cooperatives and individual business owners have to contribute 9% of the received taxable profit. As of June 30, 2010 contribution base for self-employed persons engaged in individual activities and also for those who receive income from sports or authorship agreements is equal to 50% of the taxable income from individual activities (before personal income tax). The maximum annual base for compulsory health insurance contribution paid by the self-employed working in the agricultural sphere is capped at 12 times of CYI, in other spheres – 48 CYI. Those working with business certificates have to contribute at the rate of 9% of the MMS per month.

Table 2.9 Minimum annual contributions for the compulsory health insurance paid by self-employed, effective on June 30, 2011-2016, LTL

	2011	2012	2013	2014
Annual contributions	9%*12*MMS	9%*12*MMS	9%*12*MMS	9%*12*MMS

Source: "*LR 2005 (2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2015, 2016) metų valstybės biudžeto ir savivaldybių biudžetų finansinių rodiklių patvirtinimo įstatymas" and Lietuvos Respublikos Sveikatos draudimo įstatymas. Žin., 1996, Nr. 55-1287.*

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[47] According to the following law: „Lietuvos respublikos sveikatos draudimo įstatymo 6, 8, 17, 18 ir 19 straipsnių pakeitimo įstatymas". 2009.02.19 Nr. Xi-183: http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=338330

EUROMOD notes

Self-employment in the model is determined by the person having self-employment income.

- Social insurance contributions paid on income from sports, performing or authorship/copyright agreements are too specific to be simulated in EUROMOD.

2.13 Compulsory health insurance contributions for those not otherwise insured *(thl_s)*

Since 2009 the compulsory health insurance contributions were set to 9% rate of the taxable income, gross wage or the MMS depending on the group the insured person belongs to. Persons who are not otherwise insured for health social insurance (see Section 2.5.3 for details on credited health insurance contributions), including those who do not receive any taxable income, pay a compulsory health insurance contribution of 9% of the MMS per month since 2009.

2.14 Minimum wage

- *Brief description*

Minimum wage is changed usually changed as of 1st of July. However the latest change was introduced from the 1st of January, 2013.

- *Definitions and eligibility conditions*

The unit of analysis is individual. If the actual wage is less than minimum wage then wage is replaced with minimum hourly wage times actual working hours.

- *Amount*

It is either defined in monthly or hourly terms.

EUROMOD notes

Monthly income from employment (taking into account the number of months in work) is set equal to minimum wage (proportional to hours worked) if the income from employment is less than minimum wage, but positive, and if working hours are less than or equal to 40 hours per week. We do not apply the minimum wage correction when a person earns more than a monthly minimum wage, but its hourly wage is still less than a minimum wage.

By default the simulation of minimum wage is set off, i.e. not part of the baseline.

2.15 Personal income tax *(tin_s)*

The main tax simulated for Lithuanian tax-benefit system is personal income tax.

2.16 Tax unit

Personal Income Tax (*asmens pajamų mokestis*): Personal income tax (PIT) system in Lithuania is an individual system. Generally, tax unit is an individual who has received income. Tax allowances for parents (see section 2.6.3) are divided equally into two parts. In case of a

single mother or father, the applicable tax allowance is applied fully for the parent receiving income and living with children.

Some additional tax allowances are based on a family tax unit. This tax unit consist of parents and own dependent children, who are under age 18 or if older, in secondary education. The dependent child definition also covers marital status and parenthood conditions, as discussed for social benefits too.

2.17   Exemptions

Following Verbist (2004), we define exemptions as "income components (that) are part of pre-tax income, but do not have to be declared to the tax authorities, and thus are not included in the concept of taxable income (e.g. child benefits in most countries)".

The list of tax-exempt incomes includes more than 50 categories, most importantly, all state social assistance or social insurance benefits, paid from state and municipal budgets or *Social Insurance Fund*, except sickness, maternity leave, paternity leave and maternity (paternity) leave benefits, are not subject to personal income taxation.

A number of other non-taxable income types exist. These include charity, scholarships, interest from deposits, loans, compensations, lottery winnings, prizes of sports competitions, pension annuities received from life insurance companies, inherited income, alimonies, proceeds from the sale of agricultural produce, which is produced, as well as produced and processed on the land owned and some other types of incomes.

2.17.1   Tax allowances

We define tax allowances as any amount subtracted from pre-tax income (including social insurance contributions). Differently from Verbist (2004) there is no distinction between those that are fixed amounts (tax allowances) and those whose level is a function of pre-tax income (deductions).

Since the 1st January 2009 the basic and additional personal income tax allowances are applied only to the employment-related income or to income which conforms to the essence of employment relations (further referred as "employment-related income", see below for explanations).[48]

When estimating the amount of the monthly general personal income tax allowance (applied at the source), only employment-related income is taken into account, which includes:

-   salary, bonuses and premiums (monthly, quarterly, annual),
-   sickness allowance for the first two days of the illness (paid by the employer),
-   compensation for unused vacation,
-   payments for overtime work, working   on holidays and weekends, at   night, or   for the idle time,
-   holiday payments,
-   per diem if exceeds the statutory rate,
-   other additional earnings paid directly by an employer to an employee for work performed.

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[48] For not permanent residents tax allowance can be applied, but only on the annual basis after the annual income is declared.

Sickness, maternity, paternity and maternity (paternity) leave benefits are also included into the employment-related income.

The applicable monthly general allowance is calculated in accordance with the following formula:

The monthly general allowance= 470 – 0.2*(monthly employment-related income – 800)

If in accordance with this formula calculated general allowance is negative, it is considered to be equal to 0.

When estimating the amount of the annual income tax allowance, *resident's annual income* is taken into account, which includes all income taxed by the income tax received by the person during the taxing period, excluding income received from life insurance or private pension contract (if contract expired or was cancelled and payouts not exceed the amount of paid contributions). Non-taxable income is not included into the resident's annual income. Since 2010 income taxed by 5% income tax rate are also excluded from the resident's annual income, as well as income for which income tax was paid when acquiring business certificate.

The annual basic general allowance is 5,640 LTL (470 LTL per month) if the resident's annual income does not exceed 9,600 LTL (800 LTL per month before health insurance contributions, social insurance contributions, income tax). If the resident's income is higher, the basic general allowance is calculated using the following formula:

The annual general allowance = 5,640 – 0.2*(resident's annual income – 9,600)

If the resident's annual income is higher than 37,800 LTL the basic general allowance is not applicable.

The rules which are applied for calculation and declaration of the 2014[49].

The monthly general allowance is 570 LTL if the resident's monthly income does not exceed 1,000 LTL per month. If the resident's income is higher, the basic general allowance is calculated using the following formula:

The monthly general allowance= 570 – 0.26 x (monthly employment-related income – 1,000)

The annual basic general allowance is 6,840 LTL if the resident's annual income does not exceed 12,000 LTL. If the resident's income is higher, the basic general allowance is calculated using the following formula:

The annual general allowance = 6,840 – 0.26 x (resident's annual income – 12,000)

If the resident's annual income is higher than 38,304 LTL the basic general allowance is not applicable.

Since the 1st January 2014 the additional monthly personal income tax allowance has been increased to 200 LTL for each child (adoptee).

For the residents with 0-25% of working ability level, those who have reached retirement age and have a high level of special needs, or for the residents who have a heavy level of disability, the basic allowance of 800 LTL is applied.

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[49] 2013 m. birželio 27 d. Nr. XII-427 Lietuvos Respublikos Gyventojų pajamų mokesčio įstatymo 2, 5, 6, 16, 17, 19, 20, 22 straipsnių pakeitimo ir papildymo įstatymas. Žin., 2013, Nr. 75-3756.

For the residents with 30-55% of working ability level, for those who have reached retirement age and have a medium or small level of special needs, or for the residents, who have a medium or light level of disability, the basic allowance of 600 LTL is applied.

The rules applied for calculation and declaration of the 2015 (after conversion to EUR).

The monthly general allowance is 166 EUR if the resident's monthly income does not exceed 290 EUR per month. If the resident's income is higher, the basic general allowance is calculated using the following formula:

The monthly general allowance= 166 – 0.26 x (monthly employment-related income – 290)

The annual basic general allowance is 1,992 EUR if the resident's annual income does not exceed 3,480 EUR. If the resident's income is higher, the basic general allowance is calculated using the following formula:

The annual general allowance = 1,992 – 0.26 x (resident's annual income – 3,480)

If the estimated annual general allowance is negative it is not applicable.

Since the 1st January 2015 the additional monthly personal income tax allowance has been increased to 60 EUR for each child (adoptee).

For the residents with 0-25% of working ability level, those who have reached retirement age and have a high level of special needs, or for the residents who have a heavy level of disability, the basic allowance of 235 EUR is applied.

For the residents with 30-55% of working ability level, for those who have reached retirement age and have a medium or small level of special needs, or for the residents, who have a medium or light level of disability, the basic allowance of 175 EUR is applied.

The rules applied for calculation and declaration of the 2016

The monthly general allowance is 200 EUR if the resident's monthly income does not exceed 350 EUR per month. If the resident's income is higher, the basic general allowance is calculated using the following formula:

The monthly general allowance= 200 – 0.34 x (monthly employment-related income – 350)

The annual basic general allowance is 2400 EUR if the resident's annual income does not exceed 4200 EUR. If the resident's income is higher, the basic general allowance is calculated using the following formula:

The annual general allowance = 2400 – 0.34 x (resident's annual income – 4200)

If the estimated annual general allowance is negative it is not applicable.

Since the 1st January 2016 the additional monthly personal income tax allowance has been increased to 120 EUR for each child (adoptee).

For the residents with 0-25% of working ability level, those who have reached retirement age and have a high level of special needs, or for the residents who have a heavy level of disability, the basic allowance of 270 EUR is applied.

For the residents with 30-55% of working ability level, for those who have reached retirement age and have a medium or small level of special needs, or for the residents, who have a medium or light level of disability, the basic allowance of 210 EUR is applied.

Table 2.10 Personal income tax allowances (LTL (EUR) per month), as of June 30, 2011-2016

Allowances	2011-2013 (LTL)	2014 (LTL)	2015 (EUR)	2016 (EUR)
Basic allowance (highest applicable)				
- General (maximum level)	470 LTL	570 LTL	166 EUR	200 EUR
- For the disabled of group I	800 LTL	800 LTL	235 EUR	270 EUR
- For the disabled of group II	600 LTL	600 LTL	175 EUR	210 EUR
Additional allowance: for parents (adoptive parents) raising children under age 18 or older if in full-time secondary education (can be shared among parents)*	100 LTL for the first child (adoptee), 200 LTL for the second and each subsequent child (adoptee)	200 LTL for each child (adoptee)	60 EUR for each child (adoptee)	120 EUR for each child (adoptee)

Notes: *Additional allowance is applied by dividing the amount equally between parents (adoptive parents) if both of them have taxable income. All allowances are defined on the individual level. If a person meets more than one of the criteria as indicated in the table, the highest amount is applied.

2.18 Tax base

Tax base is derived from *gross income* by deducting the following components:

- non-taxable income (all state social assistance and some social insurance benefits (e.g., pensions, disability benefits), etc.),
- income received from activities conducted under a business certificate,
- allowable deductions related to income from individual activities,
- the acquisition price of property and expenses related to it,
- basic and additional tax allowances (for families with children, disabled, farmers, etc)
- particular expenses incurred by a resident (when calculating taxable income of fiscal year).

Since 2009 no deductions can be made to the income from distributed profit (dividends). The expenses incurred by residents can be deducted only from the income that is taxed by 15% rate of PIT.

With respect to the income derived from activities conducted under a business certificate, a fixed amount set by municipal councils is paid.

2.19 Tax schedule

In 2011-2013 all income, except income from distributed profit and income which is subject to a tax rate of 5%, were subject to a uniform tax rate of 15%. During the period of 2011-2013 income from distributed profit was taxed by 20% rate. Since the 1st January 2014 income from distributed profit is subject to a tax rate of 15%. During the period of 2011-2014 a tax rate of 5% is applied to income from individual activities, except of income from "free occupations" and from securities. Also a tax rate of 5% is applied to income from agriculture activity (for persons who are engaged in agriculture and who must register or are registered as payers of

VAT). Same rate applies to farming income if farm is bigger than 14 ESU[50]. Since the beginning of 2014 the 5% rate is also applied to income from not individual activities when this income is received from the sale or other transfer of ownership of base metal scrap. The income tax of a fixed amount is paid to acquire a business certificate. No major changes in 2015-2016.

Table 2.11 Personal income tax rates (%), as of June 30, 2011-2016

	2010-2013	**2014-2016**
Main personal income tax rate	15 (20% for income from distributed profit (dividends))	15
Reduced personal income tax rate	5	5

2.20 Tax credits (deductible expenses)

The following expenses incurred by a resident of Lithuania during the tax period may be deducted from his/her income:

1. Life insurance contributions paid for his/her own benefit or for the benefit of his/her spouse or minor children (adopted children) or for disabled children (adopted children) under 18 and older who are rated as totally disabled under life insurance contracts which provide for an insurance benefit not only upon the occurrence of an insurance event, but also upon the expiry of the term of the insurance contract.

2. Voluntary pension contributions paid for own benefit or for the benefit of a spouse or disabled children (adopted children) under 18 and older who are rated as totally disabled to pension funds.

3. Interest paid on the loan taken out for the construction or acquisition of housing to banking and other credit institutions, or funds and state financial institutions of foreign countries entered into the list by the Minister of Finance, where over 50% of shares (interests, member shares) are held by governments of foreign countries, as well as interest paid to a financial institution on the financial lease (leasing) of housing. Since 2009 applicable only to interests paid on loans taken before 2009, not applicable to new loans.

4. Payments for vocational training[51] and all other studies (when higher education and/or qualification is obtained upon graduation, as well as doctoral studies and art post-graduate studies). If payments for studies are made with borrowed funds (a loan is taken out from a credit institution for that purpose), the repaid amount of the loan during the tax period may be deducted from income. If a student is not a payer of income tax or has no possibility to deduct payments for studies, those expenses may be deducted from the incomes of his/her parents (adoptive parents), guardians and (or) spouse.

The total amount of deducted expenses cannot exceed 25% of the total tax base after deducting tax allowances.

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[50] European size unit (ESU) is a standard gross margin 1200 that is used to express the economic size of an agricultural holding or farm (Eurostat glossary:
http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Glossary:European_size_unit_(ESU)).
[51] This part was added in 2008.

The amount of the tax refund is equal to deductible expenses (s.t. the upper limit) multiplied with the relevant tax rate (main vs reduced rate). The proportion of expenses on which the main (reduced) tax rate is applied is equal to the ratio of incomes, s.t. the main (reduced) tax rate, to total tax base before deducing tax allowances.

Expenses are deducted from income when calculating final income tax liability for the tax period and filing an annual income tax return.

2.21 Withholding tax and final tax liability

Almost on all income sources (except self-employed, farmers' and income from property sale and so called "other" incomes) income tax is already withheld at the time of payment. Self-employment income and farmers' income are subject to final tax, which is calculated with the yearly tax declaration.

Generally, compared to withheld income tax, final income tax takes into account several additional aspects:
1. Income from self-employment;
2. Income received by farmers and their partners;
3. Income from property sale or other movable asset (worth more than 8,000 LTL, 2500 EUR since 2015);
4. Other received incomes (from agricultural production worth more than 10,000 LTL per year (3000 EUR since 2015); work incomes from other countries; profit from individual enterprise, dividends received from other countries; more than 2,000 LTL (600 EUR since 2015) of interest received from EEA countries, incomes from gambling, etc.)
5. Annual (basic and additional) allowances if a person used not all annual amount (i.e. if a person worked not 12, but less months; if individual receives only incomes from authorship contracts; if a person haven't used additional allowance). Since 2009 annual basic allowance is recalculated, taking into account received taxable income (see part 2.6.3 for details) and deductible expenditures.

EUROMOD notes

It is not possible to distinguish between different disability groups and hence all (self-reported) disabled people are assumed to belong to Group I.

Among deductible expenses only voluntary pension contributions and mortgage interest payments could be simulated given the data availability.

The fee for business certificate is not simulated due to data constraints.

3. DATA

3.1 General description

An overview of the established combinations of EUROMOD LT datasets and policy years is given in Table 3.1. Our focus is on the EUROMOD LT- data 2014. The descriptions of the EUROMOD LT-data 2008 & 2010 & 2012 could be found in the preceding EUROMOD Lithuania country reports.

Table 3.1 EUROMOD LT 2011-2016: data and policy years

	2011	**2012**	**2013**	**2014**	**2015**	**2016**
LT-data 2010	x	x	x	n/a	n/a	n/a
LT-data 2012	best	best	x	x	x	n/a
LT-data 2014	x	x	best	best	best	Best

EUROMOD LT- data 2014 is mainly derived from the EU-SILC UDB (thereafter also referred to as UDB or EU-SILC data). In addition, the Lithuanian (or National) SILC survey (i.e. *Pajamų ir gyvenimo sąlygų tyrimas*) is used to include a few other variables and inform imputations. We describe both datasets, as well as EUROMOD LT-data 2014, in more detail.

The EU-SILC UDB survey has a 4-year rotational panel survey design. The data is collected using a face-to-face interviewing of all respondents aged 16 and over. In the Lithuanian part of the EU-SILC survey, additional information on income and taxes paid is obtained from a few administrative sources, such as the State Tax Inspectorate and the State Social Insurance Fund Board. The National SILC survey is the underlying micro-dataset on Lithuania for the EU-SILC. It contains additional information, which is otherwise excluded in the UDB version (e.g. on national benefits). This information is highly useful for enlarging the scope of EUROMOD Lithuanian policy simulations[52]. As a result, EUROMOD LT-data 2014 is constructed using both the EU-SILC UDB and the National Lithuanian SILC information. Table 3.2 provides a short description of the latter database.

Table 3.2 EUROMOD LT database 2014 short description

	Description
	Description
EUROMOD database	LT_2014_a1
Original name	*EU-SILC – Community Statistics on Income and Living Conditions (Anonymised User Database UDB) + merged variables from "Pajamų ir gyvenimo sąlygų tyrimas"*
Provider	EUROSTAT (EU-SILC); Statistics Lithuania (*Pajamų ir gyvenimo sąlygų tyrimas*)
Year of collection	2014
Period of collection	May-June
Income reference period	2013
Sampling	Households are selected from the Residents' Register using a random sampling method. The entire Lithuanian territory was divided into 7 non-overlapping groups – strata. From every stratum, a one-stage simple random sample is selected. The 5 largest cities of Lithuania, towns and rural areas are divided into separate strata. Sample size of households in every stratum is proportional to the number of population aged 16 and over in them
Unit of assessment	Household and individual
Coverage	Private households. Persons living in the institutional households (e.g. in care or imprisonment institutions, etc.) are excluded
Sample size	11890 individuals, 5194 households
Response rate	Household response rate is 78.8% (5194 out of selected 6588)

Source: Statistics Lithuania (2015): https://osp.stat.gov.lt/services-portlet/pub-edition-file?id=20860

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[52] The list of variables which are merged into the EUROMOD LT-data 2010 from the National SILC is provided in Table 3.5.

3.2 Sample quality and weights

The target population of the SILC data is private households (Statistics Lithuania, 2015). Persons living in the institutional households are excluded. Households are selected from the *Residents' Register* using a stratified sampling design with a simple random sample in strata. For this, the entire Lithuanian territory is divided into 7 non-overlapping groups – strata (the 5 biggest cities of Lithuania Vilnius, Kaunas, Klaipėda, Šiauliai and Panevėžys; other towns; rural areas). The sample size of households in every stratum is proportional to the number of population aged 16 and over in them.

3.3 Non-response and item non-response

Based on Statistics Lithuania (2015) household response rate is 78.8%. For the 2014 survey, 6588 households were selected, of which 5194 participated in the survey. No information is available on response rates by area. Item non-response for gross household income variables varied between 0 and 44 percent depending on the variable (Eurostat, 2014). Highest item non-response rates were on interest, dividends, profit from capital investments in incorporated businesses (40.4%) and regular inter-household cash transfers received (44.2%). Item non-response for family/children related allowances was of 10.4%, for social exclusion payments – 1.9%, cash or near-cash employee income – 2.5%, unemployment benefits – 1%, old age benefits – 0.7%, survivor benefits - 1.9%, disability benefits – 0.3%.[53]

3.4 Weights

The EU-SILC UDB dataset uses a few types of cross-sectional survey weights, such as:
- the household cross-sectional weight (variable db090) – the weight calibrated with the target population of private households and corrected for household non-response.
- the personal cross-sectional weight for all household members of all ages (variable rb050) is used to draw inference on individual basic demographic variables for the population of all individuals living in private households. Because all the current members of any selected household are surveyed, the personal weights rb050 are equal to the corresponding household cross-sectional weight db090.
- the personal cross-sectional weights for all household members aged 16 and over (target variable pb040) is used to draw inference on the variables included in the personal questionnaire. These weights are corrected for individual non-response.

Table 3.3 Descriptive statistics of the grossing-up weight rb050 (dwt)

	EU-SILC UDB Lithuanian data
Number	11890
Mean	247.2164
Median	162.951
Maximum	3686.026
Minimum	8.97157
Max/Min	410.8563
Decile 1	52.99627

[53] Eurostat (2014). 2012 Intermediate quality report for Lithuania: https://circabc.europa.eu/faces/jsp/extension/wai/navigation/container.jsp

	EU-SILC UDB Lithuanian data
Decile 9	532.7672
Dec 9 / Dec1	10.05292

Lithuanian EU-SILC sample statistics has been projected to a reference population of **2,939,403** individuals in 1,292,846 households. The used weights are calibrated on the demographic data at the beginning of the survey year (i.e. 2014). In addition to the major age groups (around 17 sub-groups) and gender, the survey is calibrated by the residence area: the major 5 cities, other towns and rural areas. 2014 EU-SILC data does take into account the latest Population Census conducted in 2011.

3.5   Data adjustment

Adjustments to variables are kept to a minimum. Some minor data cleaning is done to ensure that the relationships of individuals within households are coherent. As we focus on the income reference year (2013), children who are born in the year of the survey (until the survey time, which is May-June in Lithuania) are dropped from the final micro dataset - 18 observations.

3.6   Imputations and assumptions

3.7   Time period

The EU-SILC information on demographic variables mainly refers to the time of data collection (May-June, 2014). Some included demographic information (e.g. age variables) also reflects the status quo at the end of the income reference period (2013). Similar situation is observed for socio-economic and labour variables. For example, variable rb210 (i.e. basic activity status) refers to the data collection time, while variable pl073 indicates a number of months in full time work during the income reference period (the calendar year of 2013). For the construction of EUROMOD LT data, the demographic, labour and socio-economic information is based – when possible - on the EU-SILC variables referring to the income reference period.

The EU-SILC UDB 2014 information on incomes refers to the calendar year of 2013. Some additional information on the number of income payments per year and monthly amounts has been obtained and imputed from the National SILC information. This has been done for selected income sources only. All monetary incomes in the EUROMOD database are converted into monthly terms, based on a 12-month receipt period. In the EUROMOD calculations, it is implicitly assumed that income is received at the same rate throughout the year.

The EU-SILC does not contain information on how many times per year a certain type of income is actually received. National SILC, on the other hand, collects this information for some income variables. This information is (partially) used to construct EUROMOD variables on how many times a particular income type was paid over the year (e.g. bunmy – number of month per year receiving an unemployment benefit). In cases, where the National SILC does not carry the relevant information on the frequency of income receipts, other types of imputations/assumptions have been applied. For example, if the concerned income variable is reported as an aggregate income type (e.g. old-age pensions), a corresponding EUROMOD variable on the "months of benefit receipt" is constructed by summing the number of different pensions' receipts – to the extent that this information is available in National SILC. The maximum number of months is set to 12. Also, if the information on a number of months of receiving one or another benefit is missing in National SILC, the relevant EUROMOD variable is constructed based on the indication on how many months a person has spent in a certain socio-economic activity type (i.e. the EU-SILC UDB variables pl*).

3.8 Gross incomes

The EU-SILC UDB survey contains information on both gross and net monetary incomes, if applicable. The survey also contains flag variables, which indicate if the observation has been collected either in gross or net form, imputation method and imputation factor (collected/recorded).

3.9 Merged and imputed variables

Table 3.4 provides information on the variables that have been merged from the National SILC into the EUROMOD LT-data 2014. No other major modifications have been done for these variables.

Table 3.4 EUROMOD LT database: variables merged from the National SILC

LT-data 2012 variables	Description
lbl	Business certificate activity
lseor	Owners of individual enterprise
lsepf	People engaged in individual activities (i.e. type of self-employment)
bchor	Guardianship benefit
bsa00	Social benefit
bma	Maternity and maternity (paternity) benefits
kfbmy	Fringe benefits – a number of months received
amrar	Useful floor space (m2) of the main residence
aldar	Area of own or rented land (hectares)
aldagar	Area of own or rented agricultural use land (hectares)

A number of EUROMOD LT-2014 variables are constructed using (merged) information both from the National SILC and EU-SILC UDB surveys, plus – when needed – a number of other imputations. The main reason for such a construction of the variables is related to incomplete or missing information in both surveys. The concerned variables are:
- Severance pay (yunsv variable);
- Early retirement benefit (byr variable);
- Unemployment insurance benefit (bunct variable);
- Employment earnings – a number of months received (yemmy variable);
- Unemployment benefits – a number of moths received (bunmy variable);
- Disability pensions – a number of months received (bdimy variable);
- Work history – a length of time in months (liwwh variable).

Information from the National SILC is also used in some other EUROMOD LT-2014 variables construction cases. For example, *les* variable on the economic status is mainly derived from the EU-SILC UDB reported income variables. However, information from the National SILC is used to form one of the *les* variable categories – a farmer status. The latter information is not available in the EU-SILC UDB survey. The National SILC, on the other hand, reports on the "income received from the agricultural activity". This information - in comparison to the relative importance of the other income sources - is used to make an assumption on being engaged in the farmer economic activities. EUROMOD LT-2014 *lfs* variable on the firm size also utilises information from the National SILC to make a better informed assumptions. Here, we utilise the National SILC information on whether a self-employed person is working alone or has also some employees.

Some EUROMOD LT-2014 are constructed based on the external macro statistics and selected EU-SILC information. For example, a variable *afc* on the financial capital assets is constructed in relation to the EU-SILC variable on investment income and in relation to the external information of the arithmetic average between the central bank base interest rate[54] and a harmonised indice of consumer prices (HICP)[55]. A variable *amrmv* on the market value of the main residence is constructed in relation to the EU-SILC variable on the imputed rent value for owner-occupiers and the gross rental multiplier (GRM) value. The latter value is selected based on some empirical data review and expert opinions. A number of other housing characteristics, as reported in the EU-SILC, are also taken into account to differentiate the final market value.

3.10 Updating

To account for time inconsistencies between the input dataset and the policy year, updating factors are used. Each monetary variable (i.e. each income component) is updated so as to account for changes in the non-simulated variables that have taken place between the year of the data and the year of the simulated tax-benefit system. Updating factors are generally based on changes in the average value of an income component between the year of the data and the policy year. For detailed information about the construction of each updating factor as well as the sources that have been used, see Annex 3.

As a rule, updating factors are provided both for simulated and nonsimulated income components present in the input dataset. Note however that in the case of simulated variables, the actual simulated amounts are used in the baseline rather than the uprated original variables in the dataset. Updating factors for simulated variables are provided so as to facilitate the use of the model in cases when the user wishes to turn off the simulation of a particular variable. The list of uprating factors as well as the sources used to derive them can be found in Annex 1.

No other updating adjustments are employed; therefore the distribution of receipts of non-simulated incomes remains constant throughout the period, while the level of amounts received changes in line with the uprating factors. The variables included in EUROMOD on household and personal characteristics, such as housing type, employment status or demographic attributes, are constant in relation to the basis year (in the baseline scenario).

Structural cuts in pensions (boa, bdi, bsu, byr) were simulated in EUROMOD as a separate policy for 2009-2011 (see Annex II for details). Compensations for the cuts (boa, bdi, byr, except bsu) were simulated in EUROMOD as a separate policy for 2013-2016.

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[54] http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tec00096
[55] http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database

4. VALIDATION

4.1 Aggregate Validation

EUROMOD results are validated against external statistics. Detailed comparisons of the number of people receiving a given income component and total annual spending and revenues are shown in Annex I. 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.

4.2 Components of disposable income

Before commenting on how different income components in EUROMOD compare against their external aggregates, this subsection outlines the differences in the definition of disposable income in EUROMOD and EU-SILC 2012. The major components of disposable income are the same in both sources: original incomes (+); benefits (+), taxes (-), employee social insurance contributions (-); and self-employed social insurance contributions (-). However, at the level of individual components there are two differences as can be seen from Table 4.1:

- EU-SILC 2014 includes (imputed) annual value of (using) a company car, while EUROMOD definition of disposable income excludes this type of income;

- Pension from individual private plans is included in the disposable income concept in EUROMOD, while it is excluded in EU-SILC 2014.

Apart from differences in the definition, the size of disposable income in EU-SILC and EUROMOD can differ for a given household as simulated income components in EUROMOD can differ for a number of reasons from their observed counterparts in EU-SILC dataset.

Table 4.1 Components of disposable income

	EUROMOD	EU-SILC 2014	Notes
	ils_dispy	hy020	
Employee cash or near cash income	yem	py010g	yem is derived from py010g
Company car	-	py021g	
Cash benefits or losses from self-employment	yse	py050g	yse is derived from py050g
Pension from individual private plans	ypp	-	ypp is derived from py080g
Investment income	yiy	hy090g	yiy is derived from hy090g
Income from rental of a property or land	yprrt	hy040g	yprrt is derived from hy040g
Income received by people aged under 16	yot	hy110g	yot is derived from hy110g
Regular inter-household cash transfer received	ypt	hy080g	ypt is derived from hy080g
Regular inter-household cash transfer paid (-)	xmp	hy130g	xmp is derived from hy130g
Old-age benefits	boa	py100g	boa is derived from py100g

Survivor' benefits	bsu	py110g	bsu is derived from py110g
Disability benefits	bdi	py130g	bdi is derived from py130g
Unemployment benefits	yunsv, byr, bunct_s	py090g	3 comp. in EUROMOD: byr (early retirement), yunsv (severance pay) & bunct_s (unempl. ben.); byr & yunsv are derived using EU-SILC (py090), Nat. SILC & external admin. info; bunct_s is EUROMOD simulated.
Housing allowances	bho	hy070g	bho is derived from hy070g
Family/children related allowances	bchor , bch00_s, bchba_s, bplct_s bmaprnc_s, bmaprct_s, bmact_s	hy050g	all "_s" variables are EUROMOD simulated benefits; bchor is merged from Nat. SILC
Education related allowances	bed	py140g	bed is derived from py140g
Sickness benefits	bhl	py120g	bhl is derived from py120g
Social exclusion not elsewhere classified	bsa00_s, bsals	hy060g	bsa00_s is EUROMOD simulated benefit; bsals is derived using EU-SILC (hy060g), Nat. SILC & external admin. info
Tax on income and social contributions (-)	tin_s, ils_sicee, ils_sicse	hy140g	EUROMOD data includes 3 simulated components; tin_s refers to final tax liability (for 2007 incomes). hy140g also refers to final tax liability; among other components it includes any tax reimbursement received in 2007 (also for income received in previous years);
Regular taxes on wealth (-)	tpr	hy120g	tpr is derived from hy120g

4.3 Validation of incomes inputted into the simulation

Note: Please see Annex I for tables.

Table 4.1 shows that the number of employed in 2013 is well aligned with external statistics (with a ratio of 0.98 between the two values). It is slightly worse for other years, i.e., 0.96 in 2014 and 0.95 in 2015. As no adjustments are made to the employment situation in the baseline EUROMOD data, the number of employed and unemployed people remains stable throughout 2013-2016. The number of unemployed is also well aligned in 2013 (with a ratio of 1.06 compared to external statistics). The number of unemployed people decreased from 2013 onwards in Lithuania. This causes overestimation of the number of the unemployed in EUROMOD, especially in 2014 and 2015 (the ratios are 1.16 and 1.36) because the input dataset does not capture fully the positive impact of growing economy on the Lithuanian labour market over the past years.

We further discuss the results we get for non-simulated income sources (market income, non-simulated benefits and taxes). It should be noted that weights for the Lithuanian EU-SILC are

calibrated only towards demographical variables[56]. No calibration is done towards the external income aggregates. Hence, the discrepancies between the aggregate amounts and recipiency of the major sources of income in the survey compared to those shown by external statistics might occur. The data on minor income sources, such as some small-scale benefits, collected in the survey might not be representative. The standard updating procedure applied in EUROMOD would not correct for this, but instead should move the estimates in the parallel way relative to the dynamics shown by external sources. We thus focus on validating the base year (i.e. 2013) and checking the dynamics of income in the following years.

There are numerous gaps in external statistics on the number of recipients of market income and aggregate amounts. Table 4.2 shows that the number of people receiving employment income is overestimated by around 12-18 percent in 2013-2015 in EUROMOD compared to the LFS figures. This may be partially explained by the fact that EU-SILC based data would pick up income received for short periods of time and sum the recipients across the year, while in LFS the average annual number of those receiving employment or self-employment income is given. As in the period of 2013-1016 the situation in the labour market and the economy has improved, the ratio between EUROMOD and LFS has increased slightly over the years. Another important reason for overestimation of the receipt of this (and other) important income sources is the fact that the weights in EU-SILC are calibrated only towards demographic variables. At the same time the number of recipients of self-employment income is highly overestimated in EUROMOD in 2013 (ratio is 1.7 – i.e. similar to 2012 data). Supposedly, people tend to misreport the fact that they are engaged in self-employed activities.

The total amounts of employment income in EUROMOD are underestimated compared to external statistics (see Table 4.3). We, however, are using information on aggregate wages and salaries from the national accounts that is not strictly comparable with the survey estimates available in EU-SILC. The total amount of employment income is underestimated in EUROMOD by 17% in 2013-2015. External statistics for later years are not yet available. Although we seem to capture the growth in the aggregate amount of the employment income between 2013 and 2015 and the growth in average employment income, the values of average employment income are overestimated in EUROMOD by 8%. The respective statistics for other types of market income are not available.

Table 4.4 shows the number of recipients of pensions and other not simulated benefits. The number of recipients of old-age and disability benefits in EUROMOD is computed by summing up non-overlapping types of benefits before and after retirement age (and as such may underestimate the true composite figure). The data show that the number of recipients of old-age benefits is very slightly underestimated in EUROMOD (by 2-3%) in 2013-2014. When it comes to the number of recipients of disability pensions there is an overestimation, with the ratio 1.12 in 2013-2014. Survivor's pensions are overestimated by around 13 percent. As for the number of early retirement pension recipients, fewer cases are recorded in EUROMOD while the external statistics report the numbers that are around twice higher in 2013-2014. This may be due to the benefit aggregation-related issues in the UDB-SILC or under-representation of this group in the survey.

The number of recipients of non-simulated guardianship benefit and compensation for utilities are highly underestimated in EUROMOD. While the ratios for guardianship benefits are 0.51-0.53, it is even lower (around 20%) for the recipients of compensation for utilities. Sickness social insurance benefits are widespread, yet there are no suitable administrative data on the

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[56] See EU-SILC quality reports available at:
http://epp.eurostat.ec.europa.eu/portal/page/portal/income_social_inclusion_living_conditions/quality/national_quality_reports

number of recipients, apart from the number of cases of illness. These discrepancies can be the result of the small sample size and data weighting issues in the survey.

Aggregate amounts of non-simulated taxes and benefits are provided in the Table 4.5. Old-age benefits are underestimated by around 6% in 2013 and 2% in 2014, which is in line with a slight under-estimated of old-age benefit recipients. The aggregate amount of disability benefits before the retirement age is well aligned in EUROMOD in 2013-2014 at a ratio close to 100%. The aggregate variable for survival benefits consists of a few major components: survivor and orphan pensions (before retirement age), funeral benefit and grant in case of death of an insured person. This benefit is under-reported in the EU-SILC based EUROMOD data by around 20%. Finally, only half of early retirement pensions is reflected in the data for 2013-2014, which is similar to the ratio of recipients of these pensions reported in Table 4.4.

As far as other not simulated benefits are concerned, the ratio of aggregate amounts of the guardianship benefits with external statistics is at 72-76% in 2013-2014. Sickness benefits are well reflected in 2013 (ratio of 1.02) and in 2014 (ratio of 0.96). For education allowances, which are allocated on a local level, there are no proper statistics on the number of recipients and total spending.

According to administrative statistics, expenditure on compensations for utilities has been on the decrease in 2013-2014. The expenditure on compensations is highly underestimated in EUROMOD data (ratios are about 0.12-0.19). However this is in line with the underestimation of recipients of this benefit. Finally, the opposite is true for municipal and NGP support which is better captured in EUROMOD and with no precise administrative statistics available both what concerns aggregate amounts and the number of recipients.

As far as not simulated taxes are concerned, the number of property tax payers is not available and the validation can only be carried out for the total tax revenues. The latter appears to be poorly captured in EUROMOD as the ratio has declined from 0.31 in 2013 to 0.25 in 2014.

4.4   Validation of outputted (simulated) incomes

Note: Please see Annex I for tables.

Table 4.6 shows EUROMOD and external data on the number of simulated benefit recipients and tax/contribution payers. The number of children eligible for child benefits is underestimated in EUROMOD (ratio of 76-80% in 2013-2014). This discrepancy might be due to several reasons. One of them can be attributed to the fact that there are fewer families with children in the survey. The second reason has to do with different reference periods for demographic variables (time of survey) and income (2013), as we drop all children who were born in 2014 to match demographics with the income reference period. In addition, it can be because our simulation of the means-test is not perfect. It should be noted that eligibility for child allowances in Lithuania is based on income threshold and the number and age of children in the family. Hence we simulate a reduction of those eligible for child allowances over time. Same is the case in the administrative records.

The number of recipients of a birth grant is underestimated by around a half. As the receipt of birth grant is only dependant on the fact of the childbirth the discrepancies are likely to be the result of cross-sectional nature of the survey, representativeness of its sample and different reference periods for demographic and income variables. Similarly there is strong discrepancy in the number of recipients of the pregnancy grant (non-contributory maternity benefit), which is quite uncommon in Lithuania and even less so in the data. Contributory maternity benefits are as well underestimated but to a much lower extent, i.e. we are able to capture around 76-80% of contributory maternity benefit receipts. Contributory maternity/paternity benefit for the period

of child care leave (which can be paid to one of the parents up to one or two years) is slightly over-simulated in terms of coverage. The ratio is at around 1.17 in 2013-2014. The coverage of paternity benefit, received by the father during one month after the birth of the child, is well in line with administrative records in 2013 (ratio of 0.91) and is slightly lower thereafter. The discrepancy is lower compared to birth grants due to assumption of the full benefit take-up. In reality not all fathers who are eligible for this contributory benefit apply for this benefit.

The number of social assistance recipients is underestimated in EUROMOD compared to administrative data, with a ratio of around 0.6 in 2013 and 0.8 in 2014 as the number of benefit recipients in administrative data goes down. The number of recipients of unemployment benefits is also somewhat underestimated (0.73 in 2013-2014). External statistics for later years are not yet available.

The number of payers of the personal income tax is in line with external administrative statistics in the baseline of 2013 (ratio at 1.02). However the number of payers of social insurance contributions is over-simulated by 12% for the same year. The latter is consistent with overestimation of the number of recipients of employment income in EUROMOD. The gap between the numbers of taxpayers recorded in external statistics and simulated in EUROMOD also points at the fact that the problem might be related to the high number of observations with short employment spells in EU-SILC (whose taxable income is lower than the tax allowance). A slight overestimation of the number of taxpayers and tax revenues can also be related to tax evasion in Lithuania that is not currently accounted for in EUROMOD. For years after baseline year of 2013 decreasing number of taxpayers simulated by the model and stable number of employed reflects increasing tax allowances in Lithuania, which make of the employed not liable to pay personal income tax.

There are no proper administrative data on the number of self-employed persons who do not have business certificates, thus the number will be validated against statistics on aggregated amounts only. Same is true for the credited contributions. Employer social insurance contributions can be assumed to be simulated with the same precision as employee contributions.

The validation of aggregate amounts of the simulated benefits is shown in Table 4.7. It should be noted that spending on child allowances is over-simulated in EUROMOD for 2013-2014 with a ratio of 1.18-1.28. Both EUROMOD and external statistics show that aggregate amounts for that benefit have declined, but the decline is steeper in external statistics. This results in an overestimation of aggregate amounts by around 28% in 2014. Aggregate amounts for birth grants are under-simulated in EUROMOD to the same extent as the number of recipients. Non-contributory maternity grants are highly under-simulated. However, the share of this benefit in total spending on non-contributory benefits is small.

The precision of simulation of contributory benefits varies from benefit to benefit. The closest match with external data is achieved for paternity benefits (102-93% in 2013-2014) and maternity benefits (with ratios ranging from 0.82 in 2013 to 0.79 in 2014). Meanwhile aggregate amounts of maternity (paternity) benefits for the period of childcare leave are under-simulated by around 30%. As it was mentioned before, this discrepancy is most likely due to the assumption of 100% take-up rates and the lower number of births recorded in EU-SILC.

The total aggregate amount for social assistance in EUROMOD is underestimated in 2013 (by around 9%) and overestimated in 2014 (by 24%). Both EUROMOD and external data show a decline in aggregate amounts of social assistance, although the rate of decline differs between those sources. Administrative statistics show a sharp drop in 2014 both in terms of aggregate amounts and coverage, while EUROMOD predicts a moderate decline. This can be explained in part as since 2014 the financial responsibility for social assistance benefits was transferred to

municipalities. In theory the rules for the eligibility conditions for this benefit remain the same (and they are simulated in EUROMOD), however municipalities have gained more discretionary power which they can use to initiate extra checks for compliance with the programme rules and to suspend payments if they suspect a misuse of social benefits or undeclared income in the family. This saved money remains at the disposal of the municipality. Also it is quite difficult to simulate the assets' means test using UDB SILC which might also be the reason for underestimation. Finally, we do not observe improved labour market situation in EUROMOD as no adjustments are made. Aggregate amounts of contributory unemployment benefits are underestimated by EUROMOD with ratios of 0.52-0.58 in 2013-2014.

Aggregate amounts of direct taxes and social contributions simulated by EUROMOD are close to external data. Income tax is matched at a ratio of 1.1 in 2013 and 1.06 in 2014. Employee social insurance contributions deviate from the administrative totals by 4-7%, and employer contributions by 11-14%. It however should be noted that the latest administrative statistics on health insurance is not included into the estimates provided by the Social Insurance Fund, hence we roughly imputed those and the actual match can be closer. No data is available on credited contributions. Social contributions of the self-employed are highly overestimated (by almost 2.5 times in 2013). It is very difficult to find a plausible justification for such a big discrepancy for the baseline year. As it was earlier mentioned, people might be reluctant to report to tax authorities that they are self-employed. Given the high tax avoidance level in Lithuania and given that the self-employed are concentrated in the bottom income decile, we can tentatively conclude that the problem is related to the high level of under-reporting of self-employment income to tax authorities, while EUROMOD simulates statutory tax incidence based on the assumption of full tax compliance. This issue, however, calls for further in-depth investigation.

4.5   Income distribution

All income distribution results presented here are computed for individuals according to their household disposable income (HDI) equalised 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 scale are: first adult=1; additional people aged 14+ = 0.5; additional people aged under 14 = 0.3.

4.6   Income inequality

Note: Please see Annex I for tables.

This section estimates how well EUROMOD tracks the changes in income distribution and poverty for 2013-2016 compared to Eurostat where possible (at the time of writing only 2014 Eurostat figures referring to 2013 income were available).

Table 4.8 shows that in 2013 the income shares by decile predicted by EUROMOD are close to those reported by Eurostat. One exception if the first income decile, whose income are over-estimated by around 11% in EUROMOD. This may be due to several issues, including assumptions of full benefit take-up and full tax compliance, limitations of simulated means-testing rules, etc. On the other hand incomes at the very top are underestimated. Assumption of full tax compliance may also play a role here.

Nevertheless, the quintile ratio is well simulated in EUROMOD for the baseline of 2013 (ratio 0.94). For Gini coefficients we also find a close match for 2013 (ratio of 0.97). Similar ratios are observed for both mean and median incomes in the baseline year. EUROMOD simulations imply further growth in mean and median incomes, as well as inequality, for the period of 2014-2016.

4.7   Poverty rates

Note: Please see Annex I for tables.

Table 4.9 shows that at-risk of poverty rates in the baseline year of 2013 are well in line with those reported by EUROSTAT for 2013, except that they are underestimated by around 7-18% for the lowest poverty threshold. The poor fit between EU-SILC and EUROMOD for the 40% median equivalized income poverty threshold is due to over-estimation of disposable income for the first income decile shown in Table 4.8. The higher the poverty line, the better match there is between EUROMOD and Eurostat estimates, i.e. discrepancy of 2-4% for 60% median threshold and at only around 1% for 70% median threshold).

Decomposition of at-risk of poverty level by age (using a 60% of median household disposable income poverty line) shows a higher degree of underestimation within the age group of 65+ years old (ratio of 0.87 in 2013). It might be due to the fact that pensioners are concentrated around the poverty line. EUROMOD, however, captures poverty risk levels relatively well for the prime age population and youth and children. EUROMOD estimates for years beyond those available in Eurostat imply increasing poverty rates at all thresholds between 2014-2016. This would mainly affect those aged 50 and over, while younger population is relatively better off as the economy resumes. Slight increase in poverty risk is also estimated for children in 2014 and 2015.

4.8   Validation of minimum wage

Note: Please see Annex I for tables.

In this section we give a brief overview of the impact of the minimum wage policy on income, taxes, social contributions, social assistance benefits, and inequality and poverty rates. It should be noted, that the minimum wage policy is switched off in the baseline scenario. Imposing minimum wage simulation has only weak effect on other types of incomes, direct taxes and income distribution measures, with the highest effect in 2016 when the minimum wage was raised to 350 EUR (see Table 4.10).

4.9   Summary of "health warnings"

In conclusion, the following major "health warnings" should be taken into account when using Lithuanian EUROMOD module and the underlying micro-data:

- The EU-SILC (Lithuanian part) is calibrated on a limited number of dimensions: residence area (7 groups), age (17 groups) and gender. No calibration is done towards external income aggregates. Therefore, recipiency and aggregate amounts for the major income sources may not match between EU-SILC and external aggregates. Analysis on the benefits/taxes/contributions to/by smaller population groups should be done with care due to issues of representativeness.
- The default assumption in EUROMOD is full benefit take-up and full compliance with taxes and contributions. Baseline scenario does not include any employment adjustments.
- In the case of simulating a policy year more recent than the income reference period for the underlying input dataset, non-simulated monetary variables are uprated using income-specific updating factors, whereas demographic and socio-economic status variables remain constant.
- Amounts of income taxes and social contributions of employees are well aligned with external statistics. Amounts of contributions paid by the self-employed are highly

overestimated, which may be due to different reasons: changes in the number of the self-employed, the quality of reported self-employment income in EU-SILC, etc.

- Major aggregate benefit categories are difficult to validate as they consist of diverse individual components and are often constructed in line with the legal retirement age.
- Social assistance, a means-tested benefit, tends to be over-simulated in EUROMOD due to complexity of the means-test, difficulties in simulating the means-test using UDB SILC and changes in administration of this social assistance benefit (municipalities have gotten more discretion power).

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On-line legislation (in Lithuanian): http://www3.lrs.lt/dokpaieska/forma_e.htm, www.sodra.lt, www.ldb.lt, www.socmin.lt.

ANNEX 1: RAW INDICES FOR DERIVING UPRATING FACTORS

Index	Constant name	Values of raw indices (EUR)				Source	Income components uprated by the index
		2013	2014	2015	2016		
Earnings	$f_yem	646.3	677.4	714.4	755.1	Statistics Lithuania / Average monthly earnings by sector, statistical indicator and year/. Whole economy including individual enterprises/Average gross monthly earnings (M3060801)	yem, yem_a, yivwg, yunsv, yot, xmp, xpp, tad, tscee, tscse, tscer, tin, tis, kfb, bhl, bma, yse, kfbcc
Prev_wage	$f_yempv	615.1	646.3	677.4	714.4	Yem lagged by 1	yempv, yempv_a
Constant	$f_one	1	1	1	1	Keep constant	bed, bchor
Family	$f_bfa	382.8	387.4	396.9	396.9	Ministry of Social Security and Labour/Statistics/Recipients and amounts of monetary social assistance/ Benefits for families with children (Išmokos šeimoms auginančioms vaikus) - also by Statistics Lithuania	Bfa
Health	$f_bho	215.1	242.3	259.6	274.4	Avergae illness benefits per person - Atvira Sodra	Bho
Unempl	$f_bunct	160.1	156.9	178.9	177.7	Ministry of Social Security and Labour/ Social Reports/ Average social insurance unemployment benefit - also by Statistics Lithuania	Bunct
Assistance	$f_bsa00	774.7	740.7	698.5	698.5	Ministry of Social Security and Labour/Statistics/Recipients and amounts of monetary social assistance/ Social assistance benefits (Socialinė pašalpa) - also by Statistics Lithuania	bsa00
Disability	$f_bdi	181.53	180.89	181.86	190.85	Lietuvos statistikos departamentas, Vidutinė valstybinio socialinio draudimo pensija - svertinis netekto darbingumo ir invalidumo pensiju vidurkis	EUR. 2015 & 2016 - updated in line with growth of social insurance pensions. Fixed in 2010-2011 - cuts in boa_lt.	Bdi
Old_age	$f_boa	238.13	240.32	245.04	256.32	Lietuvos statistikos departamentas, Vidutinė valstybinio socialinio draudimo pensija	EUR. 2015 & 2016 - updated in line with growth of social insurance pensions. Fixed in 2010-2011 - cuts in boa_lt	Boa
Survivor	$f_bsu	31.6	31.5	31.8	31.8	"State Social Insurance Fund Board of the Republic of Lithuania/ Statistics/ Survivor and orphan pensions: http://www.sodra.lt/index.php?cid=13555. Fixed in 2010-2011 - cuts in boa_lt	Bsu
Early_ret	$f_byr	179	176.6	176.5	185.18	"Išansktinė senatvės pensiaj. State Social Insurance Fund Board of the Republic of Lithuania/ Statistics/ Early retirement pensions. http://www.sodra.lt/index.php?cid=13555. Fixed in 2010-2011 - cuts in boa_lt	Byr
Harmonized ICP	$HICP	139.70	140.04	139.09	139.74	HICP (2005 = 100) - annual data (index), 2016 – monthly data (index) averaged for the first 6 months	ypp, yds, xhcot, xhcrt, xhcmomi, tpr, ypt, yiy, afc, kivho, ypr, amrmv, bsals, ydses_o, yprrt, xhc

ANNEX 2: VALIDATION TABLES

Table 4.1 Number of employed & unemployed, thousands (using 2014 data)

	EUROMOD (I)				External statistics (II)				Ratio (I/II)			
	2013	2014	2015	2016	2013	2014	2015	2016	2013	2014	2015	2016
Employed (n)	1,273	1,273	1,273	1,273	1,293	1,319	1,335	n/a	98%	96%	95%	n/a
Unemployed (n)	183	183	183	183	172	158	134	n/a	106%	116%	136%	n/a

Notes: Number of employed and unemployed is computed based on months in employment/unemployment. Numbers computed as averages of monthly data over the year. Sources: Statistics Lithuania (LFS)

Table 4.2 Market Income-Number of recipients, thousands (using 2014 data)

	EUROMOD (I)				External statistics (II)				Ratio (I/II)			
	2013	2014	2015	2016	2013	2014	2015	2016	2013	2014	2015	2016
Original income	1,604	1,604	1,604	1,604	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Employment	1,394	1,394	1,394	1,394	1,186	1,216	1,240	n/a	118%	115%	112%	n/a
Self-employment	228	228	228	228	137	n/a	n/a	n/a	166%	n/a	n/a	n/a
Investment	107	107	107	107	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Property	95	95	95	95	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Private pension	2	2	2	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Private transfers	77	77	77	77	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Other	1	1	1	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Severance payments	30	30	30	30	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
In-kind income					n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fringe benefits	92	92	92	92	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Imputed housing	1,769	1,769	1,769	1,769	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Sources: Statistics Lithuania (LFS)

Table 4.3 Market Income-Aggregate amounts, annual amounts in millions (if not stated otherwise)

	EUROMOD (I)				External statistics (II)				Ratio (I/II)			
	2013	2014	2015	2016	2013	2014	2015	2016	2013	2014	2015	2016
Original income	10,653	11,151	11,740	12,392	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Employment	9,028	9,463	9,980	10,548	10,833.6	11,401.9	12,004.8	n/a	83%	83%	83%	n/a
Self-employment	1,383	1,449	1,529	1,616	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Investment	134	135	134	134	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Property	84	85	84	84	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Private pension	2	2	2	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Private transfers	104	104	103	104	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Other	0	0	0	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Severance payments	30	32	33	35	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
In-kind income					n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fringe benefits	61	64	67	71	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Imputed housing	1,446	1,450	1,440	1,447	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Employment (average)	698	732	772	815	646.3	677.4	n/a	n/a	108%	108%	n/a	n/a

Sources: Statistics Lithuania, (national accounts: employment income; LFS: average employment income)

Table 4.4 Non-simulated taxes and benefits-Number of recipients/payers, thousands

	EUROMOD (I)				External statistics (II)				Ratio (I/II)			
	2013	2014	2015	2016	2013	2014	2015	2016	2013	2014	2015	2016
Pensions	895	895	895	895								
Old-age pension	668	668	668	668	685	682	n/a	n/a	97%	98%	n/a	n/a
Disability pension	187	187	187	187	168	168	n/a	n/a	112%	112%	n/a	n/a
Survivor's pension	297	297	297	297	263	261	n/a	n/a	113%	114%	n/a	n/a
Early retirement	6	6	6	6	12	11	n/a	n/a	55%	61%	n/a	n/a
Not simulated benefits												
Guardianship benefit	6	6	6	6	12	11	11	n/a	51%	53%	57%	n/a
Education allowances	35	35	35	35	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Compensation for utilities	41	41	41	41	205	189	n/a	n/a	20%	22%	n/a	n/a
Sickness benefit	338	338	338	338	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Municipal and NGO support	69	69	69	69	14	13	n/a	n/a	501%	516%	n/a	n/a
Not simulated taxes												
Property tax	240	240	240	240	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Notes: Number of recipients for old-age and disability benefits is a sum of the number of recipients of non-overlapping types of pensions before and after retirement age: old age benefits include old-age social insurance, state assistance benefits and work incapacity/invalidity pensions (before retirement age); disability benefits include work incapacity/invalidity, state social assistance pension (before retirement age) and social assistance pensions for children with disability. Number on municipal and NGO support in external statistics refer to individual recipients.
Sources: Statistics Lithuania (*Rodiklių duomenų bazė, Gyventojai ir socialinė statistika*), SODRA ("Skaičiai ir faktai), SOCMIN ("Piniginės socialinės paramos gavėjai ir išlaidos"). Pensions: M3160301: Pensijų gavėjų skaičius metų pabaigoje (pagal ESSPROS metodiką)

Table 4.5 Non-simulated taxes and benefits-Aggregate amounts, annual amounts in millions

	EUROMOD (I)				External statistics (II)				Ratio (I/II)			
	2013	2014	2015	2016	2013	2014	2015	2016	2013	2014	2015	2016
Pensions	2,589	2,709	2,740	2,858								
Old-age pension	2,051	2,159	2,194	2,298	2,188	2,204	n/a	n/a	94%	98%	n/a	n/a
Disability pension	399	411	406	426	404	408	n/a	n/a	99%	101%	n/a	n/a
Survivor's pension	126	126	127	127	153	157	n/a	n/a	82%	81%	n/a	n/a
Early retirement	13	13	13	13	26	23	n/a	n/a	50%	55%	n/a	n/a
Not simulated benefits												
Guardianship benefit	13	13	13	13	18	17	n/a	n/a	72%	76%	n/a	n/a
Education allowances	13	13	13	13	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Compensation for utilities	5	6	7	7	44	31	n/a	n/a	12%	19%	n/a	n/a
Sickness benefit	133	140	147	156	131	146	n/a	n/a	102%	96%	n/a	n/a
Municipal and NGO support	8	8	8	8	1	1	n/a	n/a	771%	760%	n/a	n/a
Not simulated taxes												
Property tax	6	6	6	6	18	23	n/a	n/a	31%	25%	n/a	n/a

Notes: Aggregate amounts of old-age benefits include state social insurance old-age and work incapacity/invalidity pensions, state social assistance pensions, state pensions and care allowances (all after retirement age), excludes survivor pensions after retirement age. Aggregate amounts of disability benefits include expenditure on state social insurance work incapacity/invalidity pensions and state social assistance benefits/pensions before retirement age, nursing and care compensations (care allowance) for working age recipients, compensations for loss of work capacity, social assistance pension for disabled children. Information on "municipal & NGO support" from external sources refers to municipal support only. Property taxes include land tax for both natural persons and legal entities.
Sources: Statistics Lithuania (*Rodiklių duomenų bazė, Gyventojai ir socialinė statistika, Socialinė apsauga Lietuvoje*), SODRA ("Skaičiai ir faktai), SOCMIN ("Piniginės socialinės paramos gavėjai ir išlaidos" http://www.socmin.lt/index.php?-802624691), Tax Inspectorate.

Table 4.6 Simulated taxes and benefits-Number of recipients/ payers, thousands

	EUROMOD (I)				External statistics (II)				Ratio (I/II)			
	2013	2014	2015	2016	2013	2014	2015	2016	2013	2014	2015	2016
Simulated benefits												
Child allowance	75	70	62	57	99	88	n/a	n/a	76%	80%	n/a	n/a
Birth allowance	16	16	16	16	32	33	n/a	n/a	50%	50%	n/a	n/a
Maternity (paternity)	42	42	42	42	36	36	n/a	n/a	118%	117%	n/a	n/a
Maternity	15	15	15	15	19	20	n/a	n/a	80%	76%	n/a	n/a
Maternity (non-contr)	1	1	1	1	7	7	n/a	n/a	13%	13%	n/a	n/a
Paternity benefit	11	11	11	11	13	13	n/a	n/a	91%	85%	n/a	n/a
Social assistance	112	108	104	96	190	140	n/a	n/a	59%	77%	n/a	n/a
Unemployment benefit	93	93	93	93	129	127	n/a	n/a	73%	73%	n/a	n/a
Taxes and SIC												
Income tax	1,374	1,344	1,350	1,301	1,349	1,584	1,412	n/a	102%	85%	95%	n/a
Employee contribution	1,394	1,394	1,394	1,394	1,242	1,271	1,288	n/a	112%	110%	108%	n/a
Self-employed contr	228	228	228	228	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Employer contributions	1,394	1,394	1,394	1,394	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Credited contributions	1,377	1,377	1,377	1,377	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Notes: Figures reflect the final tax liability in both EUROMOD and external statistics data.
Sources: Ministry of Social Security and Labour (Piniginės socialinės paramos gavėjai ir išlaidos) Statistics Lithuania (Ministry of Finance:
http://www.finmin.lt/finmin.lt/failai/nacionalinio_biudzeto_surinkimas/ketv/Ataskaita_2013_metine_.pdf

Table 4.7 Simulated taxes and benefits- Aggregate amounts, annual amounts in millions

	EUROMOD (I)				External statistics (II)				Ratio (I/II)			
	2013	2014	2015	2016	2013	2014	2015	2016	2013	2014	2015	2016
Simulated benefits												
Child allowance	27	26	24	22	23	20	n/a	n/a	118%	128%	n/a	n/a
Birth allowance	7	7	7	7	13	14	n/a	n/a	50%	50%	n/a	n/a
Maternity (paternity)	107	113	118	124	151	153	n/a	n/a	71%	73%	n/a	n/a
Maternity	37	39	41	43	46	50	n/a	n/a	82%	79%	n/a	n/a
Maternity (non-contr)	0.1	0.1	0.1	0.1	0.6	0.5	n/a	n/a	13%	13%	n/a	n/a
Paternity benefit	9	9	9	10	8	10	n/a	n/a	102%	93%	n/a	n/a
Social assistance	134	129	126	121	147	104	n/a	n/a	91%	124%	n/a	n/a
Unemployment benefit	35	36	38	39	67	62	n/a	n/a	52%	58%	n/a	n/a
Taxes and SIC												
Income tax	1,385	1,407	1,502	1,517	1,250	1,325	1,440	n/a	111%	106%	104%	n/a
Employee contribution	813	852	898	949	763	822	870	n/a	107%	104%	103%	n/a
Self-employed contr	220	228	238	251	93	n/a	n/a	n/a	237%	n/a	n/a	n/a
Employer contributions	2,817	2,952	3,114	3,291	2,473	2,666	2,820	n/a	114%	111%	110%	n/a
Credited contributions	322	339	483	542	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Sources: Statistics Lithuania, Social Insurance Fund SoDRA, Statistics Lithuania, Ministry of Finance:
http://www.finmin.lt/web/finmin//auktualus_duomenys/biudzeto_pajamos/nacionalinis_biudzetas

Table 4.8 Income distribution

	EUROMOD				External			Ratios		
	2013	**2014**	**2015**	**2016**	**2013**	**2014**	**2015**	**2013**	**2014**	**2015**
Decile shares, %										
1	2.79	2.71	2.66	2.60	2.50	n/a	n/a	111%	n/a	n/a
2	4.40	4.38	4.29	4.26	4.40	n/a	n/a	100%	n/a	n/a
3	5.60	5.63	5.50	5.42	5.50	n/a	n/a	102%	n/a	n/a
4	6.51	6.52	6.42	6.50	6.50	n/a	n/a	100%	n/a	n/a
5	7.61	7.63	7.58	7.61	7.50	n/a	n/a	101%	n/a	n/a
6	8.86	8.87	8.89	8.89	8.80	n/a	n/a	101%	n/a	n/a
7	10.43	10.48	10.51	10.54	10.30	n/a	n/a	101%	n/a	n/a
8	12.40	12.41	12.47	12.52	12.40	n/a	n/a	100%	n/a	n/a
9	15.47	15.47	15.56	15.74	15.40	n/a	n/a	100%	n/a	n/a
10	25.93	25.90	26.13	25.93	26.70	n/a	n/a	97%	n/a	n/a
Mean income (equivalised)										
total population	5,662	5,941	6,187	6,542	5,975	n/a	n/a	95%	n/a	n/a
men	5,783	6,068	6,328	6,697	6,125	n/a	n/a	94%	n/a	n/a
women	5,559	5,833	6,066	6,411	5,846	n/a	n/a	95%	n/a	n/a
Median income (equivalised)										
total population	4,637	4,881	5,041	5,364	4,823	n/a	n/a	96%	n/a	n/a
men	4,801	5,047	5,244	5,529	5,013	n/a	n/a	96%	n/a	n/a
women	4,526	4,760	4,926	5,211	4,703	n/a	n/a	96%	n/a	n/a
Income quintile ratio (S80/S20)	5.76	5.83	6.00	6.07	6.10	n/a	n/a	94%	n/a	n/a
Gini Coefficient	34.01	34.05	34.60	34.67	35.00	n/a	n/a	97%	n/a	n/a

Notes: Based on household disposable income (HDI) equalised by the "modified OECD" equivalence scale. HDI are calculated as the sum of all income sources of all household members net of income tax and social insurance contributions; computed at the individual level.
External EUROSTAT EU-SILC data lagged by one year to refer to the income data reference year. EUROMOD data refers to income data reference period.
Sources: EUROSTAT

Table 4.9 At risk of poverty rates by gender and age, percent

	EUROMOD (I)				External statistics (II)			Ratio (I/II)		
	2013	2014	2015	2016	2013	2014	2015	2013	2014	2015
40% median HDI										
Total	5.98	6.22	6.61	7.31	6.90	n/a	n/a	87%	n/a	n/a
men	6.67	6.99	7.45	8.09	7.20	n/a	n/a	93%	n/a	n/a
women	5.38	5.56	5.90	6.65	6.60	n/a	n/a	82%	n/a	n/a
50% median HDI										
Total	11.73	12.62	12.72	13.56	11.30	n/a	n/a	104%	n/a	n/a
men	11.73	12.43	12.24	12.90	11.00	n/a	n/a	107%	n/a	n/a
women	11.73	12.78	13.13	14.13	11.60	n/a	n/a	101%	n/a	n/a
60% median HDI										
Total	19.20	19.21	20.23	21.07	19.10	n/a	n/a	101%	n/a	n/a
men	18.46	18.47	18.81	19.45	17.80	n/a	n/a	104%	n/a	n/a
women	19.83	19.84	21.44	22.45	20.30	n/a	n/a	98%	n/a	n/a
70% median HDI										
Total	26.51	26.25	27.12	27.51	26.60	n/a	n/a	100%	n/a	n/a
men	24.55	24.52	25.13	25.43	24.40	n/a	n/a	101%	n/a	n/a
women	28.17	27.72	28.81	29.28	28.40	n/a	n/a	99%	n/a	n/a
60% median HDI										
0-17 years	24.38	24.51	24.73	25.68	23.50	n/a	n/a	104%	n/a	n/a
18-24 years	19.31	19.25	19.38	20.60	19.40	n/a	n/a	100%	n/a	n/a
25-49 years	18.33	18.41	18.40	18.79	17.40	n/a	n/a	105%	n/a	n/a
50-64 years	17.47	17.57	18.25	18.49	17.10	n/a	n/a	102%	n/a	n/a
65+ years	17.58	17.28	21.75	23.79	20.10	n/a	n/a	87%	n/a	n/a

Notes: 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.
External EUROSTAT EU-SILC data lagged by one year to refer to the income data reference year. EUROMOD data refers to income data reference period.
Sources: EUROSTAT

Table 4.10 Impact of minimum wage (annual monetary amounts in millions EUR)

	EUROMOD (baseline)				EUROMOD (with minimum wage)				Ratio (I/II)			
	2013	**2014**	**2015**	**2016**	**2013**	**2014**	**2015**	**2016**	**2013**	**2014**	**2015**	**2016**
Disposable income (total)	11,361	11,921	12,402	13,103	11,390	11,947	12,438	13,148	100%	100%	100%	100%
Gross employee earnings (total)	9,028	9,463	9,980	10,548	9,067	9,495	10,027	10,605	100%	100%	100%	99%
Social assistance (total)	134	129	126	121	132	127	124	118	102%	101%	102%	102%
Income ta (total)	1,385	1,407	1,502	1,517	1,390	1,410	1,508	1,523	100%	100%	100%	100%
Employee SICs (total)	813	852	898	949	816	855	902	954	100%	100%	100%	99%
Gini Coefficient (Eq HDI)	34.01	34.05	34.60	34.67	33.89	33.95	34.46	34.52	100%	100%	100%	100%
At poverty risk (60% median HDI)	19.20	19.21	20.23	21.07	19.22	19.18	20.54	21.11	100%	100%	98%	100%

Sources: EUROMOD data

ANNEX 3: RECALCULATIONS AND COMPENSATIONS OF PENSIONS

Due to fiscal consolidation during the period of economic crisis social insurance and state pensions were progressively cut in Lithuania in 2010. Cuts lasted until 2012 and since 2014 compensations for the losses have been initialised. All these recalculations of pensions were of progressive nature and had different effect on the different groups of pensioners. Therefore we opted for simulating them directly in the model instead of applying the regular updating procedure for non-simulated benefits. Below rules and procedures for simulating pension recalculations in Lithuania are discussed.

The Provisional Law on Recalculation and Payment of Social Benefits of the Republic of Lithuania as of December 9, 2009 came into effect on January 1, 2010 (hereinafter – the Provisional Law; Official Gazette, 2009, No.152-6820). This law establishes, among others, the procedure for recalculation of state social insurance pensions and payment of these pensions when a person has the insured income and/or works on a self-employment basis.

The following state social insurance pensions shall be recalculated:

- Old age pensions exceeding the marginal amount of the state social insurance pension, i.e. 650 LTL;
- Early old-age pensions, exceeding the marginal amount of the state social insurance pension, i.e. 650 LTL;
- Work incapacity pensions awarded to individuals who have lost 60-70 per cent of capacity for work (Group II disability pensions), exceeding the marginal amount of the state social insurance pension, i.e. 650 LTL;
- Work incapacity pensions awarded to individuals who have lost 45-55 per cent of capacity for work (Group III disability pensions), exceeding the marginal amount of the state social insurance pension, i.e. 325 LTL;
- Pensions for the time served exceeding the marginal amount of the state social insurance pension, i.e. 650 LTL;
- Orphan's (loss of breadwinner) pension which amount per each orphan exceeds half the marginal amount of the state social insurance pension, i.e. 325 LTL;
- Survivors' pension, <u>not depending on its amount.</u>

Cuts on state pensions are not discussed here in detail as those were not explicitly simulated in EUROMOD, although most of them were implicitly recalculated.[57] More details on the structural cuts are provided by the State Social Insurance Fund Board of the Republic of Lithuania and can be found in English at: http://www.sodra.lt/index.php?cid=1945.

The structural cuts for the following categories of pensions were simulated in EUROMOD for 2010-2011 and included into the baseline (policy sheet *boa_lt*): old-age benefits (*boa*), early retirement pension (*byr*), disability benefits (*bdi*), orphan's benefits (*bsu*). Up to 2009 these

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[57] Recalculated state pensions as indicated in the Temporary Law include the following major groups: *State pensions of degree one or two of the Republic of Lithuania, State pensions for victims, State pensions for judges, State Pensions for officers and soldiers*, *State pensions for scientists*, *State loss of breadwinner's pensions*. According to the Temporary Law state pensions were recalculated in most cases in accordance to rules and marginal amounts also applicable for state social insurance pensions. Therefore and due to the fact that state pensions are aggregated together with social insurance pensions in the EUROMOD input database, they were recalculated implicitly, structural cuts being equally applied on all types of pensions within the same aggregated category of benefits/pensions if not indicated otherwise.

benefits were updated using regular updating procedure. In 2010-2011 the pension cuts were implemented directly in the model; these simulations are linked to 2010 SILC (2009 income reference).

The main health warnings for the implementation of the structural cuts in EUROMOD are:
- Old age and state pensions are aggregated in *boa* (although these two types of pensions are recalculated according to different rules); invalidity pensions after the pension age are included into *boa*; the bonus for the length of the service can't be identified and is ignored this in our simulations.
- We disregard the reduction of boa pensions for those receiving insurable income.
- There is no information on a degree of work incapacity in the input database. Those were imputed by differentiating the marginal average sizes of the three types of work incapacity/disability pensions and by ratios of the three categories as indicated by external statistics.
- Survivor and orphan pensions are aggregated in the input database and were differentiated according to the age of recipients.
- All indicated categories of pensions in EUROMOD are aggregate categories. The structural cuts were equally applied on all types of benefits within the same category if not indicated otherwise.

Since 2012 the recalculation of state insurance pensions was cancelled, although recalculation rules still applied to state pensions. State pensions cannot be identified in EUROMOD and therefore are not recalculated. For the dataset with the income reference period of 2011 (i.e. 2012 SILC) reverse recalculation rules were implemented for 2012 and later policy years.

Since 2014 compensations for the loss due to those structural cuts made in 2010 and 2011 have been initialised. It affects old-age, early retirement and disability pensions (but not survivor's pensions). The amount of compensation for the pensioner is equal to his/her losses due to the cuts in 2010-2011. The total amount of compensation (in nominal terms) is to be paid over the 2014-2016 period. 20 percent of this amount is to be paid in 2014, 40 percent is to be paid in 2015 and the rest 40 percent – in 2016 (payments of an equal amount will be made in March, June, September and December). 500 thousands persons are entitled to these compensations. The average compensation is 1044 LTL. If the estimated amount of compensation is under 100 LTL it will be paid at once.

Since 2016 compensations for those whose pensions were reduced due to receiving insurable income (i.e. earnings) were initiated. This involves those in receipt of social insurance old-age pensions and state pensions. It is foreseen that 33% of the losses would be paid in 2016, 33% in 2017 and 34% in 2018. In EUROMOD we did not model pension cuts for those in work, neither their compensations are modeled.

To sum up, the additional policy for recalculations of pensions (boa_lt) functions as following:
1. **Not available (n/a)** up to 2010, i.e. benefits updated using regular updating procedure.
2. **'On' since 2010:**
   a. In 2010-2011 the pension cuts are linked to 2010 SILC or earlier datasets (2009 income reference, i.e. sgl_s <= 2009). Cuts modelled for: old-age benefits (*boa*), early retirement pension (*byr*), disability benefits (*bdi*), orphan's benefits (*bsu*).
   b. Since 2012 restoration of pensions is modelled for datasets which refer to pensions with applied cuts (i.e. sgl_s = 2010 & sgl_s = 2011). No actions taken for datasets with restored pensions (i.e. referring to 2012 year or later).

c. For 2014-2016 compensations modelled for lost pensions due to cuts (i.e. 20% in 2014, 40% in 2015, 40% in 2016).

d. No cuts or compensations modelled due to receipt of insured incomes (i.e. earnings).

ANNEX 4: POLICY EFFECTS IN 2014 – 2015 AND 2015-2016

Table A3.1 and Figure A3.1 show the effect of policy changes implemented in 2015 on mean equalised household disposable income by income component and income decile group, as a percentage of mean equalised household disposable income in 2014. The effect is estimated as a difference between simulated household net income under the 2015 tax-benefit policies (deflating monetary parameters by Eurostat's Harmonized Index of Consumer Prices, HICP) and net incomes simulated under 2014 policies.

The increases in public pensions and compensations of pension cuts implemented in 2015 appear to have the largest impact on mean disposable income. There were no changes in policy as such; however, in 2014-2015 the losses due to structural cuts in pensions carried out in 2010 and 2011 were partially compensated by the government. This affected old-age, early retirement and disability pensions (but not survivor's pensions). The amount of compensation for the pensioner is equal to the share (20% in 2014 and 40% each year in 2015 and 2016) of amount she/he has lost due to pension cuts in 2010-2011. Cuts on pensions amounting to less than 100 LTL were compensated at once in 2014. This generates decrease in pensions in 2-3 deciles between 2014-2015. Otherwise compensations have had a positive effect on those in receipt.

There were no changes in employee social insurance contributions, nor there were any changes in SIC policies for the self-employed. However the amount of compulsory health insurance contribution has increased together with the growing minimum wage in 2015. Compulsory health insurance contributions are recorded together with self-employment contributions in EUROMOD and have contributed to decrease in disposable income.

There were no changes in means-tested programmes as well. However we can see a small positive impact on mean disposable income in 2015. Plausible explanation for the reduction in household disposable income due to means-tested benefits is that those are not being indexed by CPI in Lithuania and have increased in relation to prices in 2015 (when deflation was recorded in Lithuania).

Changes in household disposable income due to not means-tested benefits in 2015 are due to cancellation of temporary cuts on unemployment benefit, i.e. the ceiling for it was raised as before 2010. Hence an increase in disposable income is higher for higher income deciles.

Changes in direct taxes, namely PIT, appear to have a positive impact on household disposable income. This was mainly due to an increase in the general non-taxable allowance in 2015 (marginal effect due to conversion to EUR). Similar was true for non-taxable allowances for parents with dependent children. Due to progressive nature of tax allowances positive effects are higher in the lower part of the income distribution, except for the first decile (as those without earnings and self-employed are not eligible for tax allowances).

Overall the changes in the abovementioned policies between 2014 and 2015 were positive for the most part of income distribution, apart from the 3rd decile. form non-uniformly distributed across the population. The first and the sixth deciles appear to have gained the most from public policies.

Table A3.1: Policy effects in 2014-2015, using the CPI-indexation (CPI = 0.993), %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Direct taxes	Disposable income
1	0.00	0.44	0.53	0.05	0.00	-0.20	0.04	0.86
2	0.00	-0.05	0.21	0.05	0.00	-0.04	0.08	0.26
3	0.00	-0.36	0.06	0.12	0.00	-0.04	0.07	-0.16
4	0.00	0.50	0.03	0.17	0.00	-0.05	0.07	0.71
5	0.00	0.56	0.02	0.08	0.00	-0.03	0.07	0.69
6	0.00	0.96	0.01	0.12	0.00	-0.04	0.06	1.11
7	0.00	0.50	0.01	0.11	0.00	-0.02	0.06	0.64
8	0.00	0.43	0.00	0.12	0.00	-0.02	0.04	0.58
9	0.00	0.28	0.00	0.11	0.00	-0.02	0.03	0.40
10	0.00	0.23	0.00	0.07	0.00	-0.03	0.01	0.28
Total	0.00	0.36	0.03	0.10	0.00	-0.03	0.04	0.50

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 the Consumer Price Index (CPI).

Figure A3.1: Policy effects in 2014-2015, using the CPI-indexation (CPI = 0.993), %
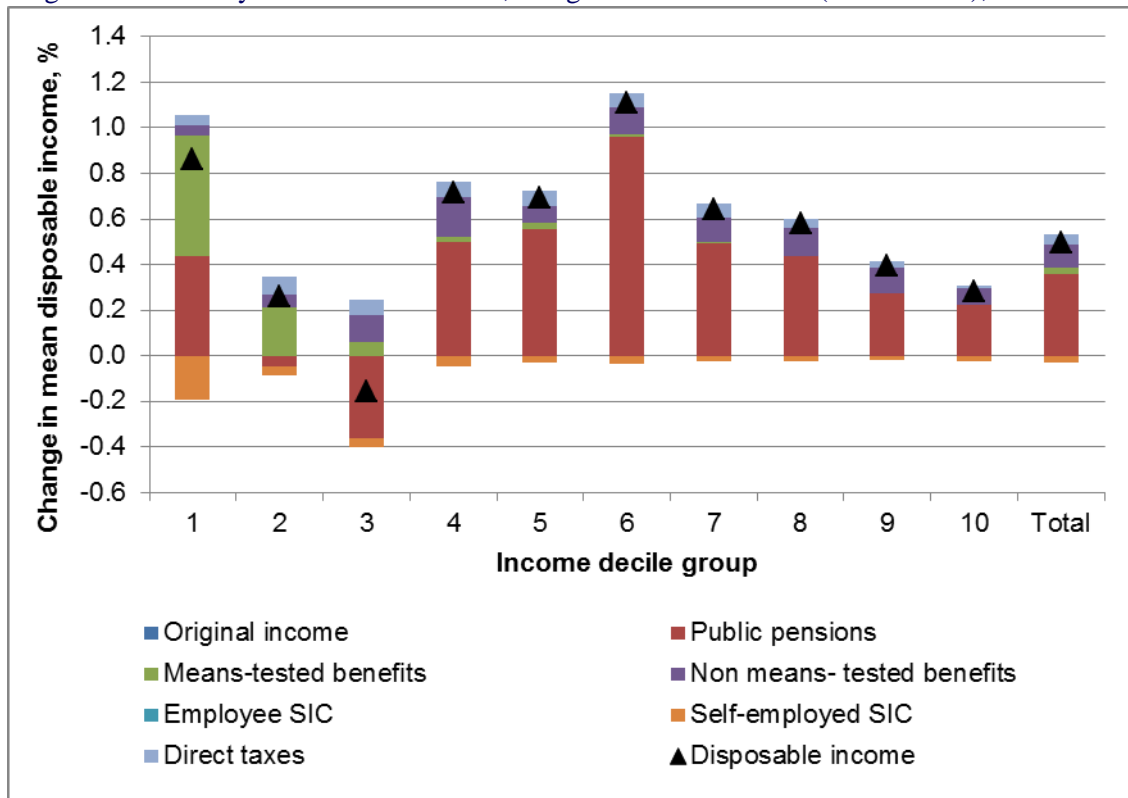
Preliminary: Indexation based on projected HICP for 2016[58]

Table A3.2 and Figure A3.2 show the effect of policy changes implemented in 2016 on mean equalised household disposable income by income component and income decile group, as a percentage of mean equalised household disposable income in 2015. The effect is estimated as a difference between simulated household net income under the 2016 tax-benefit policies (deflating monetary parameters by Eurostat's Harmonized Index of Consumer Prices, HICP) and net incomes simulated under 2015 policies.

The increases in public pensions and compensations of pension cuts implemented in 2016 appear to have the biggest impact on mean disposable income. There were no changes in policy as such; however, in both 2014-2016 the losses due to structural cuts in pensions carried out in 2010 and 2011 were partially compensated by the government. This affected old-age, early retirement and disability pensions (but not survivor's pensions). The amount of compensation for the pensioner is equal to the share (20% in 2014 and 40% each year in 2015 and 2016) of amount she/he has lost due to pension cuts in 2010-2011. Cuts on pensions amounting to less than 100 LTL were compensated at once in 2014. Compensations have had a positive effect on those in receipt. The increase in pensions was higher in 2016 compared to 2015 due to an increase in the current year's insured income and basic pension.

There were no changes in employee social insurance contributions, nor there were changes in SIC policies for the self-employed. However the amount of compulsory health insurance contribution has increased together with the growing minimum wage in 2016. Compulsory health insurance contributions are recorded together with self-employment contributions in EUROMOD and have contributed to decrease in disposable income.

There were no changes in means-tested programmes as well. However we can see a small negative impact on disposable income in 2016. Plausible explanation for the reduction in household disposable income due to means-tested benefits is that those are not being indexed by CPI in Lithuania and decreased relative to prices in 2016 (due to a small inflation).

Changes in household disposable income due to not means-tested benefits is due to an increase in the current years' insured income, which is used for setting ceilings for a number of non-contributory payments. Hence an increase in disposable income is higher for higher income deciles.

Changes in direct taxes, namely PIT, appear to have a positive impact on household disposable income. This was mainly due to an increase in the general non-taxable allowance in 2016. Similar was true for non-taxable allowances for parents with dependent children. Due to progressive nature of tax allowances positive effects is mostly distributed in the lower part of the income distribution, except of the first decile (as those without earnings and self-employed are not eligible for tax allowances).

Overall the changes in the abovementioned policies between 2015-2016 have had a positive impact throughout the distribution, with the 2nd-6th deciles gaining the most (2.5-2.9% of disposable income). The top and bottom deciles remained among least affected.

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[58] Results based on the final HICP will appear in the annual EUROMOD report Effects of tax-benefit policy changes across the income distributions of the EU-28 countries: 2015-16 (updated).

Table A3.2: Policy effects in 2015-2016, using the CPI-indexation (CPI = 1.005), %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Direct taxes	Disposable income
1	0.00	1.07	-0.29	0.03	0.00	-0.14	0.65	1.31
2	0.00	1.59	-0.30	0.02	0.00	-0.03	1.40	2.69
3	0.00	1.72	-0.11	0.04	0.00	-0.04	1.25	2.87
4	0.00	1.43	-0.15	0.06	0.00	-0.04	1.39	2.69
5	0.00	1.20	-0.01	0.04	0.00	-0.03	1.32	2.53
6	0.00	1.18	0.00	0.09	0.00	-0.02	1.20	2.45
7	0.00	0.70	-0.01	0.08	0.00	-0.02	1.07	1.82
8	0.00	0.53	0.00	0.10	0.00	-0.02	0.76	1.36
9	0.00	0.36	0.00	0.10	0.00	-0.02	0.55	0.99
10	0.00	0.23	0.00	0.07	0.00	-0.06	0.25	0.49
Total	0.00	0.73	-0.04	0.07	0.00	-0.04	0.80	1.53

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 the Consumer Price Index (CPI).

Figure A3.2: Policy effects in 2015-2016, using the CPI-indexation (CPI = 1.005), %