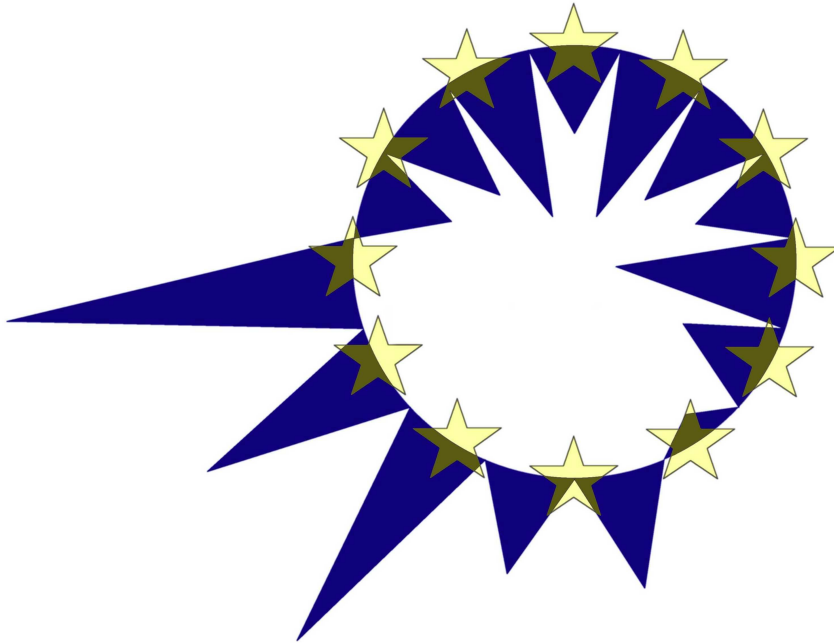


EUROMOD

COUNTRY REPORT



LITHUANIA (LT)

2005 - 2008

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Lina Salanauskaite**

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EUROMOD version F3.0



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.

A major EUROMOD development project (*EUROMODUpdate*) is being supported by DG-EMPL with the key objective to improve and extend EUROMOD's usefulness.

This will involve enlarging and updating EUROMOD from 19 countries to cover all 27 Member States and recent policy systems, using EU-SILC (European Union Statistics on Income and Living Conditions) data as the input database.

EUROMODUpdate project began in February 2009 and will last 3 years.

The work is being carried out by the EUROMOD core developer team, based mainly in ISER University of Essex, in collaboration with a group of national teams.

A project Steering Group has been established, under the chairmanship of Sir Tony Atkinson.

Preparatory work in some of the New Member States is being conducted by the European Centre, Vienna, under the leadership of Orsolya Lelkes.

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The results presented in this report are derived using EUROMOD F3.0. EUROMOD is continually being improved and updated and the results presented here represent the best available at the time of writing.

For more information, see: <http://www.iser.essex.ac.uk/research/euromod>



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1. BASIC INFORMATION

1.1 Basic figures

Table 1. Basic figures

	Pop. (m.) ^[a]	Pop. < 18 (%)	Pop. ≥ 65 (%)	Life expect. (years)	Fertility Rate ^[b]	Unemp. Rate % ^[c]	GDP per head (PPP) ^[d]	Currency Name	Exch. rate ^[e]
2005	3.43	21.79	15.09	71.32	1.27	8.3	11900	LTL	3.4528
2006	3.40	21.21	15.33	71.12	1.31	5.6	13100	LTL	3.4528
2007	3.38	20.55	15.58	70.92	1.35	4.3	14800	LTL	3.4528
2008	3.37	20.02	15.84	n.a.	n.a.	5.8	15200	LTL	3.4528

Notes:

^[a] All population figures refer to the beginning of the year.

^[b] Total fertility rate: an average number of children born alive to a woman during the reproductive period of her life (15–49 years).

^[c] Unemployment rate represents unemployed people, aged 15 to 74, as % of labour force

^[d] GDP per head represented at current PPPs (EUR), from 2008 at constant PPPs. Source: Research Center International Economics (2009) retrieved from <http://www.fiw.ac.at> on 06.05.2009.

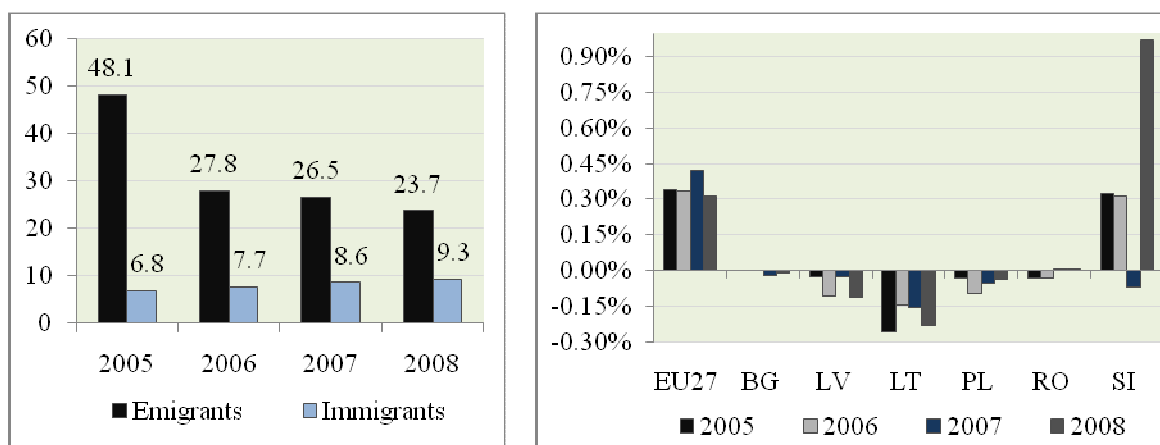
^[e] Lithuanian currency Litas (LTL) is pegged to the euro at a fixed exchange rate of 3.4528 LTL=1 EUR (Based Bank of Lithuania information on www.lb.lt)

Sources: EUROSTAT (2009) and Statistics Lithuania (2009)

1.2 Migration in Lithuania

Based on International Migration Outlooks (OECD, 2006), the net emigration since 1990 amounts to an estimated 10% of the overall population, and therefore, has strongly impacted the Lithuanian labour market, especially causing shortages in unqualified labour in the construction, transport and garment industries.

Figure 1. Migration in Lithuania and the EU (thous. people & % of total population)



Source: EUROSTAT (2009)¹ and Statistics Lithuania (2009)

¹ Data on crude rates of net migration



The OECD study also indicates that both declared and undeclared emigration has declined since 2005. The decline in emigration is also observed in Statistics Lithuania data, as shown in Figure 1 (the graph on the left)². The number of emigrants (both declared and undeclared) reduced from around 48,000 people in 2005 to around 24,000 people in 2008.

Based on EUROSTAT data, Lithuania is the hardest hit emigration country in the EU (see Figure 1, the graph on the right). During the discussed period of 2005-2008, only six EU countries (Bulgaria, Latvia, Lithuania, Poland, Romania and Slovenia) have had negative net migration flows³. Among them, Lithuania had shown the most stable and the highest net migration rate: with an approximate 0.2% of total population decrease per year.

1.3 The tax-benefit system

Table 2. Tax-benefit system and government budget

	Total general government revenue % of GDP	Total tax Receipts % of GDP			Total	Total general government expenditure % of GDP	Social protection % of GDP
		Taxes on income, wealth, etc.*	Social contributions **	Taxes on productions and imports***			
2005	32.8	9.0	8.4	11.0	28.4	33.3	13.2
2006	33.1	9.6	8.7	11.1	29.4	33.6	13.2 ^[p]
2007	33.9	9.2	8.9	11.6	29.7	34.9	n.a.
2008	34.0	9.4	9.4	11.6	30.4	37.2	n.a.

Source: EUROSTAT (2009), [p] provisional

Definition of tax receipts, as presented in EUROSTAT:

*Current taxes on income, wealth, etc. (ESA95 code D.5) cover all compulsory, unrequited payments, in cash or in kind, levied periodically by general government and by the rest of the world on the income and wealth of institutional units, and some periodic taxes which are assessed on neither the income nor the wealth. In ESA95, current taxes on income, wealth, etc. are divided into taxes on income and other current taxes.

**Social contributions (ESA95 code D.61) are divided into actual social contributions and imputed social contributions. Actual social contributions include employers' actual social contributions, employees' social contributions and social contributions by self-employed and non-employed persons. Imputed social contributions represent the counterpart to social benefits (less eventual employees' social contributions) paid directly by employers.

***Taxes on production and imports (ESA95 code D.2) consist of compulsory, unrequited payments, in cash or in kind which are levied by general government, or by EU institutions, in respect of the production and importation of goods and services, the employment of labour, the ownership or use of land, buildings or other assets used in production. In ESA95, taxes on production and imports comprise taxes on products and other taxes on production.

² Number of emigrants is based on declaration of living place and on emigration research survey; immigrants – based on declaration of living place.

³ Net migration is the difference between the number of immigrants and the number of emigrants.



Table 3. Social protection expenditure by function (as % of total social protection expenditure)

	Sickness/ health care	Disability	Old age	Survivors	Family/ children	Unemployment	Housing	Social exclusion
2005	30.3	10.4	43.0	3.4	9.3	1.8	0.0	1.8
2006 ^[p]	32.1	10.7	41.4	3.4	9.0	1.9	0.0	1.6
2007	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2008	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Source: Eurostat (2009); [p] provisional

Table 4. Taxation (as % of total tax receipts)

	Personal income tax	Corporate income tax	Social security contributions		Taxes on goods and services	Other taxes
			Employees* ^[a]	Employers		
2005	18.7	7.9	3.2	29.2	38.9	2.1
2006	18.0	8.5	3.3	30.0	39.0	1.3
2007	16.3	7.4	3.3	30.0	39.5	3.5
2008	15.5	8.9	3.4	30.3	39.7	2.2

Notes:

* Includes self-employed and voluntary insured

[a] http://ec.europa.eu/employment_social/spsi/docs/social_protection/2006/lithuania_en.pdf

Source: Information from Financial Ministry of Lithuania and Social Insurance Fund

1.3.1 Basic information about the tax-benefit system

- The Lithuanian benefit system is organized mainly on the state level. Municipalities provide a few local benefits, such as a municipal support which is given to families in need (e.g. asocial or dysfunctional families). However, this benefit is mainly based on available local budget and does not have pre-defined eligibility rules. In other cases, municipal authorities set parameters which indicate local living standards, but are used by state defined benefits or tax programs⁴.
- 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 also 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.

⁴ For example, in case of granting social assistance municipal authorities have a right to:

- grant social assistance benefit in the form of services (i.e. food) for longer than three months’ period after (a standard period set by the law)
- approve procedures on payments of state entitlements or average fuel prices (i.e. in case of social assistance).



- Retirement age: the *Law on State Social Insurance* pensions, which came into force in 1995, has foreseen that the state pension age should gradually increase from 55 to 60 years for females and from 60 to 62.5 years for males. Effectively, the state pension age on 30th June, 2005 was 59.5 for women and 62.5 for men. As of 2006, the final statutory retirement age both for men and women has been reached: 62.5 and 60 respectively. It did not change during the course of 2006-2008.
- Minimum school leaving age is 16 years old. Compulsory education is from age 7 to 16. The age of majority is 18⁵.
- Dependent child definition:
 - By default, the “*dependent child*” status is lost (unless recognised by the court otherwise) if a person has a partner (married or legally cohabitating) or becomes a parent herself.
 - Generally, for tax and benefit purposes, dependent children are own or adopted children (except fostered children) under 18 years of age.
 - 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.
- For tax purposes, dependent children are defined as children under the age of 18 or older, if in full-time secondary education.
- For tax and benefit purposes the following household unit definitions are used:
 - Lone parent is defined as not legally married or officially cohabited (cohabitation is approved by the official contract) to anyone. He or she can be divorced and a parent of a dependent child.
 - “Socially dysfunctional family”, as defined by *Law on Cash Social Assistance*, means a family in which a crisis prevails because one or several family members abuse alcohol, narcotic drugs, psychotropic or toxic substances or (and) are dependent on gambling, or (and) because of the disability, poverty, lack of social skills the above mentioned persons cannot or do not know how to take care for children, or (and) use physical

⁵ 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.



force, psychological or sexual abuse, or (and) use the granted state support for the interests other than family.

- The income tax system is an individual system, with the spouses being assessed independently.
- Different income sources are taxed differently (e.g. salaries, income from authorship contracts, see below in section 2.5).
- 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. For example, some laws foresee inflation indexation, such as in case of flat rate pensions. However, during recent years pensions' raise surpassed inflation level aiming at increased living standards of the pensioners.
- The means-tested benefit system assesses entitlement according to the average per capita monthly income of benefit unit according to the last three months' income history. The benefit unit is the nuclear family - the married couple or single adult plus any dependent children.

1.4 Social Benefits

The following section is structured by the purpose of benefits and their financing basis:

- Benefits for families raising children: both non-contributory and social insurance based.
- Unemployment social insurance and (non-contributory) social assistance benefits.
- Contributory/social insurance benefits, organized by two major types:
 - Pension social insurance, defined by *the Law on State Social Insurance Pensions* and other laws defining rights to receive state or social assistance pensions.
 - Sickness and occupational accidents social insurance, defined by the Law on Sickness and Maternity Social Insurance and by the Law on Social Insurance of Occupational Accidents and Occupational Diseases.

Note: The benefit descriptions presented in this section provide a full overview of the Lithuanian social benefit system. More detailed parametric descriptions of the benefits, which are simulated using EUROMOD, could be found in section 2. More detailed parametric descriptions of the benefits which are not simulated can be found in Annex I: Additional Description of Non-Simulated Benefits.

1.4.1 Commonly used parameters and definitions

Social benefits are either taxable or non-taxable and access is given to permanent residents only. For the purpose of granting all social benefits (unless specified otherwise), **family**, as an eligible administrative unit, consists of married or cohabitating parents, own or adopted dependent children under the age of 18, or own or adopted children under the age of 24 if in full time education. As already mentioned, the “child” status is lost if a person has a partner (either cohabiting or married) or becomes a parent themselves. Social benefits are often paid in relation to MSL, SSI or other reference amounts, as indicated below.



MSL refers to a “minimum standard of living (*minimalus gyvenimo lygis*)” and is estimated by the Government in accordance with the procedure established by the *Law of Republic of Lithuania on Individual Income Security (1994)*. As of August 2008⁶, a term *Basic Social Allowance (bazinė socialinė išmoka)* replaced the MSL term. For the reference purpose, we are going to use MSL rather than *Basic Social Allowance* when describing 2005-2008 policy systems. Table 5 shows MSL levels which were effective on 30th June 2005-2008.

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 5 shows SSI levels which were effective on 30th June 2005-2008.

Table 5. Monthly MSL and SSI levels effective on June 30, 2005-2008, LTL

	2005	2006	2007	2008
MSL (Basic social allowance)	125	125	130	130
SSI	135	165	205	285

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

Reimbursable Income (*draudžiamosios pajamos*), hereinafter referred to as “**RI**”, defines the *list* 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:

- 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*.

Vocational rehabilitation income, as *insured income*, has been added to the list as of 2006. The rest of the **RI** income list did not change over the period of 2005-2008.

The **average monthly reimbursable income (AMRI)** is the sum of the **RI** incomes averaged over the last three months before the right to the relevant benefit has been granted.

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 6 shows *current year’s insured income* (hereinafter referred to as “**CYI**”) levels which were effective on 30th June 2005-2008.

⁶ Lietuvos Respublikos Seimas (2008). *Minimaliojo darbo užmokesčio dydžių, socialinės apsaugos išmokų ir bazinio bausmių ir nuobaudų dydžio indeksavimo įstatymas*. Valstybės žinios: 2008-07-22 Nr.83-3294

Table 6. Current year's insured income (monthly), 30th June 2005-2008, LTL

	2005	2006	2007	2008
Current year's insured income (CYI)	1084	1212	1356	1414

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 its relevant changes.

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 7. Basic monthly pension, 30th June 2005-2008, LTL

	2005	2006	2007	2008
Basic monthly pension, LTL	172	200	266	316

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 state pensions in Lithuania are calculated in relation to the **state pension base** (*valstybinių pensijų bazė*), the amounts of which during the period of 2005-2008 are indicated below:

Table 8. State pension base, 30th June 2005-2008, LTT

	2005	2006	2007	2008
State pension base, LTL	138	138	172	200
Minimum monthly salary (MMS)	500	550	600	800

Source: Based on the Government of Lithuanian Republic Resolution "Dėl Biudžetinių Įstaigų Ir Organizacijų Darbuotojų Darbo Užmokesčio, Valstybinės Socialinio Draudimo Bazinės Pensijos ir Minimalių Dydžių Didinimo" [01.04.1998] and its relevant changes.

Minimum monthly salary (*minimali mėnesinė alga*), which is listed in the table above, is used for calculations of such social benefits, as educational stipends. This reference amount is also used for defining social contributions (see more details in section 2.4.3).

1.4.2 Benefits for families raising children

1.4.2.1 Non-contributory benefits

All non-contributory benefits are non-taxable.

Birth grant (*vienkartinė išmoka gimus vaikui*) is a lump-sum cash benefit paid upon the birth of a child; it amounted to 8 MSL per child during the entire 2005-2008 period.

Child benefit (*išmoka vaikui*) a monthly cash benefit paid to a family raising one or more dependent child(ren). The benefit level is calculated in relation to MSL and varies based on the number of children in the family and their age.

Benefit to a conscript's child (*išmoka privalomosios tarnybos kario vaikui*) is a monthly benefit paid for each child in the amount of 1.5 MSL during the military service of the father. The level of the benefit did not change during the course of 2005-2008. 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*) is a monthly benefit to a child placed under guardianship in a family or non-governmental guardianship institution during the period of the guardianship (curatorship). Its amount equalled to 4 MSL per month in 2005 and 2006 (30th June). Since 2007, the guardianship benefit is paid as a difference between 4 MSL and the cumulative amount of an orphan's pension and (or) a child maintenance obligation. If upon the expiration of a child's guardianship (curatorship) due to turning 18 years old,⁷ emancipation or contracting a marriage, a child continues in full-time secondary, vocational, post-secondary or higher education, he or she is paid an applicable guardianship benefit until the age of 24.

Grant for housing (settlement) (*vienkartinė išmoka įsikurti*) is a lump sum 50 MSL benefit, given to a child upon the expiration of a guardianship due to 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 MSL. The benefit level did not change during the period of 2005-2008.

Pregnancy grant (*vienkartinė išmoka nėščiai moteriai*) is a lump-sum benefit to a pregnant woman who is not eligible to receive a maternity leave benefit. The grant amounts to 2 MSL.

1.4.2.2 Contributory benefits

Contributory benefits described below are subject to personal income tax (main tax rate).

Maternity leave benefit (*motinystės pašalpa*) is 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. The maternity benefit is equal to 100% of the recipient's average monthly reimbursable income AMRI (see section 1.4.1 for more details) with minimum and maximum amounts specified.

Paternity leave benefit (*tėvystės pašalpa*) is a lump sum benefit, which was introduced on 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 amount of paternity benefit is 100% of the benefit recipient's AMRI (see chapter 1.4.1 for more details) with minimum and maximum thresholds specified.

Maternity (paternity) leave benefit (*motinystės (tėvystės) pašalpa*) is 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 seven 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 as of 2008). The benefit is calculated in relation to AMRI (see more details in section 1.4.1) with minimum and maximum levels specified.

⁷ The legal age of majority.



1.4.3 Unemployment and social assistance benefits

These benefit types are non-taxable.

Social benefit (*socialinė pašalpa*) is granted to families or single persons if they pass established eligibility, assets and income tests. The monthly per capita benefit is equal to 90% of the difference between 1*SSI and per capita family income. 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.

Compensations for heating of a dwelling, cold and hot water expenses, and sewage (*kompensacijos už būsto komunalines paslaugas*) (hereinafter referred to as “compensations”), are granted to families and single persons if the value of family’s or person’s assets does not exceed 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. More details on this benefit can be obtained in Annex I.

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

Municipal support (*vienartinės 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.

Educational stipends (*mokymosi stipendija*) and other financial support for unemployed are given to unemployed people and to the employees who have been given a notice of dismissal, if they enroll into state certified *vocational training* and *non-formal education* programs.

- In the case of vocational training, the unemployed persons are entitled to receive:
 - an education grant in the amount of 0.7 of the minimum monthly salary (MMS) during the first three months of training and 1 MMS during the remaining period of training (see applicable MMS rates in Table 8);
 - the transportation costs to and from the place of training and
 - the reimbursement of accommodation costs.
- In the case of non-formal education training, the unemployed persons are entitled to receive:
 - an education grant in the amount of 0.7 of the MMS approved by the Government;
 - the transportation costs to and from the place of training and
 - the reimbursement of accommodation costs.

People enrolled in these educational programs also have a right to receive *unemployment insurance benefit*.

Social stipends (*socialinės stipendijos*) is a type of educational stipends which are given to students from low income families if they study at public educational institutions. Social stipends are assigned per educational establishment, as part of their institutional scholarship fund. The Government sets general scholarship fund provisions, including priority criteria and



maximum levels of social stipends. Students can receive only one (social stipend, promotional stipend or other scholarship support) educational stipend at a time (with the exception of orphan stipends). Usually, educational institutions apply government defined social stipend levels. However, they also have a right to define some other or additional rules of granting any type of educational stipends. Social stipend conditions, set by the general law, are differentiated by the educational establishment type.

In 2005 – 2008, social stipends for students from universities and their equivalent educational institutions were set to the maximum 1 MSL amount per month. These stipends were paid to the following persons (priority ranking):

1. If per capita family income per month is not higher than 1 SSI. As of 2006 onwards, this condition changed covering students from families receiving a social benefit.
2. If an unemployed student lives with only one of the parents (because of death or divorce).
3. If a student comes from a family with three or more children, who are up to the age of 16 or older, if studying full-time in formal educational establishments. As of 2006 onwards, the age criteria has been raised from 16 to 18.
4. If a student raises a child:
 - a. by himself/herself
 - b. and his/her spouse/partner is a full-time student in the formal educational establishment.

Students from higher educational institutions, which do not provide a university degree, receive 0.3 MSL monthly social stipends. These stipends are paid to students who do not receive any other educational stipends (except orphan stipend) and if they have passed relevant exams in the timely manner. These rules did not change in the period of 2005-2008 (30th June).

Students from vocational training institutions receive 0.27 MSL monthly social stipends. These stipends are paid to students who do not receive any other educational stipends (except orphan stipend) if they have passed relevant exams in the timely manner. These rules did not change in the period of 2005-2008 (30th June).

Promotional education stipends (*skatinamosios stipendijos*) are another type of 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. In 2005 – 2008, promotional stipends for:

- students from *universities and their equivalent educational institutions* were set to the maximum 2.5 MSL per month.
- students from *higher educational institutions, which do not provide a university degree*, were set to 0.86 MSL per month.
- students from *vocational training institutions* were set to 0.76 MSL per month.

1.4.4 Pension social insurance

These benefit types are non-taxable.

In principle all people under employment contracts with legal or natural persons are compulsorily covered by the pension social insurance system. However some categories of self-employed persons (i.e. farmers or sportsmen) are not compulsorily insured and some categories are only covered for the main part of the social insurance pensions scheme (i.e. inactive people



who are taking care of children under three years old). In 2005, employers paid 23.5% and employees paid 2.5% of the gross wage as contributions to the pensions' system.

Until 30th June 2005 three major types of social insurance pensions were available: old age, disability, and survivor/widow(er) pensions. Based on 19 May 2005 amendments of the *Pensions' law*, existing pension types have been redefined to: old-age pension, work incapacity pension and survivor's and orphan's pension. Survivor's or orphan's pensions could be paid alongside old-age or invalidity or work incapacity pensions unless otherwise provided by the laws.

Old-age (*senatvės*) monthly pension is paid if both the following conditions are fulfilled:

1. he or she attains the old-age retirement age as specified by the *Pensions' law*;
2. he or she has the minimum insurance period specified for the old-age pension.

Since the introduction of the *Pensions' law* in 1995, the old-age retirement age has been set to gradually increase from 55 to 60 years for females, and from 60 to 62.5 for males. The maximum foreseen old-age retirement age has been reached in 2006 (see Table 9).

A state social insurance pension consists of two parts: the basic part and the supplementary part. The basic pension cannot be less than 110% of MSL. 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. The size of the contributions was initially set to 2.5% of the person's insured income in 2004 and gradually increased to 5.5% in 2008 (see more details in Table 9).

Table 9. Main parameters of the state insured pensions, June 30, 2005-2008

	2005	2006	2007	2008
Retirement age:				
Females	59.5	60.0	60.0	60.0
Males	62.5	62.5	62.5	62.5
Voluntary contribution to private pension funds, %	3.5	4.5	5.5	5.5

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

A person is entitled to receive an *early old-age pension* up to five years before the regular retirement age with 30 years of insurance and after one year of unemployment.

More details on the old-age pension could be found in Annex I.

Work incapacity (*netekto darbingumo*) pension⁸ is assigned to a person for whom a certain level of capacity 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 paid in relation to the basic pension amount (see Table 7). More details on the work incapacity pension could be found in Annex I.

⁸ Until 1st July 2005 defined as disability (*invalidumo*) pension



Survivor's or orphan's (*našlių ir našlaičių*) pension is 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). The pension level has been linked to the insured person's pension during the period 2005-2006. Later on, the survivor pension has been changed to a lump-sum monthly amount, equal to 70 LTL. The orphan's pension is linked to the deceased person's pension. More details on this pension type could be found in Annex I.

Other pensions: persons entitled to receive a state social insurance pension also have a right to receive other state as well as non-state pensions, unless otherwise provided by the laws.

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 one calendar year is not more than 15 degree one pensions and not more than 45 degree two pensions. A state pension of the first degree is equal to 4 *state pension bases* (see Table 7). A state pension of the second degree amounts to 2 *state pension bases* (see Table 8).

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, 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 8) 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.

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 8).

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.



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 7).

State social assistance benefits/pensions (*valstybinės šalpos išmokos*) are granted on the basis of the *Law on the State Social Assistance Benefits*. There are five types of social assistance pensions:

1. Social assistance pensions which are given to disabled children, retired or disabled parents of disabled children, retired or disabled mothers of five or more children (until they reach age 8), and persons who have reached the retirement age or have been recognized as disabled. Social assistance pensions are calculated in relation to a *basic monthly pension* (see Table 7). For example, children with different degrees of disability are paid different ratios of basic monthly pensions:
 - a. with severe disability – 2* basic pensions;
 - b. moderate disability – 1.5*basic pensions;
 - c. mild disability –1* basic pension.
2. Orphan's social assistance pension is given to children under the age of 18 or children, between 18 and 24, if in full time education or if they have become disabled before the age of 18. The pension is equal to 150% *basic monthly pension* (see Table 7), which should be shared among all children of the deceased person.
3. Targeted compensations for nursing expenses are given to persons nursing disabled children or persons who have become disabled before the age of 24. This pension is equal to either 100 or 50% of the *basic monthly pension* (see Table 7) depending on the degree of the disability.
4. Nursing allowances are paid to people with total disability when they are nursed at home or institutions which are at least partially supported from other than state or municipal budgets. The amount of the nursing allowance is equal to 150% of the *basic monthly pension* (see Table 7).
5. Relief compensations are given to parents (adopters) who for not less than 10 years preceding 1st January 1995, nursed at home the disabled children or disabled children with a disability from childhood or who became disabled before the age of 18. This compensation is also paid to mothers who, before 1st January 1995, gave birth to five or more children and brought up them until they reached the age of 8. The relief compensation is equal to 150% of *basic monthly pension* (see Table 7).

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 1st January 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, 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.

Retirement pensions (*ištarnauto laiko pensijos*) are paid if the entitlement to these pensions has been granted before 1st January 1995. A person could choose to opt for old-age or work incapacity pensions instead of the retirement pension.

Invalidity pensions (*invalidumo pensijos*) are pensions for the disability reasons and awarded before 1st July 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.

1.4.5 Sickness and Occupational Accidents social insurance

Sickness benefit (*ligos pašalpa*) is granted on the basis of *the Law on Sickness and Maternity Social Insurance* and is given to people who have a required social insurance coverage. The benefit is calculated on the basis of reimbursable income (RI) with maximum and minimum thresholds applied. More details on this benefit are presented in Annex I.

Vocational rehabilitation allowance (*profesinės reabilitacijos pašalpa*) is granted on the basis of *the Law on Sickness and Maternity Social Insurance*. It is given to people who:

- take part in the vocational rehabilitation programme and for this reason do not receive remuneration for work;
- have social insurance coverage for at least three months during the past 12 months *or* six months during the past 24 months from the day of starting a rehabilitation programme.

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 AMRI, and it cannot be lower than 2**basic monthly pensions* (see Table 7), valid before the start of rehabilitation. The benefit has been introduced since 1st July 2005.

Occupational disease allowance (*profesinės ligos pašalpa*) is 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 reimbursable income (RI). Maximum and minimum thresholds are applied:

- if the AMRI (see section 1.4.1 for more details) is lower than 25% of CYI (see Table 6), as applicable on the month when the right to benefits is granted, then the latter is used for benefit calculation.
- the ceiling for the AMRI is 3.5*applicable CYI (from 1st July 2006, the ceiling is 5*CYI).

Occupational disease allowance is equal to 100% of the AMRI (see section 1.4.1 for more details). Other parameters did not change during the period of 2005-2008.

Work incapacity grant (*netekto darbingumo vienkartinė kompensacija*) is a lump-sum amount paid in the amount of:

- if up to 20% of work capacity is (temporarily) lost: then the grant is equal to 10% of the sum of RI (see section 1.4.1), averaged over the last 12 salary months, times 24 (months).
- if less than 30%, but more than 20% of work incapacity is (temporarily) lost: then the grant is equal to 20% of the sum of RI (see section 1.4.1), averaged over the last 12 salary months, times 24 (months).
- 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.



The calculated average RI cannot be lower than 25% of CYI (see Table 6), as applicable on the month when the right to the benefit is granted, and cannot be higher than 3.5*applicable CYI. The benefit calculation rules did not change over the period of 2005-2008.

Work incapacity periodical compensation (*netekto darbingumo periodinė kompensacija*) is awarded if a person has lost 30% or more of his/her work capacity and is paid monthly. The compensation is paid according to the formula:

$0.5*d*k*CYI$, where:

d: lost capacity coefficient (expressed as % of work incapacity, divided by 100)

k: compensation coefficient (ratio between an insured person's average monthly RI from 12 consecutive months prior to injury and the CYI valid at the time of injury); $0.25 \leq k \leq 3$;

The benefit calculation rules did not change over the period of 2005-2008.

1.4.6 Scope and scale

The following two tables provide an indication of the relative scale and coverage of each of the discussed benefits by showing the number of recipients and the expenditure on each benefit. A note should be made that collected statistics come from different sources and represent different aggregations techniques, as well as reference terms. Technical notes below the table indicate the used definitions.

Table 10 presents the share of recipients as a percentage of the population. This gives an overview which benefits are most frequent amongst the Lithuanian tax-benefit structure, as well as their importance over the period of 2005-2008. The largest share of people receives old-age pensions (almost 20% by 2008). Table 10 also reveals the increasing importance of child benefit: during the discussed four years, the recipient population increased from 9% to almost 17% of total population. In 2008, it was the second most frequent benefit to be received.

Based on expenditures figures, reported in Table 11, pension social insurance clearly takes the most important role among all types of social benefits. The total share on all types of pension expenditures amount to around 80% of total expenditures. Among other types of benefits, sickness benefit and child benefit are the most significant state expenditures. These two benefits amount to around 10% of total state expenditures on social benefits. This table also shows a dramatic increase in maternity (paternity) leave expenditures during the period of 2005-2008.

Number of recipients is not collected for a number of social benefits. For example, compensation for utilities and sickness benefits are only collected in a form of state expenses of a number of cases (i.e. a number of sickness benefit cases per year increased from 0.18 per person per year in 2005 to 0.22 per person per year in 2008).

Some expenditures have been cumbersome to obtain due to different reporting practices across state institutions. For example, expenditures for state pensions are not centrally collected, as they are predominantly paid from the employers' institutional budgets.

Table 10. Social benefits: recipients (as % of population^[a])

	2005	2006	2007	2008
Benefits for families raising children				
Birth grant	0.86	0.87	0.89	1.03
Child benefit	9.43	9.42	10.36	16.70
Benefit to a conscript's child	0.00	0.00	0.00	0.00
Guardianship benefit	0.33	0.34	0.37	0.37
Grant for housing (settlement)	0.07	0.09	0.08	0.06
Pregnancy grant	0.24	0.22	0.20	0.17
Maternity leave benefit ^[b]	0.61	0.61	0.76	0.80
Paternity leave benefit	n.a.	0.09	0.27	0.37
Maternity (paternity) benefit ^[c]	0.45	0.46	0.49	0.50
Unemployment and social assistance benefits				
Social benefit	1.58	1.11	1.08	1.11
Compensation for utilities	n.a.	n.a.	n.a.	n.a.
Unemployment social insurance benefit ^[d]	0.45	0.45	0.53	0.68
Municipal support	n.a.	n.a.	n.a.	n.a.
Educational stipends and other financial support for unemployed	n.a.	n.a.	n.a.	n.a.
Social stipends	n.a.	n.a.	n.a.	n.a.
Promotional education stipends	n.a.	n.a.	n.a.	n.a.
Pension social insurance^[d]				
Old-age pension (inclusive of working and early old-age pensioners)	17.55	17.60	17.70	17.89
Work incapacity and invalidity pensions ^[d]	6.17	6.23	6.20	6.34
Survivor and orphan pensions	6.91	7.00	7.46	7.80
State pensions of degree one or two	0.14	0.20	0.19	0.21
State pensions for victims	2.73	2.73	2.72	2.67
State pensions for officers and soldiers	0.34	0.35	0.37	0.39
State pensions for scientists	0.07	0.07	0.07	0.08
State pensions for judges	0.00	0.00	0.00	0.00
Compensations for special working conditions	0.26	0.26	0.27	0.27
State social assistance benefits/pensions	1.21	1.00	1.02	1.13
Loss of breadwinner's pension	0.48	0.41	0.34	0.28
Retirement pension	0.03	0.03	0.03	0.02
Sickness and occupational accidents social insurance				
Sickness benefit	n.a.	n.a.	n.a.	n.a.
Vocational rehabilitation allowance	0.00	0.00	0.00	0.00
Occupational disease allowance	0.15	0.18	0.17	0.17
Work incapacity grant	0.01	0.01	0.01	0.01
Work incapacity periodical compensation ^[c]	0.07	0.09	0.11	0.13

^[a] Used population figure refers to the beginning of the years; presented figures cover benefits if $n < 0.01$ (where n is recipients, as % of population); otherwise n is reported as 0.00. Reported figures are based on annual number of individual recipients, unless otherwise stated. N.a. is reported if information on the benefit was unavailable.

^[b] Number of cases.

^[c] Average monthly number of recipients.

^[d] Average annual number of recipients

Source: Statistics Lithuania & State Social Insurance Fund Board, accessed on 19.02.2009

Table 11. Social benefits: annual expenditure (LTL), as % of total expenditure^[a]

	2005	2006	2007	2008
Benefits for families raising children				
Birth grant	0.51	0.47	0.39	0.34
Child benefit	4.65	4.03	3.60	4.51
Benefit to a conscript's child	0.00	0.00	0.00	0.00
Guardianship benefit	1.11	1.00	0.88	0.64
Grant for housing (settlement)	0.13	0.14	0.12	0.08
Pregnancy grant	0.04	0.03	0.02	0.01
Maternity leave benefit ^[b]	1.34	1.57	1.77	2.03
Paternity leave benefit	n.a.	0.09	0.24	0.30
Maternity (paternity) benefit	2.42	2.60	3.50	7.22
Unemployment and social assistance benefits				
Social benefit	0.94	0.69	0.66	0.74
Compensation for utilities	0.55	0.48	0.42	0.43
Unemployment social insurance benefit	1.27	1.25	1.24	1.43
Municipal support	n.a.	n.a.	n.a.	n.a.
Educational stipends and other financial support for unemployed	n.a.	n.a.	n.a.	n.a.
Social stipends	n.a.	n.a.	n.a.	n.a.
Promotional education stipends	n.a.	n.a.	n.a.	n.a.
Pension social insurance				
Old-age pension (inclusive of working and early old-age pensioners)	54.38	54.43	54.25	52.00
Work incapacity and invalidity pensions	17.10	17.17	16.72	15.67
Survivor and orphan pensions	3.70	3.43	4.05	3.35
All types of state pensions ^[b]	4.93	5.22	4.15	3.58
Compensations for special working conditions	0.56	0.57	0.56	0.52
State social assistance benefits/pensions	0.00	0.00	0.00	0.00
Loss of breadwinner's pension	0.91	0.80	0.64	0.51
Retirement pension	0.09	0.08	0.07	0.06
Sickness and occupational accidents social insurance				
Sickness benefit	5.05	5.58	6.34	6.22
Vocational rehabilitation allowance	0.00	0.00	0.00	0.00
Occupational disease allowance	0.16	0.18	0.16	0.16
Work incapacity grant	0.02	0.01	0.01	0.01
Work incapacity periodical compensation ^[c]	0.13	0.17	0.20	0.19
TOTAL, as % of total expenditures	100.00	100.00	100.00	100.00
TOTAL, in mln LTL	5611.00	6316.00	7943.00	10687.00

^[1] If $r < 0.01$ (where r is expenditures/total expenditures), then r is reported as 0.00. Reported figures are based on annual expenditures, unless otherwise stated. N.a. is reported if a benefit was unavailable. ^[2]

Estimates for 2005 and 2008 have been taken from secondary sources, based on Statistics Lithuania figures. Missing 2006-2007 expenditures have been estimated as average of 2005 and 2008 values.

Source: Social Security and Labour Ministry, Statistics Lithuania & State Social Insurance Fund Board, accessed on 19.02.2009;

1.4.7 Not strictly benefits

A subsidy for baby diapers (*kompensacija už vaikiškus vystyklus*) is a temporary one-time payment to families due to the introduction of 18% VAT, which was imposed on baby diapers in May 2004. Benefit was paid during the course of 2004 – 2005. The benefit amount depended on the child's birth date. Children born between May and December 2004 were eligible for a lump sum benefit equal to 220 LTL, and children born between May 2003 and April 2004 were



eligible to 20 LTL multiplied by the number of months from May 2004 until a child reaches the age of 1 year, including the month in which a child attains that age.

Free meals to pupils (*nemokamas maitinimas mokiniams*) is a non-cash benefit to low income families, which consist of the free provision of meals at the general education institutions during the academic year:

1. Free lunch;
2. Free lunch and breakfast for pupils from extremely low-income families;
3. Free meals during summer holidays at summer day camps organised in schools.

Free school's supplies prior to the beginning of a new school year (*mokinių aprūpinimas mokinio reikmenimis, prasidedant naujiems mokslo metams*) is a non-cash benefit to low income families, including compensation for purchase of exercise books, calculators or other supplies essential for a pupil. Before 1st January 2007, when the law “*Social support to pupils*” came into force, the provision of school's supplies was not defined by any particular law, but rather based on the availability of the state assigned budget, which was distributed at the municipal level. On 30th June 2007 - 2008, the following rules were applied for the entitlement to the benefit:

- The benefit is granted if monthly income per family member is lower than 1.0 of SSI and a pupil is raised in a *family at social risk*.
- The benefit is granted according to the conditions set by the founders of the educational institutions (or other municipal authorities), but only if monthly income per family member is lower than 2.0 of SSI.

Family at social risk is defined by the Law on Cash Social Assistance for Low-Income Families (Single Residents) and implies a family in which:

- one or several family members abuse alcoholic beverages, narcotic drugs, psychotropic or toxic substances or (and) are
- dependent on gambling, or (and)
- because of the disability, poverty, lack of social skills the above mentioned persons are not able to or do not know how to take care of children, or (and)
- use physical force, psychological or sexual abuse, or (and)
- use the granted state support not for family interests.

For the purpose of income test, the same rules as for the social benefit for low income families or as for the provision of free meals apply. The price of the state predefined set of the school's supplies, including VAT, cannot exceed 120% of MSL per pupil during one academic year. A right to the provision of the school supplies could be established if either the parents of the pupil or the school administration have submitted an application for the benefit.

Compensation for drugs and medical devices (*vaistų ir medicinios pagalbos priemonių įsigijimo išlaidų kompensavimas*) is 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.

Medical rehabilitation and compensation for sanatorium expenses (*medicininės reabilitacijos ir sanatorinio gydymo išlaidų kompensavimas*) are 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. People get immediate discounts at pharmacies. Basic sanatorium prices are defined by the Health Ministry.

Funeral Benefit (*laidojimo pašalpa*) is a non-contributory lump-sum benefit (equal to 6 MSL in 2008-2007 and 8 MSL in 2008) 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 2005-2008.

Grant in case of death of insured (*Vienkartinė draudimo išmoka apdraustajam mirus*) is a lump-sum amount paid for the family members of the deceased in the amount of 100* applicable CYI (see Table 6). 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 2005-2008.

Severance pay/compensation (*Išėitinė kompensacija*) is 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 in relation to the employment duration at the company:

- Up to 12 months employment – 1 average monthly salary .
- From 12 to 36 months – 2 average monthly salaries.
- From 36 to 60 months – 3 average monthly salaries.
- From 60 to 120 months – 4 average monthly salaries.
- From 120 to 240 months – 5 average monthly salaries.
- More than 26 months – 6 average monthly salaries.

Severance compensation is paid by the employer. This benefit is subject to personal income tax.

1.5 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 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.

All *employees* of private and public sector pay 3% of gross wages and salaries as social insurance contributions to pension social insurance and to sickness and maternity social insurance. 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.



Self-employed persons, with the exception of the persons engaged in individual activities under business certificates, pay social insurance contributions for basic and additional pension part, the amount of which depends on their income.

Self-employed persons engaged in individual activities under business certificates do not pay social insurance contributions.

On behalf of certain individual groups, the government pays contributions (so called *credited contributions*) for all kinds of social insurance. Besides this, there are *credited contributions for health insurance* – these payments are not related to specific individuals, instead the government tops-up the State Patients' Fund (*ligonių kasos*) at the Ministry of Health to avoid deficit.

Payments to the Guarantee Fund (*įmokos į garantinį fondą*): Enterprises pay contributions to the Guarantee Fund. The rate is 0.2% of the employees' gross salary (which is the basis for calculating social insurance contributions). Resources from the Guarantee Fund are allocated to current and past employees of bankrupted enterprises, which are indebted to employees.

Compulsory health insurance contributions (*privalomojo sveikatos draudimo įmokos*)

Employees do not have to pay health insurance contributions as they are included in employer paid social insurance contributions on behalf of the employees.

Self-employed persons, including those receiving income from authorship contracts and working with business certificates, but excluding farmers and personal farm users, have to pay contributions equal to 30% of the calculated sum of personal income tax (final liability).

Other people not mentioned before (e.g. housewives) may pay 2% of the national average monthly salary as a monthly contribution.

- ***Scope and scale***

The following two tables provide an indication of the relative scale and coverage of the discussed social insurance contributions by showing the number of contributors (as a share of population) and the total revenues from contributions and contributions as a share of total Social Insurance Fund's revenue.

Table 12 presents the share of contributors as a percentage of the population. This gives an overview of which share of the population is insured compulsorily and voluntarily by the State's social insurance, as well as their importance over the period of 2005-2008. Around 40% of the population is insured by State's social insurance; almost all of them are insured compulsorily. The voluntary insurance plays a minor part as only 0.07-0.08 of population are covered by voluntary social insurance. Table 12 also shows the increasing coverage of compulsory social insurance over the period 2005-2007.

Based on revenues figures, reported in Table 13, pension social insurance contributions clearly take the most important role among all types of social insurance revenues. The share of social insurance pension revenues amount to around 73% of total State's social insurance revenues. Among other types of contributions, sickness and maternity insurance and health care insurance are the most significant Fund revenues. These two benefits amount to around 16-17% of total contribution revenues. There were constant increase in State's social insurance revenues during the period of 2005-2007 (from 628.7 mln LTL in 2005 to 9,597.1 mln LTL in 2007) with the shares of different types of contribution remaining relatively stable.



Table 12. Social contributions: contributors (as % of population)

	2005	2006	2007	2008
Insured by State Social Insurance Fund	40.0	41.8	43.6	n.a.
Insured by compulsory social insurance	39.9	41.7	43.3	n.a.
Of them insured by all types of social insurance	35.7	37.3	39.0	n.a.
Voluntary insured for pensions	0.08	0.07	0.07	n.a.
Voluntary insured for benefits (except of pensions)	0.00	0.00	0.00	n.a.

Source: Information from Social Insurance Fund

Note: population figure refers to the beginning of the year.

Table 13. Social contributions: revenue

	2005	2006	2007	2008
Social contributions (mln.LTL)	6287.7	7683.2	9597.1	n.a.
As % of total Social Insurance Fund's revenue				
Pension social insurance	73.4	73.0	72.6	n.a.
Sickness and maternity insurance	8.4	8.8	8.8	n.a.
Unemployment insurance	4.0	3.6	3.3	n.a.
Employment injuries and occupational diseases social insurance	0.8	0.8	0.8	n.a.
Health care insurance *	8.1	8.0	8.0	n.a.
Contributions of self-employed	1.2	1.2	1.2	n.a.
Voluntary social contributions	0.0	0.0	0.0	n.a.
Other revenues (fines, subsidies from State Budget, income from stock, etc.)	4.2	4.5	5.2	n.a.

Notes: * It is only a minor part of Health Insurance Fund revenue in 2005-2008. Major part of Health Insurance Fund revenues comes from personal income tax

Source: Social Insurance Fund

1.6 Taxes

Personal Income Tax (*asmens pajamų mokestis*): Personal income tax (PIT) system in Lithuania is an individual system. Lithuania applies a flat tax rate system to personal income. Effective on 30th June 2005, incomes were taxed by 15% or 33% rate according to the nature of income. There were changes in the main personal income tax rate (decrease from 33 to 24%) during the course of 2005-2008.

The basic general allowance is applied to all persons. The amount increased from 290 LTL to 320 LTL per month during the course of 2005-2008. The allowance is higher for certain population groups.

Some of incomes are not taxes with PIT. 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.



Tax base is derived from *gross income* by deducting the following income 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.) and
- particular expenses incurred by a resident (when calculating taxable income of fiscal year).

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

Withheld tax and final tax liability

On almost 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 3,000 LTL);
4. Other received incomes (from agricultural production worth more than 10,000 LTL per year; work incomes from other countries; profit from individual enterprise, dividends received from other countries; more than 2,000 LTL of interest received from EEA countries, incomes from gambling, etc.)
5. Annual (basic and additional) allowances if a person did not use all annual amount (i.e. if a person worked less than 12 months; if an individual receives only incomes from authorship contracts; if a person hasn’t used additional allowance);
6. Deductible expenses.

Inheritance tax (*paveldimo turto mokestis*) is charged using a progressive tax schedule. Effective on 30th June 2005, a 5% rate applies if a value of inherited property is up to 0.5 mln LTL, 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. Some allowances or deductions may be made by municipalities.

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.⁹ 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.

⁹ LR Vyriausybės 1993 m. rugpjūčio 3 d. nutarimas [Nr. 603](#) „Dėl žemės mokesčio“



Value Added Tax (*pridėtinės vertės mokestis*): Effective on 30th June 2005, the main standard rate of VAT is 18%. Basically, there were three different rates: 18%, 9% and 5%. A 0% rate applies to export and transit of goods and related services.

A 5% reduced rate applies to printing (books, magazines and newspapers), medicine, eco-friendly food, passenger transport services, accommodation services, carcass meat, fowl, fish and services of agricultural cooperatives to own members.

A 9% reduced rate applies to building and renovation services financed by public resources.

All other goods and services are taxed at 18% VAT.

The VAT is not imposed on, for example, health services, social services, education services, culture and sports services, postal services, certain insurance and financial services, lottery cards and gambling fees, etc.

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

Corporate Income Tax (*pelno mokestis*) is paid by Lithuanian and foreign entities. The base of a Lithuanian entity is all income earned in Lithuania and foreign states which is sourced inside and outside Lithuania. The tax base of a foreign entity is income from activities carried out by a foreign entity through permanent establishments situated in Lithuania, income from international telecommunications earned through permanent establishments as well as 50% of income from transportation which begins in the territory of the Lithuania and ends abroad or vice versa and income earned in foreign states attributed to the permanent establishments in Lithuania in the event that such income is related to the activities of the foreign entity carried out through the permanent establishments situated in Lithuania.

For the purpose of calculating taxable profits of a Lithuanian entity non-taxable income, allowable deductions, limited allowable deductions are deducted from income. The tax rate is 15% on the taxable profits of Lithuanian entities and permanent establishments. A 10% tax rate (without any deductions) is imposed on the income of a foreign entity, sourced in the Republic of Lithuania, received otherwise than through its permanent establishments situated in Lithuania.

Social Tax (*socialinis mokestis*) is 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. The tax rate is 1% of average market value of the immovable property.

Other taxes

Other indirect taxes include Income Deductions according to Forest Law, Income Deductions according to Law on Road Maintenance and Development Programme Financing (until 2006), Sugar Sector Taxes, Lottery and Gambling Tax, Vehicle Tax, Environment Pollution Taxes, Tolls and International Trade and Transaction Taxes.

- *Scope and scale*

The following two tables provide an indication of the relative scale and coverage of the taxes by showing the number of taxpayers and the total revenues from different taxes.

Table 14 presents the share of taxpayers as a percentage of population. This gives an overview of which taxes are most frequent amongst the Lithuanian tax-benefit structure, as well as their importance over the period of 2005-2008. The largest share of people pay main rate personal income tax on wages (around 45% by 2008). Table 14 also reveals the slightly increasing importance of reduced rate personal income tax (from authorship contracts, royalties) and personal income tax on rent: during the discussed four years, the payers' population increased by 0.3-0.5% of total population.

Based on total tax revenues figures reported in Table 15, taxes on goods and services clearly take the most important role among all types of tax revenues. The share of revenues from taxes on good and services amount to around 60% (7,415.3 mln LTL in 2005; 13,057.3 mln LTL in 2008 of total tax revenues). The VAT plays a major role in this group of tax revenues, constituting around 70% of all revenues from taxes on goods and services; revenues from exercise are in the second place. Among other types of tax revenues, income and profit taxes are the most significant. These taxes amount to around 38% (8,171.6 mln LTL in 2008) of total tax revenues. Tax revenues from property and from international trade and transactions constitute only around 2-3% of total tax revenues.

This table also shows an increase in all types of tax revenues during the period of 2005-2008. The annual total tax revenues almost doubled during four year period (from 12,899.2 mln LTL in 2005 to 21,787.2 mln LTL in 2008).



Table 14. Taxes: taxpayers (as % of population)

	2005	2006	2007	2008
Direct taxes				
Personal Income Tax on wages (<i>main tax rate</i> *)	42.0	43.7	45.1	n.a.
Personal Income Tax (from authorship contracts, royalties) (<i>reduced tax rate</i>)**	1.8	2.1	2.2	n.a.
Personal Income Tax on rent (<i>reduced tax rate</i>)**	1.6	1.9	2.1	n.a.
Personal Income Tax on income from individual activity (<i>reduced tax rate</i>)**	0.3	0.4	0.5	n.a.
Personal Income Tax (acquisition of business certificate) ***	n.a.	0.0	0.0	n.a.

Notes:

* 33% in 2005; 33% and 27% in 2006; 27% in 2007 and 24% 2008

** 15% for 2005-2008

*** Acquisition price of business certificate varies for different economic activities and across municipalities.

Source: Tax Authorities

Table 15. Taxes: revenue (mln.LTL)

	2005	2006	2007	2008
Annual total (tax) revenue	12899.2	15065.4	18630.9	21787.2
Income and profit taxes	5074.0	6349.3	7091.4	8171.6
Personal Income Tax	3566.3	4059.2	4555.8	5106.3
Corporate Income Tax	1507.7	1924.5	2053.6	2910.2
Social Tax	n.a.	365.5	481.9	155.2
Property Taxes	251.5	278.4	292.5	307.7
Land Tax	36.2	39.9	45.7	47.9
Inheritance Tax	2.3	4.2	6.3	6.1
Immovable Property Tax	213.0	234.4	240.5	253.6
Taxes on goods and services	7415.3	8794.8	11038.0	13057.3
VAT	4841.7	6152.2	7824.2	9242.5
Income Deductions according to Forest Law	16.6	17.1	23.2	21.4
Income Deductions according to Law on Road Maintenance and Development Programme Financing Exercise	296.6	n.a.	n.a.	n.a.
Sugar Sector taxes	2040.1	2374.4	2803.6	3354.0
Lottery and Gambling Tax	5.7	2.2	45.0	24.8
Vehicle Tax	24.6	21.6	30.4	30.3
Environment Pollution Taxes	48.6	78.5	139.3	144.0
Tolls	59.2	58.2	63.5	71.7
	82.4	90.6	108.9	168.5
International Trade and Transaction Taxes	158.4	182.9	209.0	150.6

Notes: Social Tax was introduced in 2006.

Source: Information from Financial Ministry of Lithuania



2. SIMULATION OF TAXES AND BENEFITS IN EUROMOD

2.1 Scope of simulation

Not all the taxes and benefits mentioned in the previous section are simulated by EUROMOD. Some of the taxes or benefits are beyond the scope of EUROMOD (i.e. indirect or business taxation) and the used database, 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 in the EUROMOD database either as individual or/and aggregate income sources. In addition to this, when possible, we include both simulated and the original survey reported variable. For example, *bsa00_s* is a simulated variable on social benefit. *Bsa00* variable refers to the same transfer, which is imputed to EUROMOD database based on the survey observed distribution. *Bsa* is an aggregate variable of all social assistance benefits, also included in the EUROMOD database. The rules and assumptions of the included receipts, payment or take-up of the included transfers are not changed by the model.

Table 16 and Table 17 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 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 16. Simulation of benefits in EUROMOD [^a]

Benefit	Variable name(s)	Treatment in Euromod				Main limitations/other remarks
		2005	2006	2007	2008	
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 within the variable bfa.
Grant for housing (settlement)	bfa	IA	IA	IA	IA	No data on guardianship (curatorship);
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	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
Work incapacity pension	bdi/boa	-	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 (see Table 9).
Invalidity pension	bdi/boa	IA	-	-	-	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 (see Table 9).
Sickness benefit	yem	IA	IA	IA	IA	No data on sickness duration
Vocational rehabilitation allowance	bdi	-	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

Continued...



Benefit	Variable name(s)	Treatment in Euromod				Main limitations/other remarks
		2005	2006	2007	2008	
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.
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. Also included within variable bsa.
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. Also included within variable bun.

[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 17. Simulation of taxes and social contributions in EUROMOD

Taxes and social contributions	Variable name(s)	Treatment in Euromod				Main limitations
		2005	2006	2007	2008	
Personal Income Tax on wages (<i>main tax rate</i>)	tin_s	S	S	S	S	
Personal Income Tax (from authorship contracts, royalties) (<i>reduced tax rate</i>)	tin_s	S	S	S	S	
Personal Income Tax on rent (<i>reduced tax rate</i>)	tin_s	S	S	S	S	Rent is a component of the other property related income
Personal Income Tax on income from individual activity (<i>reduced tax rate</i>)	tin_s	S	S	S	S	
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.	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	-	E	-	-	-	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_sicer	PS	PS	PS	PS	Only some of the eligible groups identified.
Credited contributions for health insurance	-	E	E	E	E	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	

Continued...



Taxes and social contributions	Variable name(s)	Treatment in Euromod				Main limitations
		2005	2006	2007	2008	
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	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	tscsehl_s	S	S	S	S	No data on income received from authorship contracts. No data on land size.

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.

2.2 Simulated policies and order of simulation

2.2.1 Simulated policies

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 since 2005:

- *Structural changes between 2005 and 2006*

N.A.

- *Structural changes between 2006 and 2007*

Paternity benefit introduced from 1st July 2006. As of 2007, maternity (paternity) leave benefit was increased (different rules in 2007 and 2008) with the number of children per birth.

- *Structural changes between 2007 and 2008*

As of 2008, maternity (paternity) leave benefit has been extended from one to two years of maximum paid period of leave, with the compensation rate varying between the first and the second year.



Table 18. Simulated policies

Section	Policy	Description	Year			
			2005	2006	2007	2008
2.3.1	bchba_lt	Birth grant	X	X	X	X
2.3.2	bch00_lt	Child benefit	X	X	X	X
2.3.3	bmaprnc_lt	Pregnancy grant	X	X	X	X
2.3.4	bmaprct_lt	Maternity leave benefit	X	X	X	X
2.3.5	bplct_lt	Paternity leave benefit	-	-	X	X
2.3.6.	bmact_lt	Maternity(paternity)leave benefit	X	X	X	X
2.3.7.	bsa00_lt	Social benefit	X	X	X	X
2.3.8.	bunct_lt	Unemployment social insurance benefit	X	X	X	X
2.4.1	tscee_lt	Employee social insurance contributions	X	X	X	X
2.4.2	tscer_lt	Employers' social insurance contributions	X	X	X	X
2.4.3	tsctt_lt	Credited social contributions	X	X	X	X
2.4.4	tscepi_lt	Self-employed' social insurance contributions - pensions	X	X	X	X
2.4.5	tscehl_lt	Self-employed' social insurance contributions – health	X	X	X	X
2.5	tin_lt*	Personal Income Tax on wages (<i>main tax rate</i>)	X	X	X	X
2.5	tin_lt*	Personal Income Tax (<i>reduced tax rate</i>)	X	X	X	X

* As Lithuanian personal income tax consists of two tax rates, we explicitly list them in this table. Nevertheless, EUROMOD policy *tin_lt* simulates application of both of these tax rates. Therefore, hereinafter we refer to personal income tax as single policy "*tin_lt: Personal income tax*".

** *Employer social insurance contributions* consist of six components, as indicated in Table 24.

2.2.2 Order of simulation

- *Order of simulation in 2005-2008*

The following table shows the order in which the main elements of the Lithuanian system in 2005-2008 are simulated. As the Lithuanian system has few structural changes within this period, we use one table to display policy simulations over the four years' span. Policies, which are included into the model, but not used in the EUROMOD baseline, are marked as "*switched off in the baseline*". Policies, which have been applicable in a specific year only are marked as "*switched off in year(-s) X*" if unrelated. In general, the spine structure is identical for all four analysed years. This table is extracted from the EUROMOD parameter sheet *spine_lt* (*LT_2005; LT_2006; LT_2007; LT_2008*).

The defined order shows the start of Lithuanian policy simulations with the minimum wage. This choice is made in order to check minimum wage policy implementation for observed salaries first, as employment income is used in all other following policies either explicitly (i.e. the second simulated policy in the spine is maternity leave benefit, which entitlement depends on a person's employment income) or implicitly (through assessment unit formulation).

We simulate maternity/paternity benefits before the income tax, as most of these benefits are taxable benefits (i.e. see section 1.4.2.2 for more details). We also simulate pregnancy grant (a non-contributory and non-taxable benefit) following maternity leave benefit in order to keep coherency in policy rules: pregnancy grant is given if women are not eligible for maternity leave benefit. This rule and data availability also implies that pregnancy grant is simulated dependent



on a person's eligibility to maternity leave benefit. The last simulated contributory benefit is the unemployment insurance benefit.¹⁰

After the contributory benefits, we simulate employee social insurance contributions and self-employed pension contributions. These parameters are on the list of deductibles for the personal income taxation, and therefore need to be simulated before the personal income tax. Compulsory health insurance contributions for self-employed are simulated subsequently, as their level is calculated in relation to the paid personal income tax.

The last elements in the spine are untaxed family benefits and social benefit. As social benefit is a means-tested social assistance payment, it includes a rather long list of preceding incomes, such as employment income and social benefits, and therefore must be simulated as the last parameter in the spine.

Table 19. EUROMOD Spine: order of simulation, 2005-2008

Policy	Description	Main output
MinWage_lt	Minimum hourly wage <i>(switched off in the baseline for all years)</i>	yem
bmaprct_lt	Maternity leave benefit	bmaprct_s
bmaprnc_lt	Pregnancy grant	bmaprnc_s
bmact_lt	Maternity (paternity) leave benefit	bmact_s
bpplct_lt	Paternity leave benefit <i>(switched off in 2005&2006)</i>	bpplct_s
bunct_lt	Unemployment insurance benefit	bunct_s
tscee_lt	Employee social insurance contributions	ils_sicee
tscsepi_lt	Self-employed social insurance contributions - pensions	tscsepi_s
tin_lt	Personal income tax	tin_s
tscsehl_lt	Self-employed social insurance contributions – health	tscsehl_s
tscer_lt	Employer social insurance contributions	tscer_s
tsctt_lt	Credited social insurance contributions: pensions and unemployment	tscttpi_s/ tscttui_s
bch00_lt	Child benefit	bch00_s
bchba_lt	Birth grant	bchba_s
bsa00_lt	Social benefit	bsa00_s

2.3 Social benefits

2.3.1 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.

¹⁰ Note that the head of the assessment unit is basically the richest person. For simulating contributory benefits, the underlying income concept used is the sum of original (i.e. market) incomes. Once all contributory benefits are simulated, these are used together with original incomes for constructing assessment units, which is another reason for these policies to be among the first ones.



- **Definitions**

The primary unit of analysis is family (*TU: tu_cb_lt*), which consists of partners and their own dependent children (*Partner&OwnDepChild*). 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: $(\{dag < 18\} | (\{dag \geq 18\} \& \{dag < 24\} \& \{IsInEducation\})) \& \{!IsWithPartner\} \& \{!IsMarried\} \& \{!IsParent\}$

- **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 (i.e. in the model using a condition: $\{IsDepChild\} \& \{dag=0\}$).

Since July 2006 the same right to a benefit is granted to adopted children irrespective of the payment upon the birth has already been received or not. The grant is not paid if a child is maintained in a state or municipality financed institution. These conditions could not be simulated in EUROMOD due to no information on foster care or child being maintained at the publicly supported institution.

- **Income test**

No income test applied.

- **Benefit amount**

The benefit amounts to 8 MSL per child during the entire 2005-2008 (applicable on 30th June) period. For the simulation purposes, it implies the amount of \$MSL * 811 to be given per each eligible dependent child.

2.3.2 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. (*TU: tu_cb_lt*).

- **Eligibility conditions**

Children from large families (i.e. Type II) are eligible until age 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. Enrolment in full-time secondary education is required for dependent children at the age of 18 or older if raised in small families (one or two children), i.e. Type 1. The latter are determined in the model with an additional rule: $\{IsDepChild\} \& (\{dag < 18\} | \{dec = 3\} | \{dec = 4\})$

- **Income test**

No income test applied.

¹¹ For modelling purposes, this amount is divided by 12, as EUROMOD output is presented on a monthly basis. This rule also applies for the rest of output amounts in EUROMOD.



- **Benefit amount**

The benefit level is calculated in relation to MSL and varies based on the number of children in the family and their age as presented in the table below:

Table 20. Child benefit entitlements (x applicable MSL) on June 30, 2005 – 2008

Year/Family type	2005-2006		2007		2008	
	Type I	Type II	Type I	Type II	Type I	Type II
Child until age 2	0.75	1.1	0.75	1.1	0.75	1.1
Child aged 3 to 6	0.4	0.4	0.4	0.4	0.4	0.4
Child aged 7 to 8	-	0.4	0.4	0.4	0.4	0.4
Child aged 9 to 17	-	0.4	-	0.4	0.4	0.4
Child aged 18 to 23*	-	0.4	-	0.4	0.4	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

* For children raised in Type I family: only if in secondary education.

Source: Based on *Law of Benefits to Children* and its relevant amendments

2.3.3 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. (*TU: tu_cb_lt*). However, for technical reasons we define a separate family unit (*TU: tu_mb_lt*), which consists of partners and their own dependent children (*Partner&OwnDepChild*) who are less than 3 years old ($\{dag < 3\}$).

- **Eligibility conditions**

The benefit is paid to pregnant women (in EUROMOD, mothers with an own child aged 0: $\{IsParentOfDepChild\} \& \{nDepChInTu\#1 > 0\} \& \{dgn = 0\}$) who are not eligible to receive a maternity leave (*bmaprct_s = 0*) benefit (see more benefit details in 2.3.4).

- **Income test**

No income test applied.

- **Benefit amount**

The benefit is equal to 2 MSL. This level did not change during the period of 2005-2008 (applicable on 30th June).

2.3.4 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: *constant \$MatBenBefore=70*) and after delivery (56 days: *constant \$MatBenAfter=56*). In the case of complicated confinement or if more than one child was born, an additional 14 days are added to the total period.

For the insured person who has adopted a newly born baby or has been appointed as its guardian maternity benefit is paid for the period from the date of adoption or guardianship before the baby is 70 days old. The latter two conditions could not be modelled with EUROMOD.

- **Definitions**

The unit of analysis is the family (*TU: tu_mb_lt*) as defined in section 2.3.3.

- **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 three months over the last 12 months or for no less than six months over the last 24 months. 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 year¹² (as suggested by observed patterns in the underlying data): *{IsParentOfDepChild} & {nDepChInTu#1 > 0} & {dgn = 0} & {liwmy > 6}*, where *#1_AgeMax=0*. As of 30th June 2008, the benefit is also paid to a woman who is under 26 years and has no sufficient sickness and maternity social insurance record because she was engaged in full-time education (and a break after the studies and before becoming insured is less than three months).

- **Income test**

No income test applied.

- **Benefit amount**

The maternity benefit is equal to 100% of the recipient's average monthly reimbursable income AMRI (see chapter 1.4.1 for more details), and is calculated as:

$B = S * 100\% * D$, where:

B is maternity benefit; and $B \geq \min B$ (minimum level)

S is a daily compensatory salary; $S \leq \max$ (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. The AMRI in EUROMOD (thereby, also for other relevant family benefits) is approximated using either estimated hourly wage rate multiplied by work hours per month (i.e. 168 hours on average) or observed monthly earnings: $(yivwg * 168) < \max > yem$.

S has maximum compensatory amounts specified, which are calculated in relation to the CYI. In 2005, S could not exceed 3.5 of applicable CYI (maximum condition in EUROMOD set to:

¹² Note that being on maternity leave is considered as in work in the underlying data source, i.e. EU-SILC.



3.5 * \$CYI). In 2006-2008 this level has been increased to 5*CYI. The used CYI level refers to different reference dates during the discussed period:

- *in 2005-2007* – the maximum level is defined in relation to the latest state approved CYI level.
- *in 2008* – the maximum level is defined in relation to the CYI that was applicable in the month of the entitlement right occurrence.

In 2005- 2007, the minimum benefit B was equal to ¼ (25%) of the current year's insured income CYI (see Table 6). The minimum threshold in EUROMOD is set by a condition: $lowlim=25\% * \$CYI$. In 2008 the threshold was lifted to 1/3 (33%) of the CYI. Furthermore, as of 2008, the benefit B is multiplied by the number of born children. Previously, the number of born children did not influence the benefit size.

2.3.5 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 (*TU: tu_mb_lt*) as defined in section 2.3.3. Insured income definition is presented in section 1.4.1.

- **Eligibility conditions**

Before the first day of paternity leave, a father must have no less than seven months of sickness and maternity social insurance record over the last 24 months. As information on social insurance record is not available in EUROMOD, all the fathers with an own child aged 0 are considered eligible: $\{IsParentOfDepChild\} \& \{nDepChInTu\#1 > 0\} \& \{dgn = 1\}$, where $\#1_AgeMax=0$

From 30th June 2008 a benefit is also paid to a father who is under 26 years and has no sufficient sickness and maternity social insurance record because of his engagement in full-time education (and a break after the studies and before becoming insured is less than three months).

From 30th June 2007 the requirement of the father being married to a mother of the child (*{IsMarried}*) has been in place.

From 30th June 2008 the marriage requirement is dropped and replaced by a requirement to have a legal acknowledgement of the fatherhood of the child. The latter condition could not be checked via the information available in EUROMOD.

- **Income test**

No income test applied.

- **Benefit amount**

The amount of paternity benefit is 100% of the benefit recipient's AMRI (see chapter 1.4.1 for more details). The used AMRI cannot be higher than 5*CYI. The benefit cannot be lower than 1/3* CYI per month ($lowlim: \$CYI / 3$).



When the insured person has more than one employment, paternity benefit is calculated on the basis of the compensatory salary of the job where the person has been granted paternity leave. This requirement has been dropped as of 2008. Nevertheless, the change in this condition could not be tested with EUROMOD.

2.3.6 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 as of 2008). 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 (*TU: tu_mb_lt*) as defined in section 2.3.3. Insured income definition is presented in section 1.4.1.

- **Eligibility conditions**

The benefit is granted if a person, before the first day of childcare leave, had no less than seven months over the last 24 months of sickness and maternity social insurance record. In EUROMOD it is always assumed to be the mother. As social insurance contribution information is not available, all mothers with an own child aged 1 or below (from 2008, aged 2 or below) are considered eligible if they have been in work for more than six months in the current year¹³ (as suggested by observed patterns in the underlying data): $\{IsParentOfDepChild\} \& \{nDepChInTu\#1 > 0\} \& \{dgn = 0\} \& \{liwmy > 6\}$, where

	2005-2007	2008
#1_AgeMax	1	2

As of 2008, the benefit is also paid to a woman who is under 26 years and has no sufficient sickness and maternity social insurance record, because she was engaged in full-time education (and a break after the studies and before becoming insured is less than three months).

- **Income test**

No income test applied.

- **Benefit amount**

The amount of the child care benefit is paid as a percentage of the recipient's AMRI (see more details in chapter 1.4.1). The used AMRI cannot be higher than:

- In 2005: 3.5*CYI (of the month in which the right to the benefit occurred)
- In 2006-2008: 5*CYI.

As of 2008, the requirement with respect to other income receipt during the time when maternity (paternity) leave benefit is paid changed. If a person has any type of *insured income*,

¹³ Note that being on maternity leave is considered as in work in the underlying data source, i.e. EU-SILC.



the originally calculated maternity (paternity) leave benefit is reduced by the amount of this income.

When the insured has more than one employment, child care benefit is calculated on the basis of AMRI only at those jobs where the person has been granted child care leave. This requirement has been dropped as of 2008. This condition could not be checked with the information available in EUROMOD.

The level and duration of benefit entitlement has also changed during the period of 2005-2008 (see Table 21).

Table 21. The rate of maternity (paternity) benefit, 30th June 2005-2008

	2005	2006	2007	2008
Compensation rate 1 st year, %	70	70	85/100	100
Max. benefit duration the 1 st year, months*	12	12	12	12
Compensation rate 2 nd year, %	-	-	-	85
Max. benefit duration the 2 nd year, months	-	-	-	12
Benefit size multiplied with # of births	No	No	No	Yes

* 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*

During the entire time, this benefit also has a minimum amount specified: it cannot be less than 1/3* CYI per month. Some of the other relevant changes:

- 30th June 2007: if more than one child is born, the maternity (paternity) benefit increases from 85% to 100% of the benefit recipient's compensatory salary.
- 30th June 2008:
 - maternity (paternity) benefit is paid until the child reaches the age of 2.
 - if more than one child is born the maternity (paternity) benefit is increased according to number of children born (in case of twins the benefit is increased 2 times; triplets – 3 times, etc.)
 - if a woman already receives maternity (paternity) benefit and is entitled to a maternity leave benefit, she has a right to receive both benefits.

2.3.7 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 (*TU: tu_sa_lt*), which consists of partners and their own dependent children (*Partner&OwnDepChild*). 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: $(\{dag < 18\} | (\{dag \geq 18\} \& \{dag < 24\} \& (\{IsInEducation\} | \{bunct_s\#1 > 0\} | \{lunny > 0\} | \{bunmy > 0\}))) \& \{!IsWithPartner\} \& \{!IsMarried\} \& \{!IsParent\}$, where #1_level=individual_lt.



The unit of analysis is the individual or family. The family definition in EUROMOD is set as tax unit *TU: tu_sa_lt*.

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 2005-2008, unless specified otherwise).

1. During the income calculation period, persons over 18 years of age should:

- 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;
- be the persons who have registered with the state territorial labour exchange for at least six months;
- receive education grant during the period of studying or doing public works;
- *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:
 - if a family raises a child under three years old, who does not attend a pre-school educational establishment;
 - 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;
 - 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 2007-2008 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:



- 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;
 - a mother or a father, if their spouse is not able to take care of the children due to disability or other acknowledged reasons, raises a child under 14 years old and works on a land plot, which is not smaller than 2 hectares (either owned or rented).
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.

The eligibility requirements listed above (except those in italic for which there is not enough information) are approximated via the following conditions in EUROMOD:

$\{dag < 16\} \mid (\{dag \geq 16\} \& \{dag < 18\} \& \{IsDisabled\}) \mid (\{dag \geq 16\} \& \{dag < 24\} \& \{IsInEducation\}) \mid (\{dag \geq \$PensionAgeMale\} \& \{dgn = 1\}) \mid (\{dag \geq \$PensionAgeFemale\} \& \{dgn = 0\}) \mid \{il_SA_elig\#1 > 0\} \mid \{lunmy > 0\} \mid \{bunmy > 0\} \mid (\{IsParentOfDepChild\} \& (\{sin15_s > 0\} \mid (\{nDepChInTu\#2 \geq 3\} \& \{sin16_s > 0\})))$, where $il_SA_elig = yem + bunct + s + ils_pen + bsals + bed$, $sin15_s$ is the number of children under 3 and not at school ($\{dag < 3\} \& \{dec = 0\}$) and $sin16_s$ is the number of children under 8 and not at school ($\{dag < 8\} \& \{dec = 0\}$).

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: $AS \leq RP = RE + RM$, 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 2005-2008, 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.¹⁴ 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.

The EU-SILC database does not contain information on assets. Therefore, most of the information on the assets listed above is not available in EUROMOD. However, the following imputations have been made:

- *residential property value (amrmv): based on the EU-SILC variables on housing characteristics, imputed useful floor space and external real estate market information for those who own the residence (either on mortgage or outright: {amrtn=1} | {amrtn=2}).*
- *land property value (aldmv_s): based on the size of residential and agricultural land holding (note that this is, however, not available in the EU-SILC UDB version) and average market price (see Table 22).*
- *financial assets (afc): 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.*

RE is the “ratio of real estate value” and is calculated as:

RE =

Notional size of residence (60m² for the 1st person + 15m² 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 – see details in the table below).

+

Notional size of land plot per family or person x *average market price of the land* (see details in the table below). The state requires application of the following notional sizes of land per family:

- residential purpose land: in cities – 6 Ares,¹⁵ in towns and villages – 25 Ares;
- agricultural purpose land (if the plot does not exceed 1 hectare¹⁶): in cities – 6 Ares, in towns and villages – 25 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.

¹⁴ Based on Methodology of Asset Evaluation (*Turto vertinimo metodika*),

¹⁵ 1 Are = 100 square meters

¹⁶ 1 Hectare = 10000 sq. meters or 100 Ares



Table 22. Average housing and land market prices

	2005	2006	2007	2008
Flats (LTL/1 sq. m)				
Densely populated areas (cities: Vilnius, Kaunas, Klaipėda, Panevėžys, Šiauliai)	1816.33	2112.33	2590.33	3561.00
Thinly populated areas (other towns and villages)	546.56	612.25	703.04	1087.98
Houses (LTL/1 sq. m)				
Densely populated areas (cities: Vilnius, Kaunas, Klaipėda, Panevėžys, Šiauliai)	350.33	1623.67	1759.33	2014.67
Thinly populated areas (other towns and villages)	123.39	543.45	611.99	859.55
Residential purpose land (LTL/1 are)				
Densely populated areas (cities: Vilnius, Kaunas, Klaipėda, Panevėžys, Šiauliai)	8072.5	15400.00	24062.5	29720.00
Thinly populated areas (other towns and villages)	989.06	1758.00	2318.63	3386.65
Agricultural purpose land if up to 1 hectare (LTL/1 are)				
Densely populated areas (cities: Vilnius, Kaunas, Klaipėda, Panevėžys, Šiauliai)*	2615.0	5128.75	7903.75	10398.75
Thinly populated areas (other towns and villages)	325.44	634.55	864.19	1274.92
Agricultural purpose land if more than 1 hectare (LTL/1 hectare)				
Thinly populated areas (only villages)	8633.26	25483.43	33976.38	41217.39

* The rate is also applied if the land size is more than 1 hectare.

Source: Based on the Law “Dėl vidutinių rinkos kainų nustatymo būstui ir žemės sklypams 2005 m. rugpjūčio 1 d. valstybės garantuojamai teisinei pagalbai ir piniginei socialinei paramai mažas pajamas gaunančioms šeimoms gauti” No..91-3422 (Valstybės žinios: 2005-07-28) and its relevant changes.

Average market prices in EUROMOD are implemented using the following formulas: $\{amrtp = 1\} \& \{drgur = 1\} \rightarrow 350.33$; $\{amrtp = 1\} \& \{drgur = 3\} \rightarrow 123.39$; $\{amrtp = 2\} \& \{drgur = 1\} \rightarrow 1816.33$; $\{amrtp = 2\} \& \{drgur = 3\} \rightarrow 546.56$.

Then notional value of the residence is established by calculating: $(60 + 15 * (nPersInUnit - 1)) * sin17_s$ (which is temporary variable containing information on average market price of the residence).

The notional and actual value of the land could not be established in EUROMOD, as the EU-SILC UDB version does not contain owned land size information.

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.

The notional value of movables is calculated as: $(45 + (nPersInUnit\#1 - 1) * 30 + nPersInUnit\#2 * 15) * \SSI .

- **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 have to be included for IL (*il_SA_means*) calculation during the period of 2005-2008 (unless otherwise specified):

- work-related income and royalties (including non-cash payments);
- 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'*);
- 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.
- 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;*
- 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*); as of 2007 onwards, the exception condition is granted for land plots which do not exceed 1 hectare:
 - 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 22 for rates).*



Table 23. Monthly income rate per hectare of agricultural land, LTL

Land quality grade/ Year (on June 30)	2005	2006	2007	2008
Up to 32	11	10	12	8
32-35	17	13	17	18
35-40	21	19	24	30
40-48	31	26	36	52
48 and more	39	32	42	65
Average (<i>own calculation</i>)	24	20	26	35

Source: LR Agricultural Minister Order *Dėl Žemės Ūkio Veiklos Pajamų Normatyvų ir Pajamų Normos Hektarui Žemės Ūkio Naudmenų Patvirtinimo*, 2004 m. liepos 2 d. Nr. 3D-391, Vilnius, and its relevant amendments.

The incomes listed above (except those in italic for which there is not enough information) are approximated in EUROMOD with *il_SA_means*, which contains all gross incomes except *yot*, *ytmp* and *bho*.

- ***Benefit amount***

Social benefit per family or single person is calculated as: 90% x (SSI x number of people in family – IL). This is calculated as $0.9 * (\$SSI * nPersInUnit - il_SA_means)$ in EUROMOD. The calculated social benefit should be equal to at least 5 LTL in order to be paid.

2.3.8 Unemployment social insurance benefit (*bunct_s*)

- ***Brief description***

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

- ***Definitions***

The unit of analysis is the individual (*TU: individual_lt*)

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 person, who are defined as aged 16 up to the old age retirement limit (see more details in Table 9).

The required service record is at least 18 months (*constant \$UB_QperMin=18*) during the last three years (*constant \$UB_QperTot=36*) and a person must be actively looking for a job (not applied in EUROMOD as enforced very loosely in practice).

Only the number of months worked in the current year is available in EUROMOD (*liwmy*) and hence it is assumed that this is representative for the whole qualifying period, controlling that this would not exceed the total number of months worked in person's life (*liwwh*):

$$liwmy_s = (liwmy * \$UB_QperTot / 12) <min> liwwh$$

As this can be a rather strong assumption, this is further adjusted by the information on actual receipt. Those who were observed receiving the benefit will have *liwmy_s* increased (if needed)



to reach the minimum threshold, while those who reported having been unemployed but not receiving the benefit will have *liwmy_s* set to zero.¹⁷

The full eligibility criteria (combined with definition above) are expressed as $\{lunmy_s > 0\}$ & $\{liwmy_s \geq \$UB_QperMin\}$ & $\{dag \geq 16\}$ & $\{sin15_s > 0\}$ & $\{!InEducation\}$ & $\{byr = 0\}$ in EUROMOD.

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.

*Number of years spent at work in EUROMOD are defined by $liwwh / 12$. The duration of benefit is assigned to *bunmy_s*.*

The duration of the payment could be 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 $\{sin15_s \leq 5\}$.
- By actual number of sickness days (max one month) – if a person gets sick during the time of unemployment benefit payment. *Information on the number of sickness days is not available in EUROMOD.*
- 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. *This information could not be obtained from the EU-SILC data.*
- *Assumption made in EUROMOD: the simulated duration of the payment is also capped with the duration of the unemployment status as observed in the EU-SILC.*
- ***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: $U \leq 0.7 * CYI$. This ceiling requirement was not in place on June 30, 2005-2007. The ceiling is applicable during the entire period of benefit payment.

F – fixed benefit component, which is equal to 1 SSI; (see Table 5)

V – variable benefit component, which is equal to 40% of the former *insured income* ($40\% * yempv_s$, which is a composite variable in EUROMOD containing information from *yem*, *yempv* (imputed unemployment benefit based on observed benefit payment duration and inversion of payment rules) and *yiwvg* (hourly predicted wage) income variables). *The insured*

¹⁷ When calculating replacement rates, unemployment social insurance benefit is also calculated for those currently employed (i.e. with non-zero earnings) as if they were unemployed. In their case, their annual unemployment duration is assumed to match their annual employment duration (*liwmy*).



income is calculated as the average CYI (see Table 6) indexed wage of the previous 36 months before registering as unemployed. The indexation is done in the following way:

$$\left(\frac{\sum_{n=1}^{36} CYI_i}{36 * CYI_u} \right)$$

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 variable component cannot be larger than: $V \leq (0.7 * CYI - 1 * SSI)$. This ceiling requirement has been affective on June 30, 2005-2007, but abolished as of 2008.

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 (except survivor and orphan pension), compensation for special working conditions (this income was accounted for during 2005-2007, and excluded as of 2008), and work incapacity pensions due to occupational injuries. *This condition is implemented as bunct_s - il_UB_means in EUROMOD.*

If a person, before becoming unemployed, has been entitled to receive social insurance sickness, professional rehabilitation, maternity benefit, paternity benefit or maternity (paternity) social insurance benefit, the unemployment benefit is assigned only after the end of the payment of these benefits. *This condition cannot be checked with EUROMOD.*

2.4 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 (*TU: individual_lt*).



2.4.1 Employee social insurance contributions (*ils_sicee*)

Effective from 30th June 2005-2008, all *employees* of private and public sector pay 3% of gross wages and salaries as social insurance contributions. Out of 3% paid goes to:

- 2.5% to pension social insurance (*tsceepi_s*)
- 0.5% to sickness and maternity social insurance (*tsceesi_s*)

Both components are simulated on the basis of *yem* (gross employment income) variable. The sum of both contributions could be obtained by an income list: *ils_sicee*.

2.4.2 Employer social insurance contributions (*ils_sicer*)

Effective from 30th June 2005-2008 all *employers* of private and public sector pay on behalf of their employees 31% of gross wages and salaries (*yem* variable in EUROMOD). 31% is split into five components, as indicated in the table below.

Additionally, 0.2% of gross salary is paid by employers to the Guarantee Fund (*įmokos į garantinį fondą*). Resources from the Guarantee Fund are allocated to current and past employees of bankrupted enterprises, which are indebted to employees.

The sum of all six contribution types is obtained via an income list: *ils_sicer*.

Table 24. Employers' social insurance contributions (% of bruto salary)

	2005	2006	2007	2008
1. Pension social insurance (<i>tscerpi_s</i>)	23.5	23.6	23.7	23.85
2. Sickness and maternity social insurance (<i>tscersi_s</i>)	2.8	2.8	2.8	2.9
3. Unemployment social insurance (<i>tscerui_s</i>)	1.4	1.3	1.2	0.95
4. Health insurance* (<i>tscerhl_s</i>)	3.0	3.0	3.0	3.0
5. Employment injuries and occupational diseases social insurance (<i>tscerac_s</i>)	0.3	0.3	0.3	0.3
Total	31.0	31.0	31.0	31.0
6. Contributions to the guarantee fund (<i>tscersf_s</i>)	0.2	0.2	0.2	0.2

*It is only minor part of Health Insurance Fund revenue in 2005-2008. Major part of Health Insurance Fund revenues comes from personal income tax.

2.4.3 Credited social contributions (*ils_sicct*)

Credited social contributions – government paid on behalf of certain individual groups for all kinds of social insurance or only for particular types of social insurance. The contribution base is 1 MMS (calculated as applicable *\$MMS* per eligible individuals). The government pays contribution at the same rates as they are set for employers. The 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.
 - EUROMOD assumption 1: the recipient of this contribution is the parent, who does not have taxable income. If neither parent has, then the recipient is the mother.
 - EUROMOD assumption 2: a person should have no taxable income and should live in a family tax unit with a child under age 3.
 - The combined eligibility condition is:



elig_cond	4	{il_IT_base_total = 0} & {nDepChinTu#1 > 0} & !{IsDepChild} & ({dgn = 0} {GetPartnerIncome#2 > 0})
#1_level	5	tu_mb_lt
#1_AgeMax	6	2
#2_income	7	il_IT_base_total
TAX_UNIT	8	tu_individual_lt

- Priests of accepted confessions and monks working in monasteries are compulsorily insured for basic social insurance pension:
 - Not possible to identify in EUROMOD
- 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.
 - Not possible to identify in EUROMOD.
- 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.
 - Not possible to identify in EUROMOD.
- Individuals in social or psychological rehabilitation institutions who get a salary are insured for employment injuries and occupational diseases social insurance during labour hours.
 - Not possible to identify in EUROMOD.
- Prisoners who get salary are insured for employment injuries and occupational diseases social insurance during labour hours.
 - Not possible to identify in EUROMOD.

Thereby, credited social contributions cannot be estimated on behalf of the last six categories. For the first category, pensions contributions are calculated as 23.5% (in 2005) of the gross minimum monthly salary (\$MMS). The output variable of this component is *tscctpi_s*. The unemployment social insurance contribution is calculated as 1.4% (in 2005) of the gross minimum monthly salary. The output variable in this case is *tscctui_s*. The income list *ils_sicct* is a summation of *tscctpi_s* and *tscctui_s*.

2.4.4 Self-employed social contributions for pensions (*tscsepi_s*)

Self-employed persons, with the exception of the persons engaged in individual activities under business certificates, pay social insurance contributions for basic and additional pension part. In EUROMOD, this condition is written as additive component of having self-employment income (*yse>0*) and not having a business certificate (*lbl=0*). The contribution level depends on income:

- if their gross annual self-employment income is less than 12 minimum monthly salary (MMS), they contribute 50% of the state defined basic monthly pension (PB)¹⁸ for basic pension social insurance for each month in self-employment:

¹⁸ This amount has already been defined in Table 8 and used for calculation of social benefits, however, we include this information again for the reader's convenience



- For example: in 2005 this contribution would be calculated using the following parameters: $172\#m * 50\% * ysemy / 12$ (divided by 12 as EUROMOD performs calculations based on monthly amounts).
- if their gross annual self-employment income is equal to or exceeds the amount of 12 MMS (condition: $\{yse \geq \$MMS\} \& \{lbl = 0\}$), they contribute 50% of PB plus 15% of their declared gross income for additional pension part. Declared income (yse) cannot be lower than 1 MMS for each month in self-employment.
 - For example: in 2005, the additional 15% contribution would be calculated using the following parameters: $yse * 15\%$.
 - *EUROMOD assumption: the minimum declared income level is not explicitly checked with EUROMOD. We assume that the proportion of those declaring income is relatively small, and that most of the self-employed would opt only for compulsory contribution part (50% * PB).*

Table 25 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 2005-2008. State defined annual contribution amounts are often used in practice in order to reduce ambiguities due to accrued changes in applicable MMS or PB amounts.

Table 25. Monthly MMS, MHW, PB levels and amounts of annual contributions effective on June 30, 2005-2008, LTL

	2005	2006	2007	2008
Minimum monthly salary (MMS)	500	550	600	800
Average MMS that year*	525	575	650	800
Lower tariff MMS**	430	430	600	800
Minimum hourly wage (MHW)	2.95	3.35	3.66	4.85
Lower tariff MHS**	2.55	2.62	3.66	4.85
Basic monthly pension (PB)	172	200	266	316
Average monthly PB that year*	186	215	248	338
Annual contributions for basic pension	1116	1290	1578	2006
Minimum annual contributions for additional part of pension	945	1035	1170	1440

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 increase, which was made on 1st January).

** During the course of 2005-2006 MMS and MHW had a double tariff applied for different workforce categories. Lower tariff was applied for the calculation of the salaries of the civil servants, judges, politicians, military servants and some other state employee categories. The other (higher) MMS and MHW level has been applied for the rest of the working force. The differentiation in between these two workforce groups has been abandoned since 1st January 2007.

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 Vyriausybės nutarimas Dėl minimaliojo darbo užmokesčio didinimo“, 2005 April 4, No. 361, its relevant amendments and changes.

Self-employed persons engaged in individual activities under business certificates don't pay social insurance contributions for pensions.

2.4.5 Compulsory health insurance contributions for self-employed (*tscehl_s*)

Self-employed persons, including those receiving income from authorship contracts, but excluding farmers and personal farm users (eligibility condition defined as $\{yse > 0\} \& \{lin =$



1}) have to pay contributions equal to 30% of calculated sum of personal income tax ($tin_s * 30\%$). Annual health insurance contributions cannot be smaller than the amount set up by the State (see Table 26).¹⁹ This condition in EUROMOD is written as: $comp1_lowlim \rightarrow 264.2\#y$ (i.e. 2005 policy system).

Table 26. Minimum annual contributions for the compulsory health insurance paid by self-employed, effective on June 30, 2005-2008, LTL

	2005	2006	2007	2008
Annual contributions	264.2	304.4	353.2	428.1

Source: “LR 2005 (2006, 2007, 2008) metų valstybės biudžeto ir savivaldybių biudžetų finansinių rodiklių patvirtinimo įstatymas“

Employees do not have to pay health insurance contributions as they are included in employer paid social insurance contributions on behalf of the employees (therefore, eligibility condition in EUROMOD is set only to people receiving self-employment income $yse > 0$).

Every month farmers and other users of personal farms pay health insurance contributions of different values (eligibility condition set as $\{yse > 0\}$ & $\{lin = 1\}$):

- 1) Farmers and land users (having 3 or more hectare of landed property) pay 3.5% of minimal monthly salary MMS:
 - Land size information is not available in EUROMOD underlying micro-data EU-SILC,²⁰ therefore an assumption is made that all farmers have more than 3 ha of land and, thereby, pay 3.5% of MMS for every month in self-employment: $3.5\% * \$MMS * ysemy / 12$. This assumption is based on the “Farm Structure Survey” research (Statistics Lithuania, 2008), which states that the proportion of farm users having up to 3 ha of landed property is around 30 % compared to those 70 % having more the 3 ha.
- 2) Personal farm users (having up to 3 ha of landed property) pay 1.5% of MMS for themselves and other adult family members working in a farm.
 - Following the assumptions above, this condition is excluded from EUROMOD.

Other people not mentioned before (e.g. housewives) may pay 2% of the national average monthly salary as a monthly contribution. This condition is not included in EUROMOD simulation too due to its vague eligibility definition.

2.5 Personal income tax (tin_s)

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

2.5.1 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 ($TAX_UNIT=individual$). Tax allowances for parents (see section 2.5.3) 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.

¹⁹ LR Sveikatos draudimo įstatymas, 2003

²⁰ This information is not available in EU-SILC UDB version, however, this data is collected in the national SILC survey. The imputation of land size to the UDB version is not possible due to limited number of significant dependent variables.



Additionally, a family tax unit, which facilitates calculations of tax allowances, has been created in EUROMOD: *tu_it_lt*. 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, and is, thereby, specified in the following way:

$$({dag} < 18) | ({dag} \geq 18) \& (dec = 3 | dec = 4))) \& !\{IsWithPartner\} \& !\{IsMarried\} \& !\{IsParent\}.$$

2.5.2 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.

In EUROMOD, exemptions are treated by not including into a created total tax base on which personal income tax is subsequently calculated: $func_defil \rightarrow il_IT_base_total = il_IT_base_stdrate + il_IT_base_lowrate$.

2.5.3 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).

The basic general allowance was 290 LTL per month in 2005 and 2006. Effective from 30th June 2007 and 2008 it was 320 LTL per month. The allowance is higher for certain population groups.



Table 27. Personal income tax allowances (LTL per month), effective on June 30, 2005-2008

Allowances	2005	2006	2007	2008
Basic allowance (highest applicable)				
General	290	290	320	320
For the disabled of group I	430	430	475	475
For the disabled of group II	380	380	420	420
For parents raising three or more children (adopted children) under the age of 18 or older, if in full-time secondary education;	430	430	475	475
• allowance increases for the fourth and each subsequent child by	46	46	50	50
For single parents (adoptive parents) having children under age 18 and older if in full-time secondary education;	335	335	370	370
• allowance increases for every subsequent child by	53	53	60	60
For employees of agricultural activity subjects, when the subject's income from actual agricultural production per year is not less than 50% of total revenue; For employees of farmers who have registered their farm	330	330	365	365
Additional allowance: for parents (adoptive parents) having one or two children under age 18 or older if in full-time secondary education in addition to the basic allowance, additional allowance is applied per eligible child *	29	29	32	32

*Additional allowance is applied by dividing the amount equally between parents (adoptive parents) if both of them have taxable income.

Note: 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.

The basic allowance (290#m in 2005) is applied for calculating the taxable income of residents of Lithuania. When calculating the taxable income of non-residents of Lithuania, the basic allowance is applied only to the income connected with employment relations or corresponding relations, where such income is received from a source in Lithuania. The latter condition is not checked in EUROMOD, as the underlying micro data excludes information on a person's residency status.

Additional allowances are simulated in EUROMOD in the following way:

1. Allowance for disabled people is assigned if condition $\{IsDisabled\}$ is fulfilled. This condition does not differentiate among different disability groups. The assumption is made that all disabled people belong to the disability group I. The disability status is assigned if $ddi=1$.
2. Allowance for parents with three or more children under the age of 18 or older, if in full-time secondary education is assigned if condition $\{nDepChInTu \geq 3\}$ & $\{IsParentOfDepChild\}$ is fulfilled. The additional allowance for the fourth and subsequent children is modelled by: $430\#m + 46\#m * (nDepChInTu\#1 - 3)$.
3. Allowance for single parent is assigned if condition $\{IsLoneParentofDepChild\}$ is fulfilled. The increase in allowance with every child is modelled by formula: $370\#m + 60\#m * (nDepChInTu - 1)$.
4. Allowance for employees of agricultural activity subjects is based on condition $\{ils_earns > 0\}$ & $\{lin = 1\}$, which is an approximation of the above state eligibility criteria for this allowance type.



5. Additional allowance for parents with one or two children is based on condition $\{nDepChInTu = 1\} | \{nDepChInTu = 2\} \& \{IsDepChild\}$.

Basic and additional allowances are applied monthly and are taken into account for withholding tax. However, there are some cases when basic or/and additional allowances are not taken into account for the withholding tax, but apply for final tax liability (final tax liability is based on the tax report after the tax year has ended):

1. if a person receives only those incomes which are subject to reduced 15% income tax, or is self-employed (except those working under business certificate) or farmer, the basic and additional allowances are returned only after filling the annual tax return form;
2. if a person has worked less than 12 months;
3. if a person wants to return unused spouse's additional allowance (it may happen if a spouse has received other than work income; has not received income; has received only non-taxable incomes and/or income under business certificate; has received not enough work income).

In those cases annual amount of allowance is established by summing up the amounts of the allowances in respective months of the tax period applicable to that individual. The annual amounts of additional allowances are established by the same pattern, summing up the amounts in respective months of the tax period applicable to the parents (adoptive parents) and are equally split and deducted from the total income of the parents (adoptive parents) for the taxable period.

Both withholding and final taxes are part of personal income tax simulation, and depends on the applied tax rates.

2.5.4 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.) and
- particular expenses incurred by a resident (when calculating taxable income of fiscal year).

Tax bases for different tax concepts (withholding vs final) and tax schedules (standard vs reduced rate) are defined in EUROMOD using income lists. The income list for the withholding tax both of standard and reduced rates consists of *yem*, *yunsv*, *bmaprct_s*, *bmact_s*, *bhl*, *(-)ils_sicee*. The following incomes are subject to the withholding reduced tax rate (withholding tax): *yi*, *yprrt*, *ypp*, whereas for the final tax liability (with reduced tax rate) this also adds *yse* and *(-)tscepi_s* incomes for those not operating under business certificate (*lbl=0*).

With respect to the income derived from activities conducted under a business certificate, a fixed amount set by municipal councils is paid. *This part of taxation is excluded from EUROMOD simulation as there is no information on the business certificate fees collected.*



2.5.5 Tax schedule

Lithuania applies a flat tax rate system to personal income. Effective from 30th June 2005, incomes were taxed by 15% (reduced) or 33% (standard) rate according to the nature of income.

The 15% rate applied to the following income:

- from distributed profit;
- income derived by sportsmen from sports activities;
- income derived by performing artists from performing activities;
- royalties;
- income derived from the rent of property;
- income derived from creative activities under commission contracts;
- income from other individual activities;
- *proceeds from the sale or other transfer into ownership of property other than that related to individual activities;*
- part of supplementary private pensions received;
- pensions from voluntary second pillar insurance, retrieval from contributions to voluntary pension or life insurance;
- *reimbursed pension contributions paid by an individual to a pension fund where a person withdraws from a pension scheme and does not join another scheme;*
- *part of benefits paid under a life insurance contract;*
- *reimbursed life insurance premiums under a terminated life insurance contract.*

As mentioned above, EUROMOD uses *yiy*, *yprrt*, *ypp*, *yse* and *(-)tscsepi_s* (for both withholding and final taxes) variables to identify the 15% rate incomes. Specifically, *yiy* refers to interest, dividends, profits from capital investment in an unincorporated business in the EU-SILC. *Yprrt* refers to income from rental of a property or land, *ypp* covers income from private pensions (this variable is not yet available for Lithuania in 2005 EU-SILC). *Yse* includes cash benefits or losses from self-employment (including royalties). Self-employed social-insurance contributions (*tscsepi_s*) are subtracted from the list. The incomes presented in italic in the above list are not available in the EU-SILC.

The personal income tax rate of 15% remained stable during the course of 2005-2008.

The rate of 33% was applied to all other taxable incomes (salaries; sickness, maternity leave, paternity leave and maternity (paternity) benefits; severance and termination payment) in 2005.

There were changes in the main personal income tax rate during the course of 2005-2008 (Table 28).

Table 28. Personal income tax rates (%), effective on 30th June 2005-2008

	2005	2006	2007	2008
Main personal income tax rate	33	33	27	24
Reduced personal income tax rate	15	15	15	15

Personal income tax changes usually takes place on 1st January or 1st July. The decrease in the main income tax rate from 33% to 27% happened on 1st July 2006. Subsequent reduction to 24% took place on 1st January 2008.



2.5.6 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. This condition could not be identified in EUROMOD.
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. This condition is fulfilled via identification of (voluntary) private pension contributions *xpp*.
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. This condition is identified as mortgage interest variable in EUROMOD: *xhcmomi*.
4. Payments for vocational training²¹ and all other studies (when higher education and/or qualification is obtained upon graduation, as well as doctoral studies and art post-graduate studies) made by studying residents of Lithuania. 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. This condition could not be identified in EUROMOD.
5. Payments for a single personal computer unit with software, acquired once per period from 2004 to 2008, and/or for the installation of Internet access together with the acquisition costs of access equipment, which do not exceed LTL 4,000. Where the computer unit with software is acquired under a contract providing for the transfer of ownership rights to the buyer only after the payment of the total price specified in the contract, the actually paid-up part of the price (except for interest) may be deducted from income. However, the total amount of deductions may not exceed LTL 4,000 (including the acquisition costs of installing internet access and acquiring access equipment) during the term of validity of the contract. This condition could not be identified in EUROMOD.

Effective on 30th June 2005: If a student is under 26 years and he or she 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 one of his/her parents (adoptive parents) or guardians, brother, sister, and (or) from incomes of spouse (cohabitant). This condition could not be identified in EUROMOD.

No age requirement for students is anymore specified in the law effective on 30th June 2006-2008.

The total amount of deducted expenses cannot exceed 25% of the total tax base after deducting tax allowances. This is modelled as $sin13_s=25\% * (il_IT_base_total - tinta_s) <min> il_IT_DedExpenses$.

²¹ 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 deducting tax allowances. This is modelled as $sin13_s * (\$IT_StdRate * il_IT_base_stdrate + \$IT_LowRate * il_IT_base_lowrate) / il_IT_base_total$.

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

2.5.7 Declaration of income

An individual who during the tax period received income attributed in accordance with the tax payment procedure for both A and B classes (see below) must, after the end of the tax period and before 1 May of the calendar year following that tax period, either himself or through a person authorized by him submit an annual income tax return to the tax administrator for the previous tax period and declare therein all the income received during the previous tax period and the income tax calculated in respect of such income.

The obligation to file annual tax returns does not apply to those residents of Lithuania who:

- 1) do not intend to exercise the right to deduct from income the allowances and/or the expenses;
- 2) received only A class income during the relevant tax period.

Non-taxable income need not be declared (except for winnings from gaming and lotteries).

Groups which have to declare their incomes:

- A farmer and his partners who received income during the tax period from agricultural activities conducted on the farmer's farm and also an individual who has the obligation to declare the property in his possession, except for those individuals who have requested state-guaranteed legal aid or monetary social assistance, must file an annual income tax return.
- A resident of Lithuania who during the tax period received income from the activities exercised under (a) business certificate(s) must file an annual income tax return.

According to the tax payment procedure, personal incomes are divided into two classes: A and B. Incomes of B class include all income, which are not attributed to A class.

Income of A class:

1. income received from a Lithuanian entity, a foreign entity through its permanent establishment and a non-resident of Lithuania through his permanent base, except for winnings from gaming and lotteries, income received by a member of an unlimited civil liability entity from the said entity, income from individual activities and also income from the sale or other transfer into ownership of property other than that used for the purpose of individual activities. Income from sports activities, performing activities received from Lithuanian entities, foreign entities through their permanent establishments and non-residents of Lithuania through their fixed base as well as income from the sale or other transfer into ownership of property other than that used for the purpose of individual activities, which is received from the sale or other transfer into ownership of movable property where it is (or must be) registered in Lithuania or from the sale and other transfer into ownership of immovable property located in Lithuania, and also income from individual and non-individual activities received from



- the sale or other transfer into ownership of non-felled forest, round-wood, base metal scrap shall also be attributed to income of A class, and
2. income received from a resident of Lithuania which is incidental to employment relations or relations in their essence corresponding to employment relations, income from sports activities, income from performing activities, interest and royalties.

Withheld 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 3,000 LTL);
4. Other received incomes (from agricultural production worth more than 10,000 LTL per year; work incomes from other countries; profit from individual enterprise, dividends received from other countries; more than 2,000 LTL 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);
6. and deductible expenditures.

3. DATA

3.1 General description

The Lithuanian micro-database is drawn from the EU-SILC UDB version 2006-1 from 1st March 2008 year 2006. This is an annual household income and living conditions survey based on a random sample and collected throughout the year (May-June in Lithuania in 2006) by national statistical offices in a number of European countries. In Lithuania, the survey is carried out since 2005.

The survey collects information on household income, housing conditions, living conditions, employment, health status, access to health care, financial problems, housing problems, possibility to meet certain needs. The EU-SILC dataset for Lithuania is not able to capture some state transfers, such as compensation for medicine, free meals for schoolchildren, benefits for childcare in pre-school education institutions for single parents, etc. However, the survey offers extra advantages over other national surveys, such as a household budget survey, by achieving a higher comparability with the rest of the EU Member States.

The micro-database in EUROMOD is derived from the EU-SILC UDB (thereafter also referred to as UDB or EU-SILC data). In addition to this, a few imputations done in the EUROMOD database are derived on the basis of National SILC survey (without linking the two datasets). The latter dataset is the EU-SILC underlying micro-dataset on Lithuania. It contains some information which is excluded in the UDB version, however, this information is highly useful



for enlarging the scope of EUROMOD simulations. As the National and the UDB SILC micro-data versions could not be merged due to data access restrictions, imputation strategies were developed using the target variable in the national version and other variables available in both datasets. Specifically, this procedure was critical to impute certain household characteristics (i.e. a size of the main residence), country specific transfer types (i.e. municipal support, social assistance benefit) and tax parameters (i.e. holding a business certificate).

Overall, the SILC survey has a four year rotational panel survey design. The data is collected using face-to-face interviewing of all respondents aged 16 and over. In Lithuania, additional information on income and taxes paid is obtained from the State Tax Inspectorate and the State Social Insurance Fund Board.

Table 29. EUROMOD database description

	Year			
	2005	2006	2007	2008
EUROMOD database	LT_2006_a1.dta			
Original name	<i>EU-SILC – Community Statistics on Income and Living Conditions, Anonymised User Database (UDB)</i>			
Provider	EUROSTAT			
Year of collection	2006			
Period of collection	May-June			
Income reference period	2005			
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	12134 individuals, 4660 households.			
Response rate	Household response rate is 78%			

3.2 Sample quality and weights

3.2.1 Non-response

As indicated by Lithuanian Statistics Department out of 5982 households, 4660 participated in the survey. No data on rural or urban non-response ratios is available. All participating households have information on corresponding incomes and weights available.

There are eight individuals above the age of 16 who did not respond to any of the labour, health or income questions (EU-SILC data file P). Other members of these households did provide necessary answers. The missing partial information for these eight individuals has been imputed based on the information obtained from the other survey participants or information filled in in the R (demographic) EU-SILC data file.



3.2.2 Weights

The dataset uses a few types of cross-sectional survey weights, such as (UDB description):

- the household cross-sectional weights (variable DB090) – these weights have been calibrated with the target population of private households and corrected for household non-response.
- the personal cross-sectional weights 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 had to be corrected for individual non-response.

Table 30. Descriptive Statistics of the Grossing-up weight rb050 (=db090)

LT_2006_a1.dta	
Number	12134
Mean	279.156
Median	219.113
Maximum	2700.776
Minimum	9.046
Max/Min	298.560
Decile 1	56.056
Decile 9	591.472
Dec 9 / Dec1	0.0948

Lithuanian EU-SILC sample statistics have been projected to a reference population of 3,387,278 individuals in 1,326,551 households. Table 30 presents more basic descriptive statistics for the grossing-up individual weight rb050.

Overall, the used weights are calibrated on the demographic data at the beginning of the year. In addition to the major age groups (around 17 sub-groups) and gender, the survey is calibrated by the residence area: the major cities (Vilnius, Kaunas, Klaipėda, Šiauliai, Panevėžys), other cities and rural areas.

3.2.3 Item non-response and under-reporting

No households are treated as non-responding. Consequently, no major components of income have item non-response. As the EU-SILC does not contain individual benefit information (i.e. family benefits) few weighted income components could be compared with external administrative records.

Until 2005, one of the major surveys used for the calculation of official welfare indicators in Lithuania was the Household Budget Survey. As income and at-risk-of-poverty indicators derived from the SILC survey is not fully comparable with those of the Household Budget survey (Statistics Lithuania, 2007), we cannot use it for cross-validation in the year 2005. The major listed reasons behind this observation are differences in data collection reference points: data on income in the HBS are collected on a monthly basis, only income from agricultural activity is collected for the last 12 months. Data on income in the SILC survey are collected for



the last calendar year. Data from interviews are combined with data extracted from administrative sources.

3.3 Data adjustment

Adjustments to variables are kept to a minimum. There is some minor data cleaning that is done to make sure that the households and relationships of individuals within households, are coherent (for example, that family relations are coherent).

As we focus on the base year of 2005, we also try to match reference times between incomes (i.e. reference year 2005) and demographic/socio-economic status' variables (reference years 2005 or 2006). For this reason, children who are born in the year of the survey (until the survey time, which is May-June in Lithuania) are dropped out from the final micro-dataset. This concerns 36 observations of newborns recorded in 2006. Thereby, the EUROMOD included variables such as family size or number of children, refer to the demographic situation of 2005.

3.4 Imputations and assumptions

3.4.1 Time period

The EU-SILC information on demographic variables mainly refers to the time of data collection (May-June, 2006). However, some information also indicates the status quo at the end of the income reference period (2005). For example, there are two age variables: one of them indicating age at the time of the survey implementation and one at the end of 2005. Similar situation is observed for some socio-economic and labour variables. For example, variable *rb210* (basic activity status) refers to the data collection time, while variable *pl070* indicates number of month in full time work during the income reference period (the calendar year of 2005). If possible, the corresponding demographic, labour and socio-economic information in the EUROMOD dataset was based on the EU-SILC variables referring to the income reference period.

The EU-SILC UDB information on incomes refers to the calendar year of 2005, based on a 12-month receipt period. 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 selective income sources only. All monetary incomes in the EUROMOD database are converted into monthly terms. In the EUROMOD calculations, it is implicitly assumed that income is received at the same rate throughout the year.

3.4.2 Gross and net incomes

The EU-SILC 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.

The EU-SILC UDB database has also been partially cleaned and improved by using additional income information from administrative records by Statistics Lithuania. The related documentation is unfortunately not available. However, some of the used gross/net conversion codes have been made available.

For example, calculations of gross and net incomes that are available in the EU-SILC UDB version are based on the following imputations:



- If py010g (gross work income) is observed, the personal income tax is calculated taking into account 3% social insurance contribution rate applied on the gross amount; subtracting a relevant basic allowance amount multiplied by the number of months at work, and then multiplying the overall figure by 27% tax rate).
 - $\text{tax} = \text{sum}(\text{gross} * 0.03, (\text{gross} - \text{basic allowance} * \text{number of months at work}) * 0.27)$
 - $\text{PY010N} = \text{sum}(\text{gross}, -\text{tax})$.
- If a person is only engaged in business activities (taxed with 15% income tax rate), the following conversion from gross amount (py050g) to the net amount is made:
 - $\text{Tax} = \text{sum}(\text{gross} * 0.15, 1116)$, where 1116 is the state defined social contribution amount.
 - $\text{Py050n} = \text{sum}(\text{gross}, -\text{tax})$.

3.4.3 Imputed variables

Key variables that are fully imputed (not available in the EU-SILC UDB survey) are:

- Activity under business certificate – based on information available in the National SILC.
- Severance pay – based on the observed differences in gross and net aggregate unemployment benefit (UDB variable py090) amounts and cross-checked with information available in the National SILC.
- Early retirement benefit – based on the information available in the National SILC and benefit rules.
- Unemployment insurance benefit - based on the information available in the National SILC and benefit rules.
- Social benefit (social assistance) – based on the information available in the National SILC and benefit rules.
- Municipal and NGO support – as residual from the imputed social benefit and the UDB benefit hy060 (social exclusion not classified elsewhere).
- Guardianship benefit – based on the information from the National SILC and additional information on the composite components of the UDB aggregate family benefit variable (hy050).
- Financial capital asset – based on the UDB variable on investment income and external information on the average yield on LT government bonds during the period of 2005.
- Useful floor space of the main residence - based on the National SILC information.
- Market value of the main residence – based on the housing characteristics available in the UDB version and imputed useful floor space of the main residence. Additionally, real estate market information for 2005 was used to identify average sq. meter prices of different types of residential places in urban and countryside areas.

The EU-SILC UDB data mainly includes aggregate variables on a number of state transfers to families and individuals. Based on the UDB variable content description (i.e. observations on values' distribution, difference in net and gross amounts, etc.), personal communications with Statistics Lithuania and the information National SILC contained on diverse variables, we have decomposed the content of most of the aggregate benefit variables. Table 31 lists which benefits are collected in the National SILC survey and what UDB SILC variable they are aggregated into. The information on the content of the aggregate UDB variables is used in the imputation of some variables (e.g. unemployment insurance benefit) and validation of EUROMOD outputs.



Table 31. National and UDB versions of SILC: aggregation of benefits.

	Variable code in National SILC	Variable code in UDB version
Benefits for families raising children		
Birth grant	N82_1	Hy050
Child benefit	N82_2	Hy050
Benefit to a conscript's child (no observations)	N82_3	Hy050
Guardianship benefit	N82_4	Hy050
Grant for housing (settlement)	N82_5	Hy050
Pregnancy grant	N82_6	Hy050
Maternity leave benefit	A75_23	Hy050
Paternity leave benefit (from 2006)	(A75_24)	Hy050
Maternity (paternity) leave benefit	A75_24	Hy050
Unemployment and social assistance benefits		
Social benefit	N82_7	Hy060
+ One time municipal support (no rules)	N82_8	Hy060
+ NGO support (no rules)	N82_9	Hy060
Compensation for utilities (all three types)	N51_1; N51_2; N51_3	Hy070
Unemployment social insurance benefit	A75_14	Py090
Pension social insurance		
Old-age pension	A75_1	Py100
Early retirement old-age pension	A75_2	Py090
Work incapacity and invalidity pensions – after retirement age	A75_4	Py100
Work incapacity and invalidity pensions – before retirement age	A75_5	Py130
Survivor and orphan pensions– after retirement age	A75_8	Py100
Survivor and orphan pensions– before retirement age	A75_9	Py110
State pensions of degree one or two	A75_12	Py100
State pensions for victims– after retirement age	A75_10	Py100
State pensions for victims– before retirement age	A75_11	Py130
State pensions for officers and soldiers (CR: combined category of all state pensions)	A75_12	Py100
State pensions for scientists (CR: combined category of all state pensions)	A75_12	Py100
State pensions for judges (CR: combined category of all state pensions)	A75_12	Py100
Compensations for special working conditions	A75_3	Py100
State social assistance benefits/pensions– after retirement age	A75_6	Py100
State social assistance benefits/pensions– before retirement age	A75_7	Py130
Loss of breadwinner's pension: no separate variable in National SILC	-	-
Retirement pension: no separate variable in National SILC	-	-
Sickness and occupational accidents social insurance		
Sickness benefit (not filled in 2006 dataset)	A44	Py120
Vocational rehabilitation allowance	A75_20	Py130
Occupational disease allowance (PGS: only as part of combined category of "Benefits related to occupational accidents of professional disease)	A75_21	Py100/py130
Work incapacity grant (PGS: only as part of combined category of "Benefits related to occupational accidents of professional disease)	A75_21	Py100/py130

Continued...



	Variable code in National SILC	Variable code in UDB version
Work incapacity periodical compensation (PGS: only as part of combined category of “Benefits related to occupational accidents of professional disease)	A75_21	Py100/py130
Other benefits in National SILC, identified in UDB		
Funeral grant (it is possible that this category combines both funeral benefit and funeral grant in case of the death of the insured).	A75_16	Py110
Stipends (all sorts)	A75_17	Py140
Allowance for diabetic people (separated by retirement age in UDB)	A75_18	Py100/py130
Nursing an care compensation (separated by retirement age in UDB)	A75_15	Py100/py130
Other country pensions (separated by retirement age in UDB)	A75_13	Py100/py130
Severance pay	A75_25	Py090
Transport expense compensation of disabled people (separated by retirement age in UDB)	A75_19	PY100/py130
Other benefits	A75_22	Py130

3.5 Updating

The factors used to update monetary variables in reference to 2005, which is considered as the base year, are shown in Table 32. If no specific uprating factor is assigned per income variable, the *default* uprating factor is used.



Table 32. Monetary updating factors

Index	Income Source/index type	2006	2007	2008
<i>default</i>	Annual average inflation	1.037	1.057	1.109
<i>yem</i>	INCOME : Employment	1.172	1.412	1.703
<i>yempv</i>	INCOME : Employment (=yem, lag of 1)	1.110	1.172	1.412
<i>yivwg</i>	INCOME : Predicted wage (=yempv)	1.110	1.172	1.412
<i>iyi</i>	INCOME : Investment	1.112	1.186	1.315
<i>ypr</i>	INCOME : Property	1.070	1.103	1.223
<i>ypt</i>	INCOME : Private Transfers	0.757	0.971	1.022
<i>yse</i>	INCOME : Self Employment	1.312	1.629	2.177
<i>bed</i>	BENEFIT/PENSION : Education	1.133	1.144	1.568
<i>bfa</i>	BENEFIT/PENSION : Family	0.983	1.072	1.088
<i>bho</i>	BENEFIT/PENSION : Housing	1.395	1.643	2.381
<i>bsa</i>	BENEFIT/PENSION : Social Assistance	1.055	1.371	2.179
<i>bsals</i>	BENEFIT/PENSION : Municipal social assistance support			
<i>bun</i>	BENEFIT/PENSION : Unemployment	1.263	1.541	1.822
<i>bunct</i>	BENEFIT/PENSION : Contributory unemployment insurance benefit	1.263	1.541	1.822
<i>byr</i>	BENEFIT/PENSION : Early retirement	1.263	1.541	1.822
<i>yunsv</i>	INCOME : Unemployment : Severance pay	1.172	1.412	1.703
<i>bsa00</i>	BENEFIT/PENSION : Social Assistance : Social benefit	1.315	1.371	2.179
<i>bsals</i>	BENEFIT/PENSION : Social Assistance : Municipapl and NGO support	1.290	1.971	1.940
<i>bdi</i>	BENEFIT/PENSION : Disability	1.170	1.426	1.792
<i>bhl</i>	BENEFIT/PENSION : Health	0.983	1.326	1.458
<i>boa</i>	BENEFIT/PENSION : Old Age	1.110	1.352	1.596
<i>bsu</i>	BENEFIT/PENSION : Survivors	1.272	1.272	1.577
<i>kfb</i>	BENEFIT?Pension : In-kind	1.129	1.118	1.024
<i>amrvm</i>	ASSETS : Main Residence : Residence value	1.129	1.118	1.024

Sources: *default* and otherwise unspecified - Statistics Lithuania; *kfb*, *ypt*, *yse*, *bfa*, *bhl*, *boa*, *bsu* - HBS. Calculated as average benefits (transfers; incomes) per person within the households receiving those benefits (transfers; incomes); *iyi* - Statistics Lithuania, based on return on equity; *ypr*- Statistics Lithuania, based on return on assets; *bed*- HBS; calculated as average individual benefit; *bho*- Ministry of Social Security and Labour; calculated as the annual expenditures on housing (heating, cold and hot water) divided by number of recipients/12; *bsa* - Ministry of Social Security and Labour; average montly social assistance benefit and one time municipal support per recipient; *bun* - HBS and Social Insurance Fund; calculated as average income (unemployment benefit and severance pay) per person within the households receiving those incomes; Social Insurance Fund's information on old age pension for people under pension age; *bdi* - Social Insurance Fund; calculated as monthly incomes.

No other updating adjustments are employed; therefore the distribution of receipts of non-simulated incomes remains constant throughout the period 2006-2008, while the level of amounts received changes in line with the uprating factors. The EUROMOD included variables on household and personal characteristics, such as housing type, employment status or demographic attributes, are constant in relation to the basis year of 2005.



4. VALIDATION

In this section we compare how simulated statistics on beneficiaries and total expenses compare to external information sources. By default it is assumed that the number of recipients refers to the number of recipient benefit (family) units. In some cases, nevertheless, reported beneficiaries are individuals (e.g. child benefit), as only information on individual recipients rather than family units is obtainable in the external statistics. We notify separately if such differences in definitions occur and align the EUROMOD statistics accordingly.

First, we report on the comparability of the EUROMOD included gross earnings (variables *yem* + *kfb*) to external statistics (see Table 33). Gross earnings in SILC (and hence in EUROMOD) are under-reported in all four years of analysis, with the smallest difference in 2008. Overall, the difference is not too high, but it should be taken into account for further comparison of welfare estimates (i.e. as in Section 4.2 - Income distribution). Changes from 2005 to 2008 in EUROMOD reported monetary amounts are due to application of up-rating factors.

Table 33. Gross earnings in EUROMOD and external statistics (mln LTL)

	2005	2006	2007	2008
EUROMOD cash or near cash income (<i>yem</i>)	20395.66	23903.60	28805.15	34743.89
EUROMOD in-kind earnings (<i>kfb</i>)	56.98	64.31	63.68	58.34
EUROMOD gross earnings (<i>yem+kfb</i>)	20452.64	23967.91	28868.83	34802.23
Lithuanian Statistics: gross earnings	23331.04	28085.93	33367.47	38153.04
Ratio: EUROMOD/LT Statistics	0.88	0.85	0.87	0.91

Note: We calculate EUROMOD gross earnings as summation of *yem* and *kfb* variables. This aggregation is done due to the fact that external statistics refers to the gross earnings defined as “gross wages and salaries, including both remuneration in cash and in kind (but excluding employers’ social contributions)”.

Source: Statistics Lithuania (Database on “*Algos ir atlyginimai. Požymiai: ekonominės veiklos rūšis*”)

In the following sections, we report validation results on EUROMOD included and simulated benefits, taxes and social contributions.

4.1 Aggregate Validation

4.1.1 Non simulated benefits

Table 34 compares estimates of taxes and benefits, which are included in the EUROMOD database in a *non aggregate form* (and marked as I in Tables 16 & 17). The discussed benefits are: guardianship benefit, compensations for utilities, early retirement pension, municipal and NGO support (one category) and severance pay. Out of these five benefits, full external information is available on two. As we show in the table below, administrative records are not collected on recipients of compensations for utilities and no information is available on severance pay. In 2005, no centralised aggregate data was available on municipal and NGO benefits. Since 2006 reform of municipal benefit rules, aggregate administrative data has become available, as portrayed in Table 35 - Table 37.

Administrative records on severance pay is lacking as this is usually treated as a part of wages rather than an additional unemployment benefit (as it is classified in the EU-SILC). Thereby, only small categories of severance pay type of benefits could be identified via external statistics. For example, Statistics Department collects information on a specific type of severance pay, which refers to expenses on irregular premium payments or bonuses upon termination of the work. The related annual expenditure amounts for this severance pay ranged from 260,000 LTL



in 2005 to 680,000 LTL in 2008.²² The EUROMOD indicated amounts refer to overall severance pay expenses and therefore could not be compared to these external statistics. In addition to this, only nine observations of severance pay receipt are identified in the EUROMOD database. This corresponds to around 2,000 beneficiaries in 2005. Given that the number of registered unemployed in 2005 was equal to more than 130,000 people,²³ the EUROMOD reported incidence of severance pay benefits indicates a vast under-identification. This, however, should not bias overall information on earnings, as severance pay is (should be) recorded as one of the salary components.

Other included, but not simulated, benefits are municipal and NGO support. These two benefits are combined into a variable *bsals* in the EUROMOD database. *Bsals* is a combined variable due to lack of information to distinguish between these two benefits in the UDB version of the EU-SILC. The separate variables are available in the National SILC.²⁴ Statistics on the aggregate value of these two types of benefits is not available in 2005 due to lack of rules and centralised payment mechanisms.

As shown in the Table 34, the early retirement pension is rather well captured by EU-SILC data in comparison to the external statistics. The calculated recipient ratio points to a slight over-estimation in EUROMOD data, while expenditure ratio reveals a close match between EUROMOD and external statistics. The guardianship benefit information captures half of actual recipients and slightly more than half of actual state expenses. Information on compensation for utilities is not easy to compare. However, expenditure estimates point to around 25% under-estimation of EUROMOD recorded expenditures.

Table 34. EUROMOD validation: taxes and benefits included but not simulated, 2005

	Recipients/Payers (thousand)			Expenditure/Revenue (mln. LTL)		
	EUROMOD database	External source	Ratio	EUROMOD database	External source	Ratio
Guardianship benefit	5.61	11.30	0.50	38.80	62.20	0.62
Compensations for utilities	80.64	n.a.	n.a.	22.92	30.93	0.74
Early retirement pension*	7.06	5.69	1.24	21.27	20.77	1.02
Municipal & NGO support	21.51	n.a.	n.a.	4.10	n.a.	n.a.
Severance pay	2.02	n.a.	n.a.	8.30	n.a.	n.a.

Note: Recipients of early retirement and severance pay are individuals

Sources: Statistics Lithuania (i.e. *Rodiklių duomenų bazė, Gyventojai ir socialinė statistika*) and if marked (*) - SODRA²⁵ (i.e. “Skaičiai ir faktai 2005-2009”)

The following three tables point to the dynamics of the aforementioned benefits (excluding severance pay due to lack of information) during 2006-2008. Even though we do not have external information on NGO support, we show how external data on municipal support matches the included variable *bsals*. By this, we want to at least confirm that *bsals* values should be higher than that of the municipal support alone.

²² Source: Gyventojai ir socialinė statistika: Darbo apmokėjimo lėšos - Išėtinės išmokos ir kompensacijos pasibaigus darbo santykiams

²³ Source: Gyventojai ir socialinė statistika: Darbo jėga, užimtumas ir nedarbas.

²⁴ The EU-SILC aggregate variable of social exclusion hy060g consists of three benefits, as collected in National SILC: 1) social benefit (*bsa00 in EUROMOD*), 2) municipal (*bsals in EUROMOD*) and 3) NGO support (*bsals in EUROMOD*).

²⁵ SODRA - the State Social Insurance Fund Board under the Ministry of Social Security and Labour



Overall, the next three tables aim at noting the actual changes in external statistics in relation to the EUROMOD database. Here, we observe both changes in the number of beneficiaries and the total expenditures. Changes in EUROMOD database included benefits which could only be observable with respect to monetary amounts and due to the application of uprating factors for 2006-2008 (see Table 32). The number of beneficiaries remains constant by default.

Expenses on guardianship benefit are steadily and slowly increasing based on EUROMOD data. External resources point to a small drop both in number of recipients and aggregate amount paid in 2008. Overall, the ratio of guardianship benefit remains under the threshold of 0.65, pointing to a stable under-estimation in the all analysed years.

EUROMOD included expenses on compensations for utilities tend to increase with a higher rate than actually observed in the external statistics. Thereby, expenditure ratios increase from 1.06 in 2006 to 1.19 in 2008, revealing a rather large deviation in the last year.

Expenditure ratio for early retirement pension drop from 1 in 2005 to 0.75 in 2006 and then remain relatively constant. This shows that aside from overall under-estimation, EUROMOD data captures the observed actual increase in early retirement expenses relatively well.

Finally, expenditure ratios for municipal support show that application of uprating factors for the years 2006-2008 improves the municipal support estimation. In addition to this, estimates on the number of recipients improve. In 2008, the EUROMOD indicated municipal expenses are 7% higher than actual records. In contrast, the EUROMOD indicated municipal expenses are around 35% lower in 2006. Furthermore, EUROMOD data is able to capture a small drop in expenditures from 2007 to 2008, which goes in line with the drop in actual expenses. A caution note should be also made here: the EUROMOD included municipal support is NGO support inclusive, which is not the case for the external statistics data.

Table 35. EUROMOD validation: taxes and benefits included but not simulated, 2006

	Recipients/Payers (thousand)			Expenditure/Revenue (mln. LTL)		
	EUROMOD database	External source	Ratio	EUROMOD database	External source	Ratio
Guardianship benefit	5.61	11.73	0.48	40.23	63.11	0.64
Compensations for utilities	80.64	n.a.	n.a.	31.97	30.25	1.06
Early retirement pension	7.06	8.10	0.87	26.86	35.78	0.75
Municipal & NGO support	21.51	49.03	0.44	5.28	8.37	0.63

Note: 1) Recipients of early retirement are individuals; 2) Information on “municipal & NGO support” from external sources refers to municipal support only.

Sources: Statistics Lithuania (i.e. *Rodiklių duomenų bazė, Gyventojai ir socialinė statistika*) and if marked (*) SODRA²⁶ (i.e. “Skaičiai ir faktai 2005-2009”)

²⁶ SODRA - the State Social Insurance Fund Board under the Ministry of Social Security and Labour



Table 36. EUROMOD validation: taxes and benefits included but not simulated, 2007

	Recipients/Payers (thousand)			Expenditure/Revenue (mln. LTL)		
	EUROMOD database	External source	Ratio	EUROMOD database	External source	Ratio
Guardianship benefit	5.60	12.47	0.45	41.01	70.00	0.59
Compensations for utilities	80.64	n.a.	n.a.	37.7	33.66	1.12
Early retirement pension	7.06	8.26	0.85	32.77	44.75	0.73
Municipal & NGO support	21.51	33.74	0.64	8.07	8.63	0.94

Note: 1) Recipients of early retirement are individuals; 2) Information on “municipal & NGO support” from external sources refers to municipal support only.

Sources: Statistics Lithuania (i.e. *Rodiklių duomenų bazė, Gyventojai ir socialinė statistika*) and if marked (*) SODRA (i.e. “Skaičiai ir faktai 2005-2009”)

Table 37. EUROMOD validation: taxes and benefits included but not simulated, 2008

	Recipients/Payers (thousand)			Expenditure/Revenue (mln. LTL)		
	EUROMOD database	External source	Ratio	EUROMOD database	External source	Ratio
Guardianship benefit	5.60	12.42	0.45	43.03	68.03	0.63
Compensations for utilities	80.64	n.a.	n.a.	54.58	45.77	1.19
Early retirement pension	7.06	7.25	0.97	38.76	48.86	0.79
Municipal & NGO support	21.51	29.22	0.74	7.94	7.36	1.07

Note: 1) Recipients of early retirement and severance pay are individuals; 2) Information on “municipal & NGO support” from external sources refers to municipal support only.

Sources: Statistics Lithuania (i.e. *Rodiklių duomenų bazė, Gyventojai ir socialinė statistika*) and if marked (*) SODRA (i.e. “Skaičiai ir faktai 2005-2009”)

4.1.2 Non simulated aggregate benefit categories

The UDB version of the EU-SILC includes a few major aggregate benefit categories, which consist of a number of different transfers (i.e. see Table 16 and Table 31 for the detailed list of the aggregate variables’ components). Total expenses of such major benefits included in EUROMOD are presented in the Table 38.

Table 38. Expenses on aggregate benefits in EUROMOD database (mln LTL), 2005-2008

	2005	2006	2007	2008
Old-age benefits (boa)	3747.00	4160.12	5067.10	5981.58
Disability benefits (bdi)	735.51	860.31	1049.11	1318.01
Family benefits (bfa)	523.65	514.64	561.34	569.96
Education benefits (bed)	131.42	148.90	150.37	206.06
Survivor benefits (bsu)	111.84	142.31	142.31	176.40

Source: EUROMOD



In order to validate these UDB included aggregate benefit amounts, we need to re-construct the list of individual components within each of these aggregate categories and to obtain external data for each of these components. Nevertheless, as we show in the series of the tables below, the collection of external statistics for such aggregate categories pose a number of problems.

First, often external sources and especially definitions of beneficiaries are incoherent by the type of benefit or benefit component. This refers to such definitions, as average number of beneficiaries per year, beneficiary family units, beneficiary individuals, etc. Second, people could receive a few benefits simultaneously. Therefore, adding up number of beneficiaries per category might inflate the number of beneficiaries for the aggregate benefit category. Third, external statistics refer to the total expenditures per single benefit, while the UDB constructed aggregate categories (and so EUROMOD database included variables) refer to benefits split by the retirement age. For example, the survivor and orphan pensions received before the legal retirement age would be attributed to survivor benefits in the EU-SILC UDB version (variable py110), whereas the same benefit received after the legal retirement age would be placed under the old-age benefits (variable py100). Therefore, the UDB constructs are difficult to rebuild using external aggregate statistics on different benefit types. Fourth, certain UDB reported aggregate categories are not possible to check against external statistics at all, due to lack of collected and published statistical information (i.e. educational benefits).

The old-age benefits (*boa* variable) is the largest aggregate transfer type. The total (EUROMOD estimated) monetary value of these transfers ranges from around 4 bln. LTL (in 2005) to almost 6 bln. LTL (in 2008), as shown in Table 39.

This aggregate variable is a compound list of around 20 different pension and benefit types, which are given to people above the legal retirement age. The split by the legal retirement age is the EU-SILC imposed segregation. Therefore, it does not coincide with the national rules on most of the included transfers, which means that the external statistics on total expenses' shares by recipient age is not available. As we show in the table below, we are able to collect external aggregate information for some benefits, which are included into the old-age benefit category without the artificial split by the legal retirement age. Among them is the biggest component – the old-age pensions. In this table we report both the number of caseloads and total expenditures. The caseloads indicate how significant certain components are, even though estimates on their total expenditures are not available to obtain.

Table 39. Recipients of diverse old-age benefits (*boa*), 2005-2008

	2005	2006	2007	2008	2005	2006	2007	2008
	Cases (thous.)				Expenses (mln LTL)			
Old-age pension	595.50	591.00	590.90	595.00	3618.60	3988.90	4951.80	6350.00
State pensions of degree one or two	4.90	6.70	6.50	7.10	-	-	-	-
State pensions for officers and soldiers	11.50	12.00	12.50	13.10	-	-	-	-
State pensions for scientists	2.50	2.50	2.50	2.60	-	-	-	-
State pensions for judges	0.03	0.03	0.04	0.05	-	-	-	-
Compensations for special working conditions	8.80	9.00	9.10	9.00	29.46	34.88	43.02	54.10
Total (available) <i>boa</i> from external statistics	623.23	621.23	621.54	626.85	3648.06	4023.78	4994.82	6404.1
Total <i>boa</i> from EUROMOD	678.52	678.52	678.52	678.52	3747.85	4160.12	5067.10	5981.58
Ratio:								
EUROMOD/external	1.09	1.09	1.09	1.08	1.03	1.03	1.01	0.93

Note: Expenses on compensations for special working conditions are estimated as: number of caseloads*average monthly compensation*12.²⁷

Sources: Statistics Lithuania & Sodra

The unavailable external statistics concern the following state expenses after the retirement age:

- State social assistance benefits/pensions
- Nursing and care compensation
- Allowance for diabetic people
- Transport expense compensation of disabled people
- Occupational injuries and allowances
- Work incapacity and invalidity pensions
- Survivor and orphan pensions
- State pensions for victims
- Other country pensions

The share of these expenses to be attributed to the *boa* category could not be estimated from available external statistics. Information on some of these components, as other country pensions, are also in general not available to obtain.

Overall, a conclusion could be drawn that the aggregation of two of the available components already account for the majority of EUROMOD included amounts, as the calculated ratios (on expenses) range from 1.08 to 0.93. Given that the list of unaccounted benefits on the external statistics' side is quite extensive, one could draw a conclusion that EUROMOD included *boa* amounts are likely to be under-valued in comparison to external estimates.

The aggregate EUROMOD variable on disability benefits (*bdi*) represents similar validation challenges. The *bdi* variable is also a construct of many diverse components. The following list of benefits received *before the retirement age* creates the *bdi* category:

- Work incapacity and invalidity pensions
- State social assistance benefits/pensions

²⁷ <http://www.sodra.lt/get.php?f.12988>



- State pensions for victims
- Occupational disease allowance
- Work incapacity grant
- Work incapacity periodical compensation
- Allowance for diabetic people
- Nursing and care compensation
- Other country pensions

In addition to these (age dependent) benefit receipts, vocational rehabilitation allowances and other, SILC unspecified disability benefits, are fully included into the *bdi* category. In the table below we only compare the total (both before and after the retirement age) work incapacity and invalidity pensions against EUROMOD *bdi* total expenses. It is likely that the largest share of this benefit is given to the people before the retirement age (the receipt after the retirement age should be attributed to the old-age benefits). The total *bdi* amounts in EUROMOD are slightly higher than the total expenses on the work incapacity and invalidity pensions: ratios range from 1.13 in 2005 to 1.08 in 2008. This implies that the disability benefit included in EUROMOD might be potentially also under-estimated in comparison to external statistics. However, more precise information on the size of other to be added components is needed in order to make more accurate comparisons.

Table 40. Expenses on aggregate disability benefits (*bdi*), mln LTL, 2005-2008

	2005	2006	2007	2008
Work incapacity and invalidity pensions	647.0	763.9	961.7	1224.2
Total <i>bdi</i> from EUROMOD	735.5	860.3	1049.1	1318.0
Ratio: EUROMOD/work incapacity & invalidity pension	1.14	1.13	1.09	1.08

Source: Statistics Lithuania

Survival benefits' aggregate category *bsu* consists of a few major components: survivor and orphan pensions (before retirement age), funeral benefit & grant in case of death of the insured. Out of them, information on funeral benefit is available to compare against EUROMOD *bsu* category. The table below, however, shows that information on survivor and orphan pensions (before retirement age) is crucial in order to make a comparison of aggregate amounts. Based on Statistics Lithuania information, the total state expenses on survivor and orphan pensions in 2005 amounted to 266 mln. LTL. This is more than double the size of the total expenses on survivor benefits included in EUROMOD. Therefore, the split of these expenses by legal retirement are crucial for comparing survival (and old-age) benefits' validity in EUROMOD. Funeral grant alone accounts for around one fourth of EUROMOD included survivor benefits.

Table 41. Expenses on survival benefits (*bsu*), mln LTL, 2005-2008

	2005	2006	2007	2008
Funeral grant	32.34	33.14	34.93	45.17
Total <i>bsu</i> from EUROMOD	111.84	142.31	142.31	176.40
Ratio: EUROMOD/funeral grant	3.46	4.29	4.07	3.91
Survivor and orphan pensions– before & after retirement age	265.8	301.4	411.1	457.9

Source: Statistics Lithuania

Unemployment aggregate category *bun* consists of early retirement old-age pension, severance pay and unemployment benefit. Information on severance pay is not available, as indicated in Section Non simulated benefits 4.1.1. Information on included early retirement pension and



unemployment benefits is provided in Section 4.1.1. on “*Non simulated benefits*” and Section 4.1.5 on “*Unemployment social insurance benefit*”.

We do not attempt to re-construct the aggregate category *bfa* of the family benefits too. Most of the individual components of this aggregate category (i.e. birth grant, child benefit, maternity leave benefit, etc.) are included and simulated in the EUROMOD database. We validate each of them separately in the forthcoming sections.

4.1.3 Simulated income tax

Personal income tax pools all of the components (higher and lower tax rates) previously mentioned. Table 42 reveals a very close estimation of the collected personal income taxes for all years, with only a slightly higher (ratio>10%) over-estimation in 2006. The latter is due to the standard EUROMOD practice of simulating any policy year as of 30th June in respective year. Hence, while the main tax rate was lowered from 33% to 27% on 1st July 2006, this is not reflected in the EUROMOD baseline estimates. The number of taxpayers is slightly underestimated (ratio<10%).

Table 42. EUROMOD validation: income tax, 2005-2008

Personal Income Tax (tin_s)	Taxpayers (thousand)			Revenue (mln.LTL)		
	EUROMOD database	External source	Ratio	EUROMOD database	External source	Ratio
2005	1312.40	1433.70*	0.92	5094.32	4953.8	1.03
2006	1360.60	1481.60	0.92	6273.63	5625.0	1.12
2007	1377.60	1521.70	0.91	6393.65	6530.2	0.98
2008	1418.69	n.a.	n.a.	7302.76	7313.3	1.00

* Number of taxpayers: Personal Income Tax on wages (*main tax rate*). The external statistics reflects the final tax liability in both EUROMOD and external statistics data.

Sources: State Tax Inspectorate

4.1.4 Simulated social contributions

Social contributions of employees and employers, both in terms of number of recipients and total revenue, are over-estimated within a range of 2 to 21 percentage points in the 2005 policy simulations (see Table 43). The most accurate estimates are obtained for employers’ pension contributions (ratio = 1.02). The number of contributors is over-simulated by 14% in comparison to external statistics. Macro-validation reveals that simulation of self-employed contributions is a) difficult to validate due to lack of aggregate external statistics b) points to highly biased simulation results. The authors of this report have double-checked the validity and definition of external statistics, as well as simulation of EUROMOD estimates, but no sound reasons could yet be established to explain these large deviations. One potential explanation could relate to the quality of the EU-SILC in representativeness/capturing of self-employed population and their income.



Table 43. EUROMOD validation: social contributions, 2005

	Contributors (thousand)			Revenue (mln.LTL)		
	EUROMOD database	External source	Ratio	EUROMOD database	External source	Ratio
Employers' social insurance contributions (ils_sicer)	1400.9	1223.6	1.14	6363.4	5562.9	1.14
Pension (tscerpi_s)	1400.9	1223.6	1.14	4793.0	4713.5	1.02
Sickness and maternity (tscersi_s)	1400.9	1223.6	1.14	571.1	473.3	1.21
Unemployment (tscerui_s)	1400.9	1223.6	1.14	285.5	248.6	1.15
Health (tscerhl_s)	1400.9	1223.6	1.14	611.9	507.1	1.21
Employment injuries and occupational diseases (tscerac_s)	1400.9	1223.6	1.14	61.2	50.7	1.21
Payments to the guarantee fund (tscersf_s)	1400.9	n.a.	n.a.	40.79	n.a.	n.a.
Employees social insurance contribution (ils_sicee)	1400.9	1223.6	1.14	611.9	533.15	1.15
Pension social insurance (tsceepi_s)	1400.9	1223.6	1.14	509.9	443.4	1.15
Sickness and maternity social insurance (tsceesi_s)	1400.9	1223.6	1.14	102.0	84.5	1.21
Self-employed social insurance contributions (ils_sicse)	250.0	58.2	4.30	481.9	578.5	0.83
Pensions (tscsepi_s)	208.9	58.2	3.59	358.8	72.5	4.95
Compulsory health insurance (tscsehl_s)	250.0	n.a.	n.a.	123.1	506.0*	0.24

Notes: Credited contributions are not part of the employer's contributions, as they are considered as state transfers. External data on this category is not available.

Sources: SODRA (Social Insurance Fund)²⁸ * - State Patient's Fund²⁹

In year 2006, the number of simulated social insurance contributors remains the same compared to 2005 figures, as updating factors are only applied on income components (see Table 44). The same observation holds true for 2007 and 2008 simulations. Therefore, the resulting changes in the ratios of contributors are solely due to changes in external statistics.

Changes in the simulated monetary amounts are observed due to the application of updating factors (see Table 32). Changes in the reported revenue ratios thus capture two influences: 1) actual changes in aggregate statistics and 2) application of updating factors. Since 2005, the following major changes in revenue ratios are observed:

1. the range of over-estimation on behalf of employees and employers narrows down;
2. however, the ratio on simulated employer's pension contributions increases, revealing higher over-estimation than in 2005.

²⁸ <http://www.sodra.lt/index.php?cid=2368>

²⁹ http://www.vlk.lt/vlk/kt/?page=list&kat_id=1



Table 44. EUROMOD validation: social contributions, 2006

	Contributors (thousand)			Revenue (mln.LTL)		
	EUROMOD database	External source	Ratio	EUROMOD database	External source	Ratio
Employers' social insurance contributions (ils_sicer)	1400.9	1268.9	1.10	7457.9	6668.5	1.12
Pension (tscerpi_s)	1400.9	1268.9	1.10	5641.3	5075.0	1.12
Sickness and maternity (tscersi_s)	1400.9	1268.9	1.10	669.3	575.1	1.16
Unemployment (tscerui_s)	1400.8	1268.9	1.10	310.8	279.5	1.11
Health (tscerhl_s)	1400.9	1268.9	1.10	717.1	616.2	1.16
Employment injuries and occupational diseases (tscerac_s)	1400.9	1268.9	1.10	71.7	60.8	1.18
Payments to the guarantee fund (tscersf_s)	1400.9	n.a.	1.10	47.8	n.a.	n.a.
Employees social insurance contribution (ils_sicee)	1400.9	1268.9	1.10	717.1	639.7	1.12
Pension social insurance (tscepi_s)	1400.9	1268.9	1.10	597.59	537.0	1.11
Sickness and maternity social insurance (tsceesi_s)	1400.9	1268.9	1.10	119.5	102.7	1.16
Self-employed social insurance contributions (ils_sicse)	250.0	n.a.	n.a.	611.7	698.7*	0.88
Pensions (tscsepi_s)	208.9	57.4	3.64	460.6	89.6	5.14
Compulsory health insurance (tscsehl_s)	250.0	n.a.	n.a.	151.1	609.1	0.25

Sources: SODRA; * - State Patient's Fund.

For year 2007 (see Table 45), the simulated number of contributors and total revenue matches observed aggregate numbers even closer than in 2005 or 2006, with the exception of the simulation of pension contributions. Contributions of self-employed remain in line with previous observations and highly biased.



Table 45. EUROMOD validation: social contributions, 2007

	Contributors (thousand)			Revenue (mln.LTL)		
	EUROMOD database	External source	Ratio	EUROMOD database	External source	Ratio
Employers' social insurance contributions (ils_sicer)	1400.9	1321.7	1.06	8987.2	8249.4	1.09
Pension (tscerpi_s)	1400.9	1321.7	1.06	6826.8	6302.1	1.08
Sickness and maternity (tscersi_s)	1400.9	1321.7	1.06	806.5	716.1	1.13
Unemployment (tscerui_s)	1400.8	1321.7	1.06	345.7	319.1	1.08
Health (tscerhl_s)	1400.9	1321.7	1.06	864.2	767.2	1.13
Employment injuries and occupational diseases (tscerac_s)	1400.9	1321.7	1.06	86.4	77.0	1.12
Payments to the guarantee fund (tscersf_s)	1400.9	n.a.	n.a.	57.6	n.a.	n.a.
Employees social insurance contribution (ils_sicee)	1400.9	1321.7	1.06	864.2	792.7	1.09
Pension social insurance (tsceepi_s)	1400.9	1321.7	1.06	720.1	664.8	1.08
Sickness and maternity social insurance (tsceesi_s)	1400.9	1321.7	1.06	144.0	127.9	1.13
Self-employed social insurance contributions (ils_sicse)	250.0	n.a.	n.a.	762.1	899.5*	0.85
Pensions (tscsepi_s)	208.9	61.2	3.41	594.3	117.4	5.06
Compulsory health insurance (tscehl_s)	250.0	n.a.	n.a.	167.8	782.1	0.21

Sources: SODRA; * - State Patient's Fund.

In year 2008 (see Table 46), the accuracy of simulated total revenues remains similar to the figures of 2007. The more noticeable change is that there is a larger over-simulation of employers' contributions for employment injuries and occupational diseases (ratio = 1.22). However, total revenue collected within this category is relatively small. Therefore, the overall simulation accuracy of employers' contributions remains high (ratio=1.09 for *ils_sicer*). The total revenue on contributions of self-employed has the best match to the external statistics (ratio = 0.91) if compared to 2005-2007 simulations. Nevertheless, this is rather an accidental match, given that the number of contributing self-employed people remains highly over-estimated. In addition to this, we over-simulate pension contributions (i.e. ratio = 5.69) and under-simulate compulsory health insurance (ratio = 0.22).



Table 46. EUROMOD validation: social contributions, 2008

	Contributors (thousand)			Revenue (mln.LTL)		
	EUROMOD database	External source	Ratio	EUROMOD database	External source	Ratio
Employers' social insurance contributions (ils_sicer)	1400.9	1330.2	1.05	10840.1	9912.5	1.09
Pension (tscerpi_s)	1400.9	1330.2	1.05	8286.4	7609.9	1.09
Sickness and maternity (tscersi_s)	1400.9	1330.2	1.05	1007.6	888.3	1.13
Unemployment (tscerui_s)	1400.9	1330.2	1.05	330.1	303.1	1.09
Health (tscerhl_s)	1400.9	1330.2	1.05	1042.3	918.9	1.13
Employment injuries and occupational diseases (tscerac_s)	1400.9	1330.2	1.05	104.2	85.2	1.22
Payments to the guarantee fund (tscersf_s)	1400.9	n.a.	n.a.	69.5	n.a.	n.a.
Employees social insurance contribution (ils_sicee)	1400.9	1330.2	1.05	1042.3	950.8	1.10
Pension social insurance (tsceepi_s)	1400.9	1330.2	1.05	868.6	797.7	1.09
Sickness and maternity social insurance (tsceesi_s)	1400.9	1330.2	1.05	173.7	153.1	1.13
Self-employed social insurance contributions (ils_sicse)	250.0	58.2	4.30	965.5	1057.3*	0.91
Pensions (tscsepi_s)	208.9	58.2	3.59	757.9	133.1	5.69
Compulsory health insurance (tscehl_s)	250.0	n.a.	n.a.	207.6	924.2	0.22

Sources: SODRA; * - State Patient's Fund.

4.1.5 Simulated social benefits

- *Birth grant*

As the number of newborn children remains stable in the EUROMOD database (see Table 47), while the actual number of children has increased during the discussed period (see Figure 2), we observe reducing ratios for both the number of recipients and total revenues since 2005 to 2008. However, simulation of child benefit in 2005, the base year with respect to the underlying micro-database, is very precise.



Table 47. EUROMOD validation: birth grant, 2005-2008

Birth grant (bchba_s)	Recipients (thousand)			Expenditure (mln., LTL)		
	EUROMOD database	External source	Ratio	EUROMOD database	External source	Ratio
2005	30.15	29.50	1.02	30.95	28.50	1.09
2006	30.15	29.80	1.01	30.95	29.80	1.04
2007	30.15	30.13	1.00	32.18	31.11	1.03
2008	30.15	34.70	0.87	32.18	36.08	0.89

Sources: Ministry of Social Security and Labour

This is partially due to reliable estimates of the birth grant recipients (newborns) in the underlying National SILC data in comparison to the external statistics, as shown in Table 48. In this table, we report how the EUROMOD simulated benefit compares to the birth grant variable, which is included in the National SILC. In addition to this, we check how National SILC variable matches external statistics data. Such comparison enables us to find to what extent potential biases in EUROMOD simulations are due to inaccuracies embedded in the primary micro-data source – the National SILC. The National SILC only slightly over-estimates the number of birth grant recipients and the total value of the birth grant expenditures. The EUROMOD simulated birth grant relies on the demographic observations of the National SILC. This implies that the slight over-estimation of simulated birth grant observed in 2005 (Table 47) is mainly due to the underlying slight over-estimation in demographics concerning this age cohort. The slight over-estimation in expenditures is partially due to the number of recipients, and partially to the potential of various non-take up issues, such as for example a delay in take-up of the benefit.

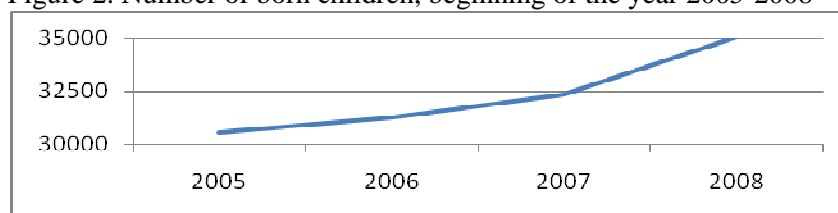
Table 48. EUROMOD validation: birth grant in National SILC & external sources, 2005

Recipients (thousand)			Recipients (thousand)			Expenditure (mln., LTL)			Expenditure (mln., LTL)		
EURO- MOD	Nat. SILC	Ratio	Nat. SILC	External Source	Ratio	EURO- MOD	Nat. SILC	Ratio	Nat. SILC	External Source	Ratio
30.15	30.15	1.00	30.15	29.50	1.02	30.95	30.90	1.00	30.90	28.50	1.08

Sources: National SILC data, Ministry of Social Security and Labour

Note:

Figure 2. Number of born children, beginning of the year 2005-2008



Sources: Statistics Lithuania

- *Child benefit*

The EUROMOD simulated variable *bch00_s* reports total family receipts of child benefits. As shown in Table 49, the simulation of this benefit matches external statistics really well, both in terms of (family) recipients and total expenses. The higher degree of bias is only observed in 2008 for the number of recipient families. Unfortunately, the number of family recipients is not



available in 2005.³⁰ For this year, we have separately calculated the number of simulated beneficiary children and matched it with the number of beneficiary children, as indicated in the external statistics. The obtained ratio (= 1.13) points to a small over-simulation of beneficiary children.

Table 49. EUROMOD validation: child benefit, 2005-2008

Child benefit (bch00_s)	Recipients (thousand)			Expenditure (mln., LTL)		
	EUROMOD database	External source	Ratio	EUROMOD database	External source	Ratio
2005*	360.74	323.30	1.12	273.95	260.80	1.05
2005	203.86	n.a.	n.a.	273.95	260.80	1.05
2006	203.86	194.70	1.05	273.95	254.50	1.08
2007	236.03	217.90	1.08	317.12	286.10	1.11
2008	477.45	359.60	1.33	537.47	481.90	1.12

Note: (*) – refers to the number of beneficiary children; other recipients = family units.

Source: Ministry of Social Security and Labour (via Statistics Lithuania)

Larger deviations in the number of beneficiaries in 2008 could occur due to survey representation of students, as eligibility to child benefit if above age 17 is dependent on the study status. In addition to this, identification of studying *full-time* (a *pre-requisite for eligibility if above age 17*) is not available in the EUROMOD database. Therefore, the current EUROMOD assumption is that everybody observed in a qualifying educational level is a full-time student, should over-estimate the number of “truly” eligible students. As most of these students receive the smallest available benefit (0.4*MSL), the expenditure side of the over-estimation in the number of eligible students is not as much inflated.

In addition to the EUROMOD imposed technical aspect of simulation, the bias in observed and actual statistics could occur due to take-up issues. As those living in small families and above age 17 became eligible to receive a benefit as of 2008 only, long waiting times in the application process have been reported due to a sudden increase in the potential beneficiary population. This might have dampened take-up rates for the “newly” eligible children in 2008. No research on the timing and take-up rates of the child benefits exists yet.

Table 50 also shows how simulated, National SILC and administrative records on the child benefit receipts compare. The National SILC collects information on the child benefit, however this variable is pooled into a family benefits' category in the UDB version. Imputation into the EUROMOD base is not possible due to lack of sound information on potential disaggregation of the UDB category or beneficiary characteristics. However, the EUROMOD simulated benefit is a very close match to the National SILC variable with respect to a number of beneficiary families (ratio = 1.02). EUROMOD simulations lead to a higher benefit value than is reported in the National SILC, but still it is a rather close match (ratio = 1.12). In addition to this, we could see that National SILC included benefit value is slightly lower than those reported in the administrative statistics (ratio = 0.94). Conversely, EUROMOD simulated values slightly exceed the reported values (ratio = 1.05).

³⁰ Based on Statistics Lithuania information, the number of family recipients is only recorded on the national basis as of 2006 onwards (personal communication, 18.10.2010).



Table 50. EUROMOD validation: child benefit in National SILC and external sources, 2005

Recipients (thousand)			Recipients (thousand)			Expenditure (mln., LTL)			Expenditure (mln., LTL)		
EURO-MOD	Nat. SILC	Ratio	Nat. SILC	External Source	Ratio	EURO-MOD	Nat. SILC	Ratio	Nat. SILC	External Source	Ratio
203.9	200.2	1.02	200.2	-	-	274.0	244.0	1.12	244.00	260.8	0.94

Sources: National SILC data, Ministry of Social Security and Labour (via Statistics Lithuania)

- **Social benefit**

It is extremely difficult to simulate social assistance recipients and the receipt of social benefit, partially due to lack of information on wealth and lack of information on actual take-up rates, and partially due to changes in socio-economic status of the people (i.e. from unemployment to working). Given these major shortcomings for simulations, our estimate of social benefit recipients is either under-simulated (i.e. in 2005) or over-simulated (i.e. 2006-2008). The one attribute in simulated recipients' dynamics which is correct though is that the EUROMOD performed simulation reports the number of social benefit recipients to slightly reduce from 2006 to 2007. The same trend is observed in the real numbers. Nevertheless, in 2008 we see a 75% points increase in social benefit recipients based on EUROMOD, whereas actually the recipients' number remained at similar levels both in 2006 or 2007.

The EUROMOD simulated total expenditures on social benefit exceed the external statistics by 25% and increase further in 2006-2008. Given that the number of recipients is matching external statistics better than revenue (in 2006-2008), this implies that simulated revenue is boosted due to higher benefit levels than those actually observed. In general, it should be noted that the size of the average social benefit has increased in the period 2006-2008: when the number of social benefit recipients was rather stable in this period, the total expenditures almost doubled. A similar trend could be captured in the simulated benefit. The over-estimation in simulated benefit's level might occur due to the fact that some income categories are under-reported in EUROMOD database, which thus leads to the over-estimation of the calculated benefit's size. Another explanation might be related to the fact that the EUROMOD database disproportionately captures reportedly low income households, which in reality do have higher wealth or incomes rather than assigned in EUROMOD. No research unfortunately is offered externally to support this hypothesis.

Table 51. EUROMOD validation: social benefit, 2005-2008

Social benefit	Recipients (thousand)			Expenditure (mln., LTL)		
	EUROMOD database	External source	Ratio	EUROMOD database	External source	Ratio
2005	33.97	54.10	0.63	65.99	52.80	1.25
2006	47.87	37.80	1.27	110.91	43.80	2.53
2007	47.32	36.60	1.29	140.41	52.41	2.68
2008	65.52	37.30	1.76	249.44	78.93	3.16

Sources: Ministry of Social Security and Labour

Table 52 compares the EUROMOD simulated variable (*bsa00_s*) against the EUROMOD included social benefit variable (*bsa00*), which is obtained from the National SILC based on certain imputation rules. The correlation coefficient between actual National SILC and imputed social assistance benefit is equal to 98%, and could therefore be considered as representing the actual distribution of the social benefit as captured in this survey. The *bsa00* variable monetary



values change from year to year due to the application of up-rating factors, whereas the number of recipients remains stable. In addition to this comparison, Table 52 shows how well National SILC included social benefit values match the external statistics sources (i.e. the Ministry of Social Security and Labour administrative records).

In 2005, the EUROMOD simulated social assistance benefit captures half of the recipients that are included in the National SILC survey, whereas the latter one is relatively well aligned to the external statistics (ratio = 1.15). On the other hand, the National SILC included total value of social benefits indicates a vast over-representation of this benefit - three times more than actually observed. If compared to the EUROMOD simulated total value of the social benefit, one could note that it matches the external statistics better than the value embedded in the National SILC.

Table 52. EUROMOD validation: social benef, Nat. SILC & external sources (2005-2008)

	Recipients (thousand)					Expenditure (mln., LTL)				
	(1) EURO- MOD	(2) Nat. SILC	(3) Ext. Source	Ratio (1)/(2)	Ratio (2)/(3)	(4) EURO- MOD	(5) Nat. SILC	(6) Ext. Source	Ratio (4)/(5)	Ratio (5)/(6)
2005	33.97	62.18	54.10	0.55	1.15	65.99	152.08	52.80	0.43	2.88
2006	47.87	62.18	37.80	0.77	1.64	110.91	157.71	43.80	0.70	3.60
2007	47.32	62.18	36.60	0.76	1.70	140.41	160.75	52.41	0.87	3.07
2008	65.52	62.18	37.30	1.05	1.67	249.44	168.66	78.93	1.48	2.14

Sources: external source refers to the Ministry of Social Security and Labour; Nat. SILC information refers to the social assistance benefit that is imputed in the EUROMOD database based on the National SILC, UDB aggregate benefit on social exclusion benefits and knowledge of social benefit specific policy rules (i.e. year 2005). Changes in the National SILC values in 2006-2008 are due to EUROMOD imposed up-rating factors.

In 2006-2008, the numbers of EUROMOD simulated beneficiaries of social assistance get closer to the numbers reported in the National SILC. Nevertheless, this is mainly due to the fact that EUROMOD simulates an increase in the number of beneficiaries, whereas the survey reported number of beneficiaries remains constant. The simulated total expenditure in EUROMOD is below the values included in the National SILC in 2005-2007, but exceeds them by almost 50% in 2008 (i.e. ratio (4)/(5)). The latter year could be described as a predictor of a jump in social assistance benefits using EUROMOD, however, actual sources (either survey or administrative records) do not capture such a sudden increase. On the other hand, Table 52 reveals that the National SILC reported social benefit values are two to three times larger than those recorded in administrative sources in all analysed years. This reveals a big mismatch between survey and administrative data. In that respect EUROMOD simulation of the social benefit is rather equivalent to the National SILC information.

- ***Unemployment social insurance benefit***

The simulated unemployment social insurance benefit is over-estimated for all four analysis years in terms of the number of recipients. However, compared to administrative records, it is under-estimated in terms of the value of dispersed benefits. The occurred biases could be due to numerous reasons: lack of information on wage and employment history needed for benefit calculations; fast changing labour market conditions and therefore inaccurate estimation of unemployed persons during the survey time; difficulties in getting inference on registered unemployed or the reasons of unemployment in order to assign an unemployment benefit to people who themselves are as unemployed in the survey data. For example, as shown in Figure 3, the unemployment rate in Lithuania changed dramatically during 2005 to 2008, also



including sharp monthly versus annual changes. These changes are difficult to capture using static simulations, as EUROMOD.

Table 53. EUROMOD validation: unemployment social insurance benefit, 2005-2008

Unemployment social insurance benefit (bunct_s)	Recipients (thousand)			Expenditure (mln., LTL)		
	EUROMOD database	External source	Ratio	EUROMOD database	External source	Ratio
2005	26.98	15.43	1.75	41.81	58.4	0.72
2006	26.98	15.53	1.74	49.03	74.8	0.66
2007	26.98	18.04	1.50	57.25	98.6	0.58
2008	26.98	23.37	1.15	74.80	n.a.	n.a.

Notes: External source refers to the annual average number of recipients, which is a sum of daily registered recipients during the year divided by number of days in the year

Sources: Statistics Lithuania and Lithuanian Labour Exchange

The simulated unemployment benefit, on the other hand, is closely related to the observations in the National SILC (see Table 54) in all four years of analysis. This holds true both in terms of number of recipients (ratio = 0.94) and the number of total expenditure on the benefit (ratio = 0.98).

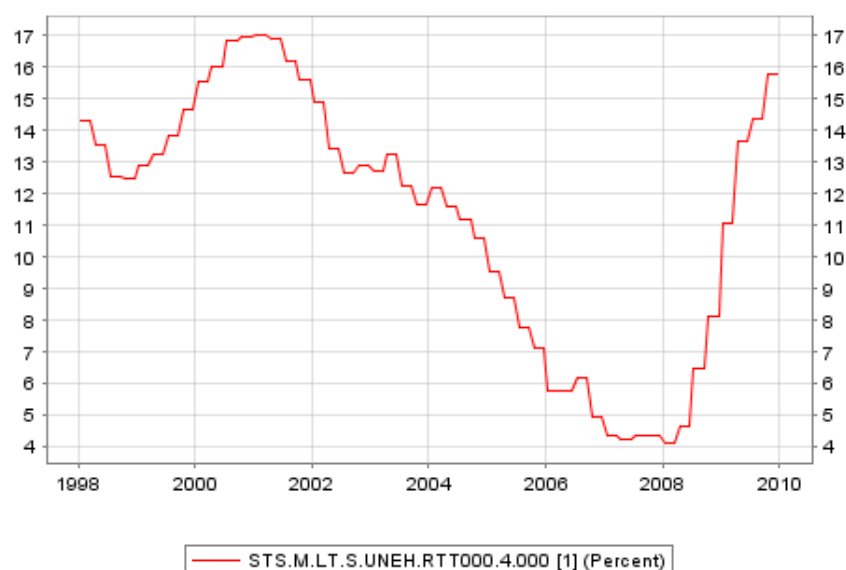
Table 54. EUROMOD validation: unemployment benefit, Nat. SILC & external sources, (2005-2008)

	Recipients (thousand)					Expenditure (mln., LTL)				
	(1) EURO- MOD	(2) Nat. SILC	(3) Ext. Source	Ratio (1)/(2)	Ratio (2)/(3)	(4) EURO- MOD	(5) Nat. SILC	(6) Ext. Source	Ratio (4)/(5)	Ratio (5)/(6)
2005	26.98	28.8	15.43	0.94	1.87	41.81	42.56	58.4	0.98	0.73
2006	26.98	28.8	15.53	0.94	1.85	49.03	53.75	74.8	0.91	0.72
2007	26.98	28.8	18.04	0.94	1.60	57.25	65.57	98.6	0.87	0.67
2008	26.98	28.8	23.37	0.94	1.23	74.80	77.55	n.a.	0.96	n.a.

Sources: external source refers to the Ministry of Social Security and Labour; Nat. SILC information refers to the unemployment benefit that is imputed in the EUROMOD database based on the National SILC, UDB aggregate unemployment benefit (and its composition) information and knowledge of unemployment benefit specific policy rules (i.e. year 2005). Changes in the National SILC values in 2006-2008 are due to EUROMOD imposed up-rating factors.



Figure 3. Standardised unemployment rate (as % of total labour force)



Source: European Central Bank - Statistical Data Warehouse

- **Maternity leave benefit**

Table 55 reveals that EUROMOD achieves quite an accurate simulation of maternity leave benefit in 2005 and 2006 with respect to number of beneficiaries (ratios <1.1). The total value of expenses could not be matched against administrative records due to lack of information in 2005. In 2006, the simulated total expenses exceed the observed expenses by 13% - a rather close estimate too. The under-estimation both in terms of number of recipients and total expenditures, however, occurs in 2007-2008. A note should also be made that definition of recipients in the external statistics refers to the number of cases, whereas EUROMOD reports the number of family recipients. Due to the nature of the benefit, we expect these definitions to be quite well matched.³¹

Table 55. EUROMOD validation: maternity leave benefit, 2005-2008

Maternity leave benefit (bmaprct_s)	Recipients			Expenditure (mln., LTL)		
	EUROMOD database	External source	Ratio	EUROMOD database	External source	Ratio
2005	22.73	20.78	1.09	96.11	n.a.	n.a.
2006	22.73	20.81	1.09	112.65	99.3	1.13
2007	22.73	25.70	0.88	135.74	140.2	0.97
2008	22.73	27.03	0.84	171.59	217.1	0.79

Note: The external statistics reports the caseload. EUROMOD database refers to recipient families.

Sources: Statistics Lithuania and *SoDra*

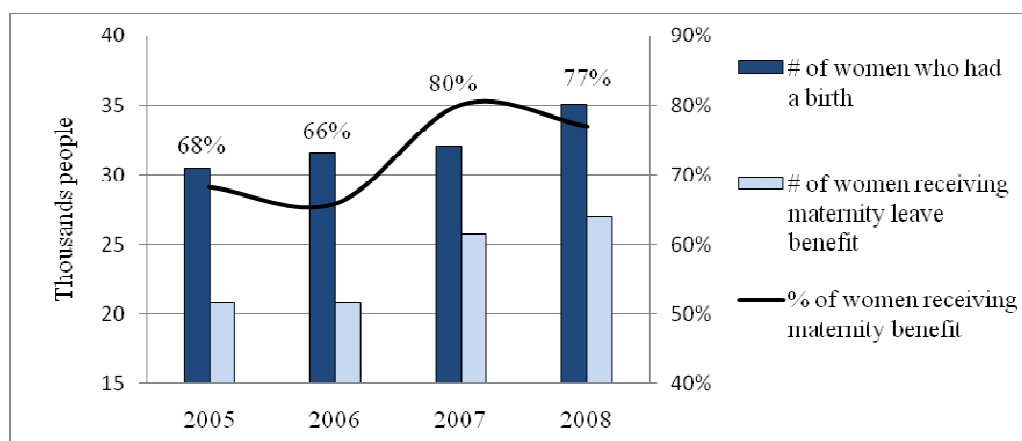
The under-estimation of number of recipients towards 2008 occurs mainly due to improving labour market conditions over the years 2005-2007 (see Figure 3, as discussed previously), when the maternity insurance records are obtained, and an increasing number of babies born during the analysed years (see Figure 4). Figure 4 shows that the decreasing ratio of simulated

³¹ A caution note though should be made that differences in definitions could possibly imply that administrative procedures with respect to the caseload management (opening, managing, closing, renewing cases, etc.) are able to induce potential biases in comparison to the number of family recipients.



and reported number of recipients is highly responsible to demographic and labour market changes. In 2005, the base year of simulations, there were around 30,000 babies born, and around 68% of mothers with newborn children were eligible to receive maternity leave benefit. In 2008, more babies were born and more mothers (77%) were eligible to receive this (employment status related) benefit compared to 2005.

Figure 4. Maternity leave recipients, 2005-2008



Source: SODRA (*Valstybinis socialinis draudimas: statistiniai duomenys 2008 m.*)

The National SILC contains information on maternity leave benefit, however this variable cannot be imputed in the EUROMOD database due to lack of information for disaggregating a UDB composite family benefit variable *bfa*. We check how the National SILC survey information compares against EUROMOD simulations and external sources in Table 56.

Table 56. EUROMOD validation: maternity leave benefit, Nat. SILC & external source (2005)

Recipients (thousand)			Recipients (thousand)			Expenditure (mln., LTL)			Expenditure (mln., LTL)		
EURO-MOD	Nat. SILC	Ratio	Nat. SILC	External Source	Ratio	EURO-MOD	Nat. SILC	Ratio	Nat. SILC	External Source	Ratio
22.73	18.14	1.25	18.14	20.78	0.87	96.1	59.4	1.62	59.4	n.a.	n.a.

Note: The external statistics reports the caseload.

Sources: Statistics Lithuania, *SoDra* & National SILC data

The National SILC recorded maternity benefit recipients' number is around 13% lower compared to administrative records. The survey included amounts could not be compared against external sources due to lack of information in administrative statistics in 2005. The EUROMOD simulated number of beneficiaries is higher than the National SILC observed numbers and better matching the external statistics. The simulated total amount significantly exceeds the National SILC reported maternity benefit amount (ratio = 1.62). Unfortunately, we cannot validate which total value is closer to administrative records in 2005 due to lack of administrative estimates.



- *Paternity leave benefit*

As paternity leave benefit has been introduced as of 1st July 2006, we only simulate this policy in 2007. However, for information purposes, we also present administrative statistics for the first year of the policy introduction too (2006).

Table 57 shows that we largely over-estimate the number of recipients and total expenditure on this benefit in both 2007 and 2008. This is possibly due to take up rates. As we observe in Table 57, despite further extension in eligibility, the number of benefit claimants has increased significantly since the introduction of the benefit. The EUROMOD assumption is that the benefit has a 100% take-up rate. However, based on SoDra estimates, in the first year of the benefit introduction 49% of eligible parents used their right to take the parental leave time.³² In the first quarter of 2007, the take-up rate increased to 59%. No other estimates on parental leave take-up rates yet exist. Other reasons for the observed bias could be related to changes in employment market and self selection of actual recipients (i.e. only those in more flexible work conditions or certain occupational sectors tend to use this right to the benefit).

Table 57. EUROMOD validation: paternity leave benefit, 2005-2008

Paternity leave benefit (bplct_s)	Recipients			Expenditure (mln., LTL)		
	EUROMOD database	External source	Ratio	EUROMOD database	External source	Ratio
2005	-	-	-	-	-	-
2006	-	3.09	-	-	5.5	-
2007	22.94	9.19	2.50	58.99	19.2	3.07
2008	22.94	12.30	1.87	71.11	31.8	2.24

Sources: Statistics Lithuania and *SoDra*

- *Pregnancy grant*

The simulated pregnancy grant closely reflects the actual benefit dispersion in 2005-2007. Nevertheless, we observe an increase in the weight of the simulated pregnancy grant, whereas administrative statistics points to the reducing influence of the benefit. This is mainly related to the changes in the labour market. More women have become employed during the years of 2005-2008 (as shown in Figure 3), however, these changes are not reflected in the EUROMOD data. Therefore, our simulated pregnancy grant tends to over-estimate the pregnancy grant receipts towards 2008. This goes in line with the observed significant under-estimation of maternity leave benefit by 2008.

Table 58. EUROMOD validation: pregnancy grant, 2005-2008

Pregnancy grant (bmaprnc_s)	Recipients			Expenditure (mln., LTL)		
	EUROMOD database	External source	Ratio	EUROMOD database	External source	Ratio
2005	7.42	8.15	0.91	1.85	2.0	0.93
2006	7.42	7.48	0.99	1.85	1.9	0.97
2007	7.42	6.67	1.11	1.93	1.7	1.14
2008	7.42	5.66	1.31	1.93	1.5	1.29

Source: Statistics Lithuania

³² SoDra news release http://www.sodra.lt/index.php?cid=182&new_id=707



Table 59 shows the match of pregnancy grant in the simulations, National SILC and external sources. National SILC reports slightly lower number of recipients and total expenditure compared to administrative statistics. EUROMOD simulations are very close and just below the National SILC records (ratio = 0.98 for both recipients and expenditure).

Table 59. EUROMOD validation: pregnancy grant in Nat. Silc & external sources, 2005

Recipients (thousand)			Recipients (thousand)			Expenditure (mln., LTL)			Expenditure (mln., LTL)		
EURO-MOD	Nat. SILC	Ratio	Nat. SILC	External Source	Ratio	EURO-MOD	Nat. SILC	Ratio	Nat. SILC	External Source	Ratio
7.42	7.54	0.98	7.54	8.15	0.93	1.85	1.88	0.98	1.88	2.0	0.94

Sources: Statistics Lithuania & National SILC data

- **Maternity (paternity) leave benefit**

Table 60 reveals quite a large over-estimation of maternity (paternity) leave recipients: 1.84 <=ratio, <=1.70 in 2005-2007. In 2008, following a change in maternity (paternity) leave eligibility rules, we observe the doubling number of recipients. However, then the number of simulated and observed recipients becomes much more aligned (ratio = 1.08). Among those receiving benefit in 2008, according to SoDra, 20,000 parents received maternity leave benefit for children up to 1 year age, and 17,000 parents for children up to age 2. In previous years, parents were eligible to receive maternity (paternity) leave benefit until a child turns 1 year old.

Table 60. EUROMOD validation: maternity (paternity) leave benefit, 2005-2008

Maternity (paternity) leave benefit (bmact_s)	Recipients			Expenditure (mln., LTL)		
	EUROMOD database	External source	Ratio	EUROMOD database	External source	Ratio
2005	28.74	15.58	1.84	165.19	135.70	1.22
2006	28.74	16.51	1.74	193.58	164.20	1.18
2007	28.74	16.91	1.70	285.18	277.70	1.03
2008	40.44	37.49	1.08	692.78	772.00	0.90

Note: The external statistics reports the average monthly number of recipients

Sources: Statistics Lithuania and SoDra

Generally, the total expenditure of the benefit is over-estimated, however, to a much smaller extent than for the number of recipients. Furthermore, we observe a small under-estimation in the total expenditure in 2008. This could be due to higher employment rates in 2008 than those observed in 2005. The simulated amounts for 2007 are the closest to the actual records (ratio = 1.03).

Based on SoDra information, few fathers are using the right to take a maternity (paternity) leave benefit. In 2008, around 4.35% of all benefit recipients were men. In 2007, when the benefit payment was restricted to children under age 1, 2.8% of benefit recipients were men. The underlying EUROMOD assumption, however, is that all recipients are women. This could have some (potentially small) bias with respect to the simulated amounts. For example, knowing that some actual parent recipients are fathers, it is also likely that higher earnings (and pressure to keep the career un-intervened) within those families are obtained by women (on average, women earn less than men in Lithuania). As EUROMOD assigns the benefit based on the women's earnings in all cases it is possible that some over-estimation of benefit amounts is due



to selection bias with respect to the earnings, when a man rather than a woman chooses to take the maternity (paternity) leave benefit.

Table 61 shows the alignment of maternity (paternity) benefit in the EUROMOD simulations, National SILC and external sources. National SILC, just as EUROMOD simulated numbers, report a much higher number of beneficiaries than compared to the administrative records. Actually, with respect to the number of recipients, the EUROMOD and National SILC estimates are almost the same (ratio = 1.01). The difference in estimates occurs concerning benefit amounts. The total expenditure on the benefit is around a quarter smaller than the amount estimated in the EUROMOD (ratio = 1.24). Here, the National SILC estimate on total expenses is well matching the external statistics source (ratio = 0.98). The latter observation infers that the income list for the benefit calculation is higher in EUROMOD simulations rather than in the real life. No structural reasons for the underlying differences could though be established.

Table 61. EUROMOD validation: maternity (paternity) leave benefit in National SILC and external sources, 2005

Recipients (thousand)			Recipients (thousand)			Expenditure (mln., LTL)			Expenditure (mln., LTL)		
EURO-MOD	Nat. SILC	Ratio	Nat. SILC	External Source	Ratio	EURO-MOD	Nat. SILC	Ratio	Nat. SILC	External Source	Ratio
28.74	28.33	1.01	28.33	15.58	1.82	165.19	133.00	1.24	133.00	135.70	0.98

Sources: National SILC data, Statistics Lithuania and *SoDra*

4.2 Income distribution

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

Furthermore, in 2005, before the introduction of the National SILC data, Statistics Lithuania has also used a different equivalence and poverty line (50% of mean equivalent household consumption expenditure).³³ Poverty rate calculations have been done using the Household Budget Survey. We reconstruct this equivalence scale and poverty line for comparison with the EUROMOD simulated household disposable income in 2005. The weights in the 2005 LT equivalence scale are: first adult = 1; additional people aged 14+ = 0.7; additional people aged under 14 = 0.5. The difference in EUROMOD simulated amounts and this external statistics source would capture differences due to use of two underlying survey sources: the National SILC and Household budget survey.

4.2.1 Poverty

Table 62 presents poverty estimates using EUROMOD simulated disposable income and poverty estimates obtained from external sources. Calculation of LT equivalence scale and poverty estimate at 50% of mean equivalent income reveals higher poverty estimates reported by EUROMOD than in the Household budget survey. This could refer to differences in “income” definitions, as the external source quotes poverty estimate which is calculated on the consumption expenditure data. The total poverty rate is around 15% higher in EUROMOD. In

³³ Living Standard and Poverty: 2005. http://www.stat.gov.lt/lt/catalog/pages_list/?id=1580



addition to this, EUROMOD estimates around 1.2 percentage points difference in women and men poverty rates, whereas household budget survey estimates report a much lower difference between genders. This table also shows that despite a different use of equivalence scales and the poverty threshold, the poverty estimates using EUROMOD point to around 20% of population in Lithuania being at risk of poverty. Based on Household budget survey, the estimate of at risk of poverty population would be closer to 17%.

The EUROMOD obtained poverty estimates are very close to those announced by Eurostat and based on the disposable incomes as reported in the EU-SILC survey. We slightly under-estimate poverty estimates, as shown in the table below, however, the deviation is very small: two to three percentage points.

Table 62. EUROMOD validation: poverty rates at different poverty lines, 2005

Percentage of individuals below:	EUROMOD	External source	Ratio
50% of mean equivalent income, LT equivalence scale:	19.46	16.9*	1.15
Males	18.83	16.8*	1.12
Females	20.01	16.4*	1.22
60% of median equivalent income, the modified OECD equivalence scale:	19.95	20.5*	0.97
Males	19.22	20.0	0.96
Females	20.59	21.0	0.98

Sources: Eurostat and Statistics Lithuania (*)³⁴

EUROMOD total at-risk of poverty estimates in 2006-2008 are well matched with external statistics. The estimates slightly over-estimate the SILC survey estimates, but the difference is below 10%. The divergence in trends could be observed though. If Eurostat reports decrease in the total and gender based poverty rates in 2007, the EUROMOD simulations refer to a steady, even though small, increase in all poverty estimates. In addition to this, the EUROMOD simulation refers to around 19.5% at risk of poverty rate among men in 2007. According to Eurostat, the men poverty rate was expected to be at around 17%. In general, one could note that biases in total poverty estimates are due to biases in men's rather than women's poverty rates. The latter ones refer to almost the same estimates as reported by Eurostat.

Table 63. EUROMOD validation: poverty rates at 60% of median equivalent income, 2006-2008

Percentage of individuals below:	2006			2007			2008		
	EURO-MOD	Ext. source	Ratio	EURO-MOD	Ext. source	Ratio	EURO-MOD	Ext. source	Ratio
60% of median equivalent income	20.13	20.0*	1.01	20.47	19.1*	1.07	21.10	20.0*	1.06
Males	19.37	19.0	1.02	19.48	17.0	1.15	19.49	18.0	1.08
Females	20.79	21.0	0.99	21.33	21.0	1.02	22.10	22.0	1.00

Sources: Eurostat and Statistics Lithuania (*)

Table 64 presents disaggregation of at-risk of poverty rates by the age groups in 2005. Here, we observe more distinct differences between EUROMOD simulated and Eurostat reported poverty rates. Two age groups stand out with respect to differences in obtained estimates. The EUROMOD simulates much lower at-risk-of-poverty rate for young people, aged 18.24 (ratio =

³⁴ If available, Statistics Lithuania rather than Eurostat figures are used due to reported decimal precision in the rates.



0.79). At the same time, EUROMOD estimate on the elderly poverty is significantly higher than those reported by Eurostat (ratio = 1.11). Other estimates are within the 10% difference from the Eurostat reported rates.

Table 64. EUROMOD validation: poverty rates by age groups, 2005

Percentage of individuals below:	EUROMOD	External source	Ratio
Population			
0-17	25.3	27.2	0.93
18-24	16.5	20.9	0.79
25-49	17.8	19.0	0.94
50-64	17.9	17.9	1.00
65+	18.9	17.0	1.11

Source: Eurostat

The estimates by age groups for 2006-2008 reveal the EUROMOD capacity to capture actual income dynamics for different population groups (see Table 65).

Table 65. EUROMOD validation: poverty rates by age groups, 2006-2008

Percentage of individuals below:	2006			2007			2008		
	EURO -MOD	Ext. source	Ratio	EURO -MOD	Ext. source	Ratio	EURO -MOD	Ext. source	Ratio
Population									
0-17	26.1	25.1	1.03	26.2	22.1	1.19	25.29	22.8	1.11
18-24	16.5	17.5	0.98	17.2	15.5	1.13	17.50	17.8	0.98
25-49	17.8	17.6	1.01	18.0	14.9	1.21	17.73	14.7	1.21
50-64	17.9	18.3	0.99	18.0	17.2	1.03	19.04	20.4	0.93
65+	18.9	22.0	0.95	21.3	29.8	0.68	26.53	29.5	0.90

Source: Eurostat

First, the external statistics shows that at-risk-of-poverty rate among children, aged 0 to 17, levelled off to 25% in 2006 and to around 22% in 2007 and 2008. The EUROMOD simulations point to a slight increase in the child poverty rate in 2006 and 2007 (around 26%) and a small decrease in 2008 (around 25%). Due to these changes, the EUROMOD estimates for these age groups are higher by more than 10% in 2007 and 2008.

Second, Eurostat also reports a drop in young people's (aged 18-24) poverty rates: from around 21% in 2005 to 16-18% in 2006-2008. EUROMOD estimates point to a small but steady increase in rates during this period. As a result, the actual drop in poverty rate in 2007 is not captured in EUROMOD simulated incomes, and the ratio between EUROMOD and Eurostat estimates increases to 1.13.

Third, the poverty rate of the working age population is still well captured in 2006. However, the sharp improvement in the incomes of this population group is not captured by EUROMOD. As a result, the poverty rate is around 20% higher in EUROMOD simulations than in Eurostat estimates both in 2007 and 2008.

Fourth, the population group, aged 50 to 64, has the best match of poverty rates between EUROMOD and Eurostat estimates. The ratios in 2006-2008 range from 0.93 in 2008 to 1.03 in 2007.

Fifth, Eurostat points to a sharp poverty rate increase among the elderly population in 2005-2008: from 17% in 2005 to almost 30% in 2008. This change is not well and immediately captured by EUROMOD: the sharper increase in poverty rate is only obtained in 2008. The



worst ratio is thereby reported in 2007. In this year, EUROMOD estimated poverty rate represents about 70% of the poverty rate, as reported by Eurostat.

4.2.2 Income inequality

Table 66 present selected inequality indices and income estimates. The choice of indices has been made on the basis of information availability in the external sources. This table shows that the Gini coefficient and income quintile ratios, as estimated by EUROMOD, are slightly lower than the Eurostat reported coefficients. Nevertheless, the difference is within the 10% range. The same holds true for the EUROMOD and Statistics Lithuania estimates on the mean equivalised (using the modified OECD equivalence scale) income. The higher incomes seem to be slightly more under-estimated than lower incomes, but still within the 10% difference from the Eurostat statistics. The only, and rather significant, over-estimation is observed for the median incomes: EUROMOD reports around 18% higher value than is presented by the Eurostat. When compared to mean income, one could observe a larger gap between mean and median income in Eurostat data rather than in EUROMOD simulations. This could refer that distribution of disposable income is more asymmetrical in the SILC survey data (i.e. Eurostat source) compared to the EUROMOD estimates.

Table 66. EUROMOD validation: income inequality, 2005

Percentage of individuals below:	EUROMOD	External source	Ratio
Gini Coefficient	0.34	0.36	0.94
Income quintile ratio (S80/S20)	6.30	6.90	0.91
Mean equivalised income per quintile:			
1	288.90	294.40*	0.98
2	510.10	529.90*	0.96
3	699.80	730.00*	0.96
4	942.40	997.70*	0.94
5	1703.20	1843.20*	0.92
Mean equivalised household income	828.80	879.00*	0.94
60% of median equivalised household income	698.30	591.70*	1.18

Sources: Eurostat (break in series in 2005) and Statistics Lithuania (*)

During the period of 2006-2008, the Gini coefficient, according to external statistics, had reduced from 0.35 to 0.34 (see Table 67). EUROMOD simulates an increase in the Gini coefficient from 0.34 in 2006 to 0.35 in 2007 and 2008. Nevertheless, the reported and simulated Gini coefficients' values are very similar ($0.97 < \text{ratio} < 1.03$).



Table 67. EUROMOD validation: income inequality, 2006-2008

Percentage of individuals below:	2006			2007			2008		
	EURO-MOD	Ext. source	Ratio	EURO-MOD	Ext. source	Ratio	EURO-MOD	Ext. source	Ratio
Gini Coefficient	0.34	0.35	0.97	0.35	0.34	1.03	0.35	0.34	1.03
Income quintile ratio (S80/S20)	6.4	6.3	1.02	6.7	5.9	1.14	6.6	5.9	1.08
Mean equivalised income per quintile:									
1	335.2	395.1*	0.85	407.0	496.0*	0.82	513.7	n.a.	n.a.
2	579.4	700.9*	0.83	711.9	874.0*	0.81	875.4	n.a.	n.a.
3	798.9	949.5*	0.84	993.9	1204.0*	0.83	1226.2	n.a.	n.a.
4	1087.7	1288.7*	0.84	1375.5	1611.0*	0.85	1718.0	n.a.	n.a.
5	1987.9	2329.2*	0.85	2544.0	2926.0*	0.87	3215.3	n.a.	n.a.
Mean equivalised household income	957.6	1133.0*	0.85	1206.4	1422.0*	0.85	1509.1	n.a.	n.a.
Median equivalised household income	796.0	728.3*	1.09	987.0	943.3*	1.05	1219.5	1200.0	1.01

Sources: Eurostat (break in series in 2005) and Statistics Lithuania (*)

External statistics reported income quintile ratios point to decreasing income inequality during the period of 2005 to 2008: from 6.9 in 2005 to 5.9 in 2008. Conversely, EUROMOD simulates an increasing trend in income quintile ratios: from 6.3 in 2005 to 6.7 in 2007 and 6.6 in 2008. As a result of these differences trends, the under-estimated ratio in 2005 (ratio = 0.91) is changing to over-estimation in 2006-2008. The largest over-estimation occurs in 2007 with comparative ratio reaching 1.14. The calculation of income quintile ratios shows that EUROMOD seem to sustain and slightly increase income inequality of 2005, whereas actual changes point to narrowing inequality between the lowest and the highest quintile.

Just as in 2005, the mean equivalised incomes remain under-estimated for all quintiles, and the degree of under-estimation enlarges. One could also observe that higher incomes (i.e. the fifth quintile) have a smaller under-estimation than the lower incomes (i.e. the first quintile) in 2007. The ratio of the fifth quintile mean income in 2007 is 0.87, when the ratio of the first quintile is 0.82. This could imply that the previously observed increase in the income quintile ratio (s80/s20) in 2007 is partially due to relatively higher representation of higher incomes than of lower incomes. In 2005, the situation is reversed. The ratio of the first quintile is 0.98, when the ratio of the fifth quintile is 0.92. This could imply that observed income quintile ratio (s80/s20) in 2005 to a small degree suppresses income inequality. Overall all income quintiles reveal an increase in their means during the period of 2005-2008. This points to population income growth in the analysed period. This growth is not fully captured by EUROMOD simulations.

The median equivalised income remains below the mean income in 2006-2008. Furthermore, the simulated median incomes are higher than the ones observed by Eurostat. This shows that the gap between median and mean income is smaller in EUROMOD simulations than in Eurostat reported EU-SILC survey calculations. With respect to income distribution, this implies potential larger income distribution asymmetry in SILC compared to EUROMOD micro-data. Potential reason for the occurring bias is equalizing effect of tax-benefit system, especially given that the current EUROMOD version assumes 100% take-up rates.



4.3 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. Therefore, analysis on the benefits/taxes/contributions to/by smaller population groups should be done with care.
- The default assumption in EUROMOD is a 100% take-up and (tax and contributions’) compliance rates.
- 2005 is the basis year for the selected data. In 2006-2008, included monetary variables are updated using category specific updating factors, whereas demographic and socio-economic status variables remain constant.
- The gross-earnings in EUROMOD are under-reported in comparison to external statistics (around 10-15 percentage points depending on the year).
- Direct taxes are either well aligned or slightly over-reported (in 2006). Given the under-reporting of gross earnings in EUROMOD and an assumption of 100% compliance rate in EUROMOD simulations, this potentially points to in reality lower than 100% tax payment compliance rates. Partially, over-reporting could be related to EUROMOD inability to capture tax allowances of diverse population subgroups (i.e. based on disability degree). Most of the tax deductibles cannot be captured within EUROMOD either.
- Social contributions, just like direct taxes, are over-reported, with the smallest bias observed in 2008.
- 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. Among the included aggregate benefit categories the largest one refers to the old-age benefits, which seem to be slightly over-reported (except 2008).
- A number of included benefits are under-reported: guardianship benefit, municipal and NGO support, early retirement pension.
- Benefit to children, such a birth grant and child benefit, are well in line with the external statistics. The only large deviation is observed in child benefit dispersion in 2008. The occurred larger bias in this year is partially related to lower data capacity to capture full-time studying status.
- Social benefit, a means tested benefit, is largely over-simulated in all analysed years. The higher number of simulated recipients might be due to under-reported gross earnings and some other major benefit categories. In addition to this, the available UDB micro-data has a poor capacity to simulate assets’ means testing. Somewhat surprisingly, we find similar over-reporting on social benefit expenses based on the National SILC dataset too.
- During the period 2005-2008, the employment situation has changed a lot: from the sharp decrease in 2005-2007, followed by the sharp increase during 2008 (due to the hit by the financial crisis already). Thereby, social insurance or other benefits (with eligibility depending on employment status) must be reviewed with additional care depending on the year of analysis.
- Overall, EUROMOD simulated disposable incomes refer to slightly more equitable income distribution than observed in the SILC reported disposable incomes.



5. REFERENCES

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ANNEX I: ADDITIONAL DESCRIPTION OF NON-SIMULATED BENEFITS

Compensations for heating of a dwelling, cold and hot water expenses, and sewage (*kompensacijos už būsto komunalines paslaugas*) are granted to families and single persons if: the value of family's or person's assets (AS) does not exceed the ratio of established property value (see details on the calculation of property value under section 2.3.7. "*Social benefit*"). Every family member older than 18 or a child should meet at least the same eligibility criteria as described for the receipt of the social benefit.

In addition to these two social benefit adequate conditions, three more requirements must be met:

1. heating expenses of the useful floor space, which is not larger than the established *notional size of the dwelling space* (see more details under *RE, the social benefit*), exceed the difference between the income of a family (single resident) and:
 - a. as of 30th June 2005-2006: 90% of the SSI by 25%;
 - b. as of 30th June 2007-2008: 100% of the SSI by 20%.
2. expenses of the used cold water and sewage, but not exceeding the established *ratio for cold water and sewage* (1.5 cubic meter for a family member), exceed 2% of the income of a family (single resident);
3. expenses on the used hot water, but not exceeding the established *ratio for hot water* (1.5 cubic meter for a family member), exceed 5% of the income of a family (single resident);

As of 2007 onwards, a one more means testing condition has been added, stating that people, who are indebted to the providers for the heating, hot or cold water costs, should have a binding legal contract, assuring a monthly return of the debt, which does not exceed more than 20% of the family or single person's incomes.

The granted compensation for housing heating, hot and cold water costs is equal to the part of expenses that exceeded the thresholds set under the relevant benefit means conditions:

1. Compensation for heating expenses:
 - a. Effective in 2005-2006 = $HE - (IL - 90\% * SSI * \text{number of people in family}) * 25\%$
 - b. Effective in 2007-2008 = $HE - (IL - 100\% * SSI * \text{number of people in family}) * 20\%$
2. Compensation of the used cold water and sewage (CWS) = $CWS - 2\% * IL$
3. Compensation of the used hot water (HW) = $HW - 5\% * IL$

An **old-age (*senatvės*)** monthly pension is paid if both following conditions are fulfilled:

1. he or she attains the old-age retirement age as specified by the *Pensions'* law (see Table 9);
2. he or she has the minimum insurance period specified for the old-age pension.

The minimum insurance period for the state social insurance old-age pension is 15 years. The obligatory period for the state social insurance old-age pension is 30 years. The 30 years obligatory period has been imposed on males as of 1st January 1999 and for females as of 1st January 2004.

A state social insurance pension consists of two parts: the basic part and the supplementary part. The basic part of a state social insurance pension (also called the *basic pension*) guarantees the minimum provision if main required conditions have been fulfilled. The basic pension cannot be less than 110% of MSL.



Specifically, the old-age pension is calculated according to the formula:

$P = B + S$, where:

- P is the old-age pension;
- B is the basic pension. Applicable basic pension amounts during the period of 2005-2008 are indicated in the Table 7.
- S is the supplementary pension part, which is calculated according to formula: $0.005 \times N \times K \times D$, and where:
 - N – the acquired period of state social pension insurance;
 - K – the coefficient of the person's insured income, which is calculated as the weighted average of annual coefficients based on the 25 most favourable insured calendar years.
 - D – the State insured income of the current year (CYI) as valid in the month for which the pension is paid and approved by the Government (see applicable rates in Table 6).

A person is entitled to receive an *early old-age pension* (or *early retirement pension*) up to 5 years before the regular retirement age with 30 years of insurance and after 1 year of unemployment. The early old-age pension is then calculated in accordance to formulas as described above, but reduced by 0.4% multiplied by the number of months until the regular retirement age.

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. The size of the contributions was initially set to 2.5% of the person's insured income in 2004 and gradually increased to 5.5% in 2008 (see more details in Table 9).

Work incapacity (*netekto darbingumo*) pension is assigned to a person, for whom a certain level of capacity for work is established. The pension varies according to the assessed degree of disability, as well as person's attained period of insurance. The *minimum* and *obligatory* insurance periods are defined based on person's age. The requirements for the *minimum* insurance period have changed during the period of 2005-2008:

30th June 2005:

- 1 year for a person under 26;
- 2 years – from 26 years,
- 3 years – from 29 years,
- 4 years – from 32 years,
- 5 years – from 35 years old.

30th June 2006-2008:

- 2 months for a person under 22 years old;
- 2 months + 2 months increase with each year (up to 3 years) - from 22 to 38 years old.
- 3 years + 6 months increase with each year (up to max. 15 years) – from 38 years old onwards.

Requirements for the *obligatory* insurance period (affective on June 30) did not change during the period of 2005-2008:

- 1 year for a person under age 24;
- 1 year + 4 months increase with each year – from 24 to 38 years old;
- 6 years+ 1 year (up to max. 15 years) – from 38 years old onwards.

The way that a disability pension is calculated did not change during the period of 2005-2008:



- for the persons who lost 75-100% of their capacity for work and have the obligatory insurance period, the basic part (B) of the work incapacity pension is equal to 1.5 basic pensions (as indicated in Table 7);
- for the persons who lost 60-70% of their capacity for work – B equals to one basic pension;
- the supplementary part of the work incapacity is calculated in the same manner as the supplementary part of the old-age pension;
- for the persons who have lost 45-55% of their capacity for work the pension is calculated in the same way as for the persons who have lost 60-70% of their capacity for work and then reduced by 50%.

The spouse and children of a deceased person are entitled to the state social insurance **survivor's or orphan's** (*našlių ir našlaičių*) pension if the deceased person had been entitled or received the state disability (work incapacity) pension or old-age pension.

Generally, the spouse who does not have any children with a deceased person qualify for a survivor's pension if from the marriage till the death of the spouse has passed not less than five years, as indicated in the 0. From the 1st January 2008, the duration is minimized to one year. The benefit is paid to a spouse who has reached old age or is disabled and if a spouse did not marry again. The spouse receives 20% of the insured person's pension (25% if widowed before widowed before 1st January 1995). The pension level has been linked to the insured person's pension during the period 2005-2006. Later on, the survivor pension has been changed to a lump-sum monthly amount, equal to 70 LTL.

Orphan's pension is paid to each orphan up to age 18 (age 24, if a full-time student), the age limit is not applicable if the orphan is disabled. Effective from 30th June 2005-2006, the pension is equal to 30% of the deceased person's pension. The total survivor and orphan pension must not exceed 80% of the deceased person's pension. Since 2007, orphan's pension is equal to 50% of the deceased person's pension. If more than one orphan qualifies for the pension, the size of a pension is equal for each child but the total must not exceed 100% of the deceased person's pension.

Main parameters of the survivor pension, 30th June 2005-2008

	2005	2006	2007	2008
Survivor (without children): minimum eligibility period from the marriage till the death of the spouse (years)	5	5	5	1
Survivor's pension monthly amount	20% of insured person's pension*	20% of insured person's pension*	70 LTL	70 LTL
Orphan's pension payment duration	up to age 18 (24, if a full time student)**	up to age 18 (24, if a full time student)**	up to age 18 (24, if a full time student)**	up to age 18 (24, if a full time student)**
Orphan's pension monthly amount	30% insured person's pension	30% insured person's pension	50% insured person's pension	50% insured person's pension
Max. survivor and orphan pension in relation to deceased person's pension	80%	80%	100%	100%

* 25% if widowed before 1st January 1995.

** The age limit does not apply if the person is disabled.



Sickness benefit (*ligos pašalpa*) is granted on the basis of *the Law on Sickness and Maternity Social Insurance* and is given to people who have a social insurance coverage for at least three months during the past 12 months *or* six months during the past 24 months at the time of the need. The benefit is given if five following reasons occur:

1. If an insured person cannot work because of illness or trauma (except of occupational accidents and diseases) – max 90 days.
2. If an insured person needs to nurse a sick family member (based on doctor's instruction) – max 120 days.
3. If an insured person is removed from the job due to the outbreak of infectious diseases or epidemics. The benefit is then paid for the entire duration of removal.
4. If an insured person undergoes a treatment at the health care institutions providing orthopaedic and/or prosthetic services. The benefit is then paid for the entire duration of treatment, including the period of travel to and from the health care institution.
5. If an insured person takes care of a child when the spread of infection has been introduced in child care institutions. The benefit is then paid for the entire duration of infection time.

On 30th June 2008, one more reason has been added to this list:

6. If an insured person is on maternity or child care leave until the child is 3 years old and is not able to take care of the child due to sickness or trauma – max 14 days.

The benefit is calculated on the basis of reimbursable income (RI). Maximum and minimum thresholds are applied:

- if the AMRI (see section 1.4.1 for more details) is lower than 25% of CYI (see Table 6), as applicable on the month when the right to benefits is granted, then the latter is used for benefit calculation.
- the ceiling for the AMRI is 3.5* of applicable CYI.

The benefit is paid by an employer for the first 2 calendar days of sickness. An employer pays at least 80% (but not more than 100%) of the employee's *average monthly wage*³⁵, which is calculated on the basis of the previous 3 salaries (inclusive of any received premiums). After the first two days, the Social Insurance Fund pays 85% of the employee's AMRI.

³⁵ Based on the Lithuanian Republic Government Resolution “*Dėl Darbuotojų ir Valstybės Tarnautojų Vidutinio Darbo Užmokesčio Apskaičiavimo Tvarkos Aprašo Patvirtinimo*” [27.05.2003].