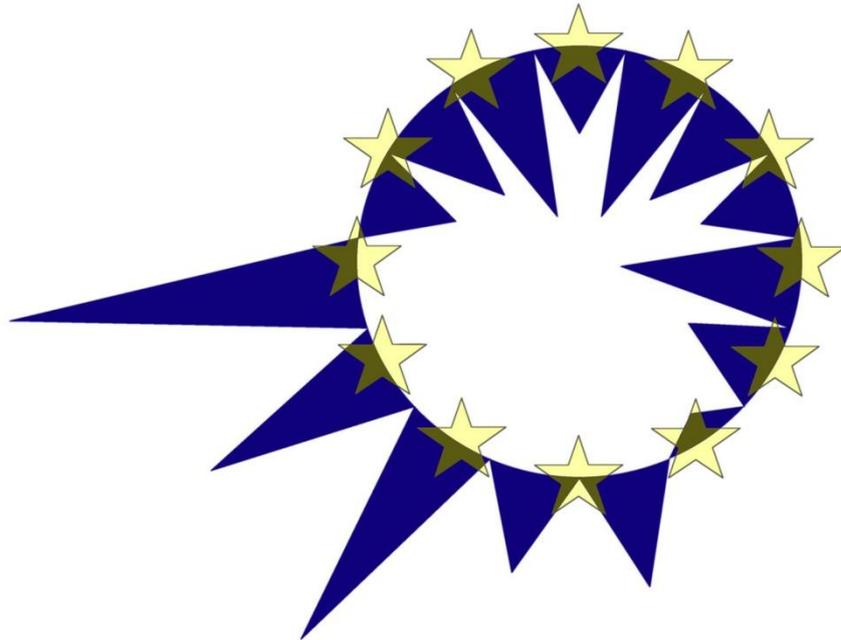


# **EUROMOD**

## **COUNTRY REPORT**



# **CZECH REPUBLIC (CZ)**

## **2007 – 2010**

**Daniel Münich and Jan Pavel**

**22/3/2012**

**EUROMOD version F6.0**



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

EUROMOD has been enlarged to cover 27 Member States and is updated to recent policy systems using data from the European Union Statistics on Income and Living Conditions (EU-SILC) as the input database, supported by DG-EMPL of the European Commission.

This report documents the work done in one annual update for 2007-2010. This work was carried out by the EUROMOD core developer team, based mainly in ISER at the University of Essex, in collaboration with a national team.

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The results presented in this report are derived using EUROMOD version F6.0 EUROMOD is continually being improved and the results presented here may not match those that would be obtained with later versions of EUROMOD.

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

This document is supported by the European Union Programme for Employment and Social Solidarity – PROGRESS (2007-2013).

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

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

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

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

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

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# 1. BASIC INFORMATION

## 1.1 Basic figures

### Basic figures

	Pop. (m.) <sup>[b]</sup> [A01]	pop. < 18 (%) [I01]	pop. ≥ 65 (%) [I01]	Life expect. Men / women (years) [I16/I17]	Fertility Rate [I10]	Unemp rate <sup>[c]</sup>	GDP per head (PPP in CZK) <sup>[c]</sup>	Currency Name	Exch. rate <sup>[a]</sup>
2005	10.2	18.6	14.1	72.9/79.1	1.282	7.9	17,058	CZK	30.030
2006	10.3	18.3	14.3	73.5/79.7	1.328	7.1	18,213	CZK	28.495
2007	10.3	18.0	14.5	73.7/79.9	1.438	5.3	19,949	CZK	28.715
2008	10.4	17.8	14.7	73.9/80.1	1.497	4.4	20,150	CZK	23.895
2009	10.5	17.7	14.9	74.2/80.1	1.492	6.7	19,266	CZK	25.890
2010	10.5	17.5	15.5	74.4/80.6	1.493	7.3	19,438	CZK	25.690
2011	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	CZK	24.345

[a] Euro exchange rate on 30th of June. Czech national Bank

[http://www.cnb.cz/cs/financni\\_trhy/devizovy\\_trh/kurzy\\_devizoveho\\_trhu/denni\\_kurz.jsp](http://www.cnb.cz/cs/financni_trhy/devizovy_trh/kurzy_devizoveho_trhu/denni_kurz.jsp)

[b] Source: Czech statistical office, Demographic yearbooks, Table A01, I01, I16 and I17

[http://www.czso.cz/csu/2011edicniplan.nsf/engpubl/4019-11-eng\\_r\\_2011](http://www.czso.cz/csu/2011edicniplan.nsf/engpubl/4019-11-eng_r_2011)

[c] Source: Czech statistical office, Macroeconomic indicators

[http://www.czso.cz/eng/redakce.nsf/i/macroeconomic\\_indicators/\\$File/AHLMAKRO.xls](http://www.czso.cz/eng/redakce.nsf/i/macroeconomic_indicators/$File/AHLMAKRO.xls)

### Tax-benefit system and government budget

	Total general government revenue <sup>[a]</sup> % of GDP	Total tax receipts <sup>[1]</sup> % of GDP	Total general government expenditure <sup>[c]</sup> % of GDP	Social protection <sup>[b]</sup> % of GDP
2006	41.1	36.7	43.7	18.7
2007	41.8	37.3	42.5	18.6
2008	40.2	35.6	42.9	18.7
2009	40.2	34.5	45.9	20.4
2010	39.3	33.8	44.1	n.a.
2011	n.a.	n.a.	n.a.	n.a.

Source: [a] Eurostat (2010) [http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search\\_database](http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database)

[a] Economy and finance / National accounts (including GDP) (t\_na) Government statistics (t\_gov) /

Annual government finance statistics (t\_gov\_a) / Total general government revenue (tec00021)

[aa] Economy and finance / Government statistics (gov) / Main national accounts tax aggregates

(gov\_a\_tax\_ag)

[b] Population and social conditions / Living conditions and welfare (livcon) / Social protection (spr) /

Expenditure: main results [spr\_exp\_sum]

[c] Economy and finance / National accounts (including GDP)/ Annual government finance statistics (gov\_a)/ Government revenue, expenditure and main aggregates (gov\_a\_main)/ UNIT: Percentage of GDP; SECTOR: General government; INDIC\_NA: Total general government expenditure [gov\_a\_main]

#### Social protection expenditure by function (as % of total social protection expenditure)

	Sickness/ health care	Disabili ty	Old age	Survivor s	Family/ children	Unempl oyment	Housin g	Social exclusion
2005	6.9	1.5	7.2	0.8	1.6	0.8	0.1	0.5
2006	7.0	1.5	7.6	0.8	1.5	0.7	0.1	0.5
2007	6.6	1.6	7.4	0.8	1.5	0.6	0.1	0.5
2008	6.4	1.5	7.6	0.8	1.8	0.7	0.0	0.2
2009	6.4	1.5	8.3	0.8	1.4	1.1	0.1	0.2
2010 <sup>1]</sup>	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a

Source: Eurostat (2010)

[http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search\\_database](http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database) Items: spr\_exp\_gdp  
Population and social conditions/ Living conditions and welfare (livcon)/ Social protection (spr)/

1] Data for 2010 not available at the moment of finishing this report.

#### Taxation and Contributions (as % of total tax & contributions receipts)<sup>2]</sup>

	Personal income tax [1111]	Corporate income tax [1112]	Social security contributions		Taxes on goods and services [114]	Other taxes
			Employees* [1211+1213]	Employers [1212]		
2005	13,3	13,5	16,4	23,8	30,3	2,7
2006	12,4	12,9	12,9	28,9	31,2	1,7
2007	12,2	13,4	12,8	27,9	30,9	2,8
2008	11,1	14,5	12,8	28,3	30,7	2,6
2009	10,9	10,9	13,5	28,9	33,4	2,4
2010	10,8	10,7	12,6	28,9	34,2	2,8

\* Includes self-employed

Source: OECD (2009),

1] Data for 2009 from domestic sources: MF ČR, Domovská stránka > Veřejné finance > Finanční statistika > Vládní finanční statistika > Veřejné rozpočty 2010 - TABULKA 2 – Příjmy, [http://www.mfcr.cz/cps/rde/xchg/mfcr/xsl/vlad\\_fin\\_stat\\_62902.html](http://www.mfcr.cz/cps/rde/xchg/mfcr/xsl/vlad_fin_stat_62902.html)

2] Computed as a share on Taxes [11]

Numbers in brackets [ ] refer to accounting items.

## 1.2 The tax-benefit system

Basic information about the tax-benefit system:

- The tax-benefit system is unified. There are no exceptions.
- The tax system can be generally changed in January each year. Main benefit changes happen at the same time, but may also be implemented in June.
- Until 1995, the statutory pension age was 60 for men and 57 for women with no children, 56 for women who had raised one child, 55 for women with two children, 54 for women with three or four children, and 53 for women with five or more children. The pension age has been increasing by two months for men and four months for

women for each year since 1996, and this will continue until the end of 2012. As at 2005, the pension age is 61 years and 8 months for men, 60 years and 4 months for childless women, 59 years and 4 months for women with 1 child, etc.

- Minimum school leaving age is 15; a dependent child is classified as a child that has not yet finished compulsory schooling and until 26 if he or she is training for future employment; or, alternatively, if the child cannot train for future employment because of injury, long-term illness or if the child is not able to work.
- The income tax system is an individual system; however (in 2005) married couples with at least one child all living in the same household may choose to fill out a joint tax return.
- The means-tested benefit system assesses entitlement according to benefit unit income. The benefit unit is the nuclear family - the couple (cohabiting or married) or single adult plus any dependent children.

In 2009, there was no change in the construction of tax and benefit system.

### 1.3 Social benefits

Social benefits can be broken down into the following categories:

#### 1.3.1 Social insurance benefits

**Unemployment benefit** is short term benefit, which is available for unemployed individuals actively searching for a job.

**Sickness benefits** create the sickness insurance system which is intended for people in remunerative work, for whom it provides security through financial sickness insurance benefits in cases of so-called short-term social events (temporary inability to work due to an illness, injury or quarantine, caring for a family member, pregnancy and maternity or caring for a child).

**Pension system** contains five types of pensions: old-age pensions, full invalidity pensions, part-invalidity pensions, widow or widower pensions, and orphan pensions.

**Disablement Benefit (*nemocenské dávky*)**: this benefit is paid for all days that a person is disabled, but not more than for one year (or at most two years if the person is disabled due to work injury). The amount of the benefit is calculated from the daily benefit base.

**Benefit for Treatment of a Family Member (*ošetřovné*)**: this benefit is for treatment of a family member for a person caring for an ill child under ten, or caring for a person over ten if required. The person undergoing treatment must live in the same household as the benefit recipient. The benefit is paid for at most nine days, or at most 16 days if the person caring for a child younger than 10 lives alone with the child in the household.

**Maternity and Pregnancy Benefit (*vyrovnávací příspěvek v těhotenství a v mateřství*)**: is paid to women working at a less well-paid position because of her pregnancy or maternity. The benefit is provided from the day she leaves a better-paid position until at most nine months after the birth of her child. The net benefit base is the same as that of disablement benefit for the period after two weeks of illness. The amount of the benefit is calculated as the difference between the net benefit base before and after moving to a less well-paid position.

**Maternity Allowance (*peněžitá pomoci v mateřství*)**: is available for women who give birth to children and who have paid health insurance for at least 270 days in the prior two years. Eligible entrepreneurs must have paid health insurance for at least 180 days in the last year before the

birth. The woman must not have a paid position and may not run her own business. The maternity allowance is paid for maximum of 28 weeks, or 37 weeks to a woman who has had more than one child or is single or a widow or does not live with a partner.

Social benefits are not simulated in Euromod because of lack of relevant data, the exception is unemployment benefit that can be partially simulated under a number of assumptions.

### 1.3.2 State social support

- Means-tested
  - **Child allowance:** is basic long-term benefit provided to families with dependent children.
  - **Social allowance:** aims to help families with low incomes to cover the costs of their children's needs.
  - **Housing benefit:** should help households to cover the costs of housing.
- Non-means tested
  - **Parental allowance:** aimed at parents who care in person and on a daily basis for a child up to four years old
  - **Foster care benefits:** for dependent children placed in foster care. The child continues to be entitled to this allowance even after reaching adulthood, up to a maximum of 26 years of age, provided that they remain a dependent child and live under the same roof as their former foster parent(s).
  - **Funeral grant:** is available to a person arranging a funeral.
  - **Birth grant:** is available to any mother who gives birth to one or more children.

### 1.3.3 Social assistance

**Social necessity benefits:** serve as a last resort. When a net household income including any state social support benefits is less than the family-level MLS, the household is entitled to social necessity benefit.

**Social care benefits** are one-off allowances usually paid to disabled people for specific purposes. For example, these benefits may include specific amounts for homecare services, spa services, increased cost of diabetic food, wheelchair purchase, increased cost for blind or otherwise disabled persons, for reconstruction of houses needed for disabled access, etc.

The system is organized around a key parameter — the so-called minimum living standard (MLS).

- *Scope and scale*

Social benefits: recipients [thousands]

Year	2005	2006	2007	2008	2009	2010
<b>Social Benefits</b>						
Pensions [Tab 4.8]	2 645	2 684	2 719	2 754	2 720	2 819
Sickness Benefits [13.1]	3 029	2 707	2 727	2 222	1 441	1 324
Passive employment policy benefits	638	610	559	578	824	n.a.
<b>State Social Support</b>						
Child Allowance [Tab 11.1./12]	1 805	1 760	1 670	888	682	529
Social Allowance [Tab 11.2/12]	330	297	241	166	147	148
Foster Care benefits	7	n.a.	n.a.	n.a.	n.a.	n.a.
Housing Benefit [Tab 11.2/12]	262	234	115	86	94	119
Commuting Benefit	-	-	-	-	-	-
Parental Allowance [Tab 11.2/12]	291	307	339	358	362	337
Birth [Tab 11.2]	102	106	114	119	119	117
Funeral Grant [Tab 11.2]	107	103	102	14	4	3.3
'Crayon' Allowance ('Pastelkovne')	-	65	57	2	-	-
<b>Social Assistance</b>						
Other Social Incomes [Tab14.3]	n.a.	n.a.	5	5	8	9
Regular Social Assistance Benefits [Tab14.1]	n.a.	169	72	66	72	90
Supplement for Housing [Tab14.2]	-	-	25	21	19	23
Contribution on social services [Tab14.4]	-	-	260	307	304	310

Notes: “-” policy did not exist in that year; n.a. information not available

Source: MPSV Yearbooks (Statistická ročenka z oblasti práce a sociálních věcí)

Regular Social Assistance Benefits – Příspěvek na živobytí

Supplement for Housing – Doplatek na bydlení

Other Social Incomes – Mimořádná okamžitá pomoc

Contribution on social services – Příspěvek na péči

Social benefits: amounts [million CZK]

Year	2005	2006	2007	2008	2009	2010
<b>Social Benefits</b>						
Pensions [Tab10.1]	243 648	261 464	282 876	305 536	331 705	337 800
Sickness Benefits [Tab10.1]	31 661	32 774	34 671	31 882	26 033	23 195
Passive employment policy benefits [Tab10.1]	7 013	7308	7 016	7 115	15 078	13 355
<b>State Social Support [Tab10.4]</b>						
Child Allowance	11 195	11 033	10 236	6 232	4 736	3 875
Social Allowance	4 779	4 418	4 607	3 174	2 962	3 117
Foster Care benefits	467	585	765	840	921	1 008
Housing Benefit	4 459	2 287	1 565	1 619	2 280	3 573
Commuting Benefit		-	-	-	-	
Parental Allowance	12 627	13 526	28 690	28 294	28 585	27 765
Birth and Funeral Grant	1 429	1591	2 606	1 718	1 695	1581
'Crayon' Allowance ('Pastelkovne')	-	64	57	2	-	-
<b>Social Assistance</b>						
Other Social Incomes [Tab 14.3]	4 714	6 266	170	146	249	333
Regular Social Assistance Benefits [14.1]	9 575	8 500	2 593	2 176	2 328	2 862
Supplement for Housing [Tab14.2]	-	-	524	473	512	686
Contribution on social services [Tab 14.4]	-	-	14 608	18 253	18 697	19 599

Notes: “-” policy did not exist in that year; n.a. information not available

Source: MPSV Yearbooks (Statistická ročenka z oblasti práce a socialních vecí)

Regular Social Assistance Benefits – Příspěvek na živobytí

Supplement for Housing – Doplatek na bydlení

Other Social Incomes – Mimořádná okamžitá pomoc

Contribution on social services – Příspěvek na péči

- *Not strictly benefits*

There are no benefits of this type in the Czech Republic.

## 1.4 Social contributions

The social contributions in the Czech Republic can be divided into two parts:

**Social insurance and state employment policy contributions** consist of pension insurance, contributions for the state employment policy and sickness insurance. The participation in this system is compulsory for all persons, who have income from work and business.

**Contribution for public health insurance** is administrated by special public bodies – health insurance companies. The participation in this system is compulsory for all persons. The contribution of persons, who cannot have income from work and business, is paid by the state budget.

In 2009, there was no change in the construction of social contributions.

- *Scope and scale*

#### Social contributions: contributors

	2005	2006	2007	2008	2009	2010
Employers (compulsory) <sup>[a]</sup>	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Employees (compulsory) <sup>[b]</sup>	4 085	4 162	4 287	4 250	4 021	4 120
Entrepreneurs (compulsory) <sup>[c]</sup>	911	904	918	938	673	735
Entrepreneurs (voluntary) <sup>[d]</sup>	241	222	211	169	141	151

Notes:

[a] Number of employers who pay social and/or health insurance contributions for their employees is not reported.

[b] The number of health and social insured employees is the same. Computed as number of insured minus self-employed entrepreneurs sickness insured. Úvodní strana » O ČSSZ » Informace » Statistiky » Statistika počtu klientů »

[c] For self-employed health insurance is mandatory, while social (including sickness and pension) insurance is not. Therefore, number of health uninsured self-employed is reported.

[d] Voluntary insured are those self-employed without parallel employment who opt for voluntary sickness insurance, because other insurances (health and social are voluntary) and self-employed with parallel employment are insured automatically. Úvodní strana » O ČSSZ » Informace » Statistiky » Statistika počtu klientů »

Source: CSSZ Yearbooks

#### Social contributions: amounts [mil. CZK]

	2005	2006	2007	2008	2009	2010
Employers (compulsory)	308418	329335	359493	375400	338 456	349 228
Employees (compulsory)	108317	116556	127661	133300	113 628	116 932
Entrepreneurs (compulsory)	63874	74545	85360	83960	38 406	35 335
Entrepreneurs (voluntary) <sup>[a]</sup>	883	900	902	840	840	n.a.

Notes:

Source: Ministry of Finance, [http://www.mfcr.cz/cps/rde/xchg/mfcr/xsl/vlad\\_fin\\_stat\\_62902.html](http://www.mfcr.cz/cps/rde/xchg/mfcr/xsl/vlad_fin_stat_62902.html)  
Domovská stránka > Veřejné finance > Finanční statistika > Vládní finanční statistika

Table 2: příjmy, 12 Sociální příspěvky

## 1.5 Taxes

The current Czech taxation system was introduced in 1992. While direct taxes include income tax and real estate tax, indirect taxation consists of value added tax (VAT), excise taxes, road tax, estate tax, beneficiary tax and the tax on the transfer of real estate.

**Income Tax (*daň z příjmu*)** is paid by corporations and individuals. The corporate income tax is 26% of gross profit. Personal income tax is paid by any person who has residence or lives in the Czech Republic for at least 183 days in a year. Taxable income includes all income earned in the Czech Republic and abroad. The tax base is divided into 5 partial tax bases. The income tax is paid from the net tax base which is the tax base minus social and health insurance contributions and other tax exemptions. The tax rate is progressive with the 4 tax brackets. Married couples with at least one child all living in the same household may choose to fill out a joint tax return.

**Real Estate Tax (*daň z nemovitosti*)** has two parts: Land tax and Building tax. The tax is paid by the owner of land or building but the rates are very low.

**Value Added Tax - VAT (*daň z přidané hodnoty*)** is levied on the supply of goods, real estate transfers, services provided in the Czech Republic and imported goods from outside the European Union (EU). A typical VAT taxpayer is an entrepreneur or a company with

headquarters or outlet in the Czech Republic if their turnover was higher than 1,000,000 CZK in the last 12 months or if they are registered as a voluntary taxpayer. VAT taxpayers may claim a return on the tax paid to other VAT taxpayers if the goods are used as inputs for production. The difference between VAT on sold goods and services and VAT on inputs is termed VAT tax duty. If the tax duty is negative, VAT taxpayers receive a refund. The standard VAT rate is 19% with a preferential rate of 5%. The latter is levied on groceries, non-alcoholic beverages, books, newspapers and magazines, medical goods, medical services, water distribution, services linked to student accommodation and social housing, public transport, cultural and sport services, and imports of artistic and collector's items.

**Excise Tax (*spotřební daň*)** is levied on mineral oil, alcohol, beer, wine, tobacco and tobacco goods. The tax is levied on goods made in or imported to the EU.

**Road Tax (*silniční daň*)** is paid by entrepreneurs for each vehicle used for business purposes and for all vehicles above 12 tons irrespective of use, except vehicles designated for agricultural purposes.

- *Scope and scale*

Taxes: taxpayers						
	2005	2006	2007	2008	2009	2010
<b>Direct taxes</b>						
Income tax (individuals) <sup>1]</sup>	2 034 434	2 246 839	2 348 299	1 739 241	1 794 182	2 043 116
Firms <sup>2]</sup>	290 003	303 401	324 628	342 610	365 714	462 340
Real estate tax <sup>3]</sup>	3 246 310					
Road tax <sup>4]</sup>	525 648	3 340 780	3 446 095	3 558 492	3 715 437	3 899 162
		531 697	513 087	513 064	478 026	828 378
<b>Indirect taxes</b>						
VAT	493 460	497 294	504 691	518 389	531 750	532 055
Excise tax	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Notes: "n.a." not available, "--" not applicable

1] Workers who work for one employer only are not submitting income statement because income tax is processed as a lump-sum for all employees by the employer. These individuals are not included

Source: Information on activities of the Czech tax authority for 2006-2010 [Výroční zpráva české daňové správy] <http://eds.mfcr.cz/cps/rde/xchg/cds/xsl/325.html?year=0>

Taxes: revenue (millions of CZK)						
	2005	2006	2007	2008	2009	2010
<b>Annual revenue (currency)</b>	1,162,803	1,223,393	1,359,388	1,450,503	1,383,940	
<b>Direct taxes</b>						
Individual Income Tax	142,431	136,783	151,461	143,315	127,547	131,267
Corporate Income Tax	144,821	141,773	166,417	187,621	127,144	129,596
Taxes on Property	13,074	13,491	15,538	15,510	14,395	16,351
Motor Vehicle Taxes	8,235	8,720	8,338	8,763	4,803	4,689
Social Security Contributions	416,139	441,933	488,407	513,374	509,715	517,475
<b>Indirect taxes</b>						
VAT	206,894	218,120	235,037	254,789	248,120	263,879
Excises	110,560	119,549	138,927	133,024	131,079	138,261

Notes:

Source: Governance Finance Statistics, State budget balance of revenues and expenditures

Státní závěrečný účet za rok 2009, [http://www.mfcr.cz/cps/rde/xchg/mfcr/xsl/statni\\_zav\\_ucet.html](http://www.mfcr.cz/cps/rde/xchg/mfcr/xsl/statni_zav_ucet.html)

and [http://www.mfcr.cz/cps/rde/xchg/mfcr/xsl/vlad\\_fin\\_stat.html](http://www.mfcr.cz/cps/rde/xchg/mfcr/xsl/vlad_fin_stat.html) MF ČR, Domovská stránka > Veřejné finance > Finanční statistika > Vládní finanční statistika > Veřejné rozpočty 2010 - TABULKA 2 – Příjmy

## 2. SIMULATION OF TAXES AND BENEFITS IN EUROMOD

### 2.1 Scope of simulation

Simulation of benefits in EUROMOD

	Variable name(s)	Treatment in Euromod				Why not fully simulated?
		2007	2008	2009	2010	
Sickness Benefits	Bhl	I	I	I	I	The amount of benefit depends on the previous income and length of sickness.
Passive employment policy benefits	Bun	PS	PS	PS	PS	The amount of benefit depends on the previous earning stream for some period of time, and on time spent in previous employment, and on length of past periods of unemployment.
Child Allowance	bch00_s	S	S	S	S	
Social Allowance	bchmt_s	S	S	S	S	
Foster Care benefits	bfafp	I	I	I	I	
Housing Benefit	bho_s	S	S	S	S	
Parental Allowance	bfapl_s	PS	PS	PS	PS	Eligibility taken from data
Regular Social Assistance Benefits	bsa00_s	S	S	S	S	
Supplement for Housing	bsaho_s	S	S	S	S	
Total social assistance	bsa_s	S	S	S	S	

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; “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.

Simulation of taxes and social contributions in EUROMOD

	Variable name(s)	Treatment in Euromod				Why not fully simulated?
		2007	2008	2009	2010	
Income tax	ils_tax	S	S	S	S	
Employees ssc	tscee_s	S	S	S	S	
Entrepreneurs ssc	tsce_s	S	S	S	S	

Notes: “-” policy did not exist in that year; “E” policy is *excluded* from the model’s scope as it is neither included in the microdata nor simulated by Euromod; “PS” policy is *partially simulated* as some of its relevant rules are not simulated; “S” policy is *simulated* although some minor or very specific rules may not be simulated.

## 2.2 Simulated policies and order of simulation

### 2.2.1 Simulated policies

#### Simulated policies in 2007

Section	Policy Description	Year			
		2007	2008	2009	2010
2.3	Sickness Benefits	X	X	X	X
2.3	Passive employment policy benefits	X	X	X	X
2.3	Child Allowance	X	X	X	X
2.3	Social Allowance	X	X	X	X
2.3	Housing benefit	X	X	X	X
2.3	Parental Allowance	X	X	X	X
2.3	Birth grant	X	X	X	X
2.3	Allowance for Living	X	X	X	X
2.3	Supplement for Housing	X	X	X	X
2.4	Employee social contributions	X	X	X	X
2.5	Income Tax	X	X	X	X
2.5	Child tax bonus	X	X	X	X

#### *Structural changes between 2007 and 2008*

Income tax reform:

- just one tax rate
- joint taxation of spouses was cancelled

#### *Structural changes between 2008 and 2009*

No changes.

#### *Structural changes between 2009 and 2010*

No changes.

### 2.2.2 Order of simulation

Employee and employer social and health contributions as well as income tax are simulated first as they are deductible from the income tax taxable income. Social benefits are simulated after income tax as they are tax exempt and, when means-tested, the income tests are based on net income. The order of simulate of benefits takes into account the “cumulative nature” of their income tests. The income test of Social Allowance and Housing Benefit are the same as the Child Allowance plus this benefit. As for Social Assistance, its income test is the same as the previous plus Social Allowance and Housing Benefit.

## EUROMOD Spine: order of simulation, 2007-2010

Policy	Description	Main output
ymw_cz	INC Minimum wage	ymw_s
cer_cz	SIC employer social and health insurance contributions	cer_s
cee_cz	SIC employee social and health insurance contributions	cee_s
cse_cz	SIC self employed social and health insurance contributions	cse_s
tin_cz	TAX income tax	tin_s
bun_cz	BEN unemployment benefit, partially simulated	bun_s
cot_cz	SIC State funded public health insurance contributions (students, pensioners, children, etc.)	cot_s
bfapl_cz	BEN parental allowance	bfapl_s
bch00_cz	BEN child allowance	bch00_s
bchmt_cz	BEN social allowance	bchmt_s
bchba_cz	BEN Birth grant	bchba_s
bho_cz	BEN housing benefit	bho_s
bsa_cz	BEN social assistance	bsa_s

### 2.3 Social benefits

Social benefits can be broken down into the following categories:

- Social insurance benefits
  - Unemployment benefits
  - Sickness benefits
  - Pensions
- State social support
  - Means-tested: child allowance, social allowance, housing benefit
  - Non-means tested: parental allowance, foster care benefit, funeral grants, birth grants
- Social assistance
  - Social necessity benefits
  - Social care benefits.

The system is organized around a key parameter — the so-called minimum living standard (MLS)<sup>1</sup>. This amount is calculated at the personal level, and is intended to reflect the cost of living. Most types of benefits are then defined as given percentages of the family-level MLS.

#### Minimum Living Standard (MLS)

The construction of MLS has one element. Amounts of MLS are different for single person, first adult in family, another adult in family and for children (three categories according to age).

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<sup>1</sup> If person in the family has the income from business as the main income, its contribution to the income for the purpose of testing eligibility for social benefits cannot be lower than 50 % of average wage in previous year. These amounts are: 2007 – 10,100 CZK; 2008 – 10,800 CZK, 2009 – 11 700 CZK, 2010 – 11 900 CZK.

## MLS (CZK)

• Single	3,126
• First person in household	2,880
• Second and other persons who are not a dependant child	2,600
• Dependant child aged	
○ under 6 years	1,600
○ 6 - 15 years	1,960
○ 15 - 26 years	2,250
• Subsistence Minimum (CZK)	2,020

### Changes in MLS – 2008

No changes.

### Changes in MLS – 2009

No changes.

### Changes in MLS – 2010

No changes.

## 2.3.1 Social Insurance

### 2.3.1.1 Unemployment Benefits

Unemployment benefits are available for individuals actively searching for a job who were employed for at least 12 months in the previous three years and who are not receiving an old-age pension, full invalidity pension or sickness benefits. The employment record required to be eligible for unemployment benefits includes the time taken preparing a partially disabled person for a job, military or civil service, custody of a child less than three years old or a disabled child up to the age of 18, custody of disabled person above 80 or partially disabled relatives above 80, and the time of receiving disablement benefit.

A person is entitled to unemployment benefit if he or she was employed for at least six months since the end of the previous unemployment spell. If a person was not receiving unemployment benefits for the whole six months because he or she found a job, he or she is eligible for another six months of unemployment benefit only if she worked for more than three months. If he or she worked less than three months, she continues to receive unemployment benefits up to six months. An unemployed person registered with the labour office may have monthly income from work up to half of the statutory minimum wage per month.<sup>2</sup>

The basis for calculating unemployment benefit includes income net of social insurance contributions and income tax, i.e. the average net monthly wage in the previous job, or the net profit from previous entrepreneurial activity. The amount of unemployment benefit is determined as 50% of the previous income in the first three months and 45% in the following three months of unemployment spell, but not more than 2.5 times the MLS of an adult one-member household. **This element is not simulated in EUROMOD.**

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<sup>2</sup> The monthly minimum wage was at 8,000 CZK in 2007.

The benefit entitlement is 3+6 months for persons aged between 50 and 55 and with at least 25 years of social insurance contributions and 3+9 months for those unemployed above 55 who have at least 30 years of social insurance contributions.

The maximum amount of unemployment benefit is 58% of the economy-wide average wage in the first three quarters of the preceding year, i.e. 11,722 CZK. The minimum amount is 12% of the average wage in the first three quarters of the preceding year.

- *Changes in 2008*

The maximum amount of unemployment benefit was increased to 58% of the economy-wide average wage in the first three quarters of the preceding year, i.e. 12,250 CZK. The minimum amount is 12% of the average wage in the first three quarters of the preceding year.

The amount of benefit is in the first 3 months equal 50% of the average net wage in the last employment, next months it is 45%.

The benefit entitlement for people less than 50 years is 6 months; from 50 to 55 years are 9 months and over 55 years, 12 months.

- *Changes in 2009*

The benefit entitlement for people less than 50 years is 5 months; from 50 to 55 years are 8 months and over 55 years, 11 months.

The amount of benefit is in the first 2 months equal 65% of the average net wage in the last employment, next 2 months it is 50% and for the remaining time it is 45%.

The maximum amount of unemployment benefit was increased to 58% of the economy-wide average wage in the first three quarters of the preceding year, i.e. 13,307 CZK. The minimum amount is 12% of the average wage in the first three quarters of the preceding year.

- *Changes in 2010*

The maximum amount of unemployment benefit is 58% of the economy-wide average wage in the first three quarters of the preceding year, i.e. 13,280 CZK.

### 2.3.2 **State Social Support**

All benefits provided through the state social support are not taxable and may be divided between means-tested and non-means-tested benefits. General net household income for the purpose of testing eligibility for the state social support is defined as taxable income for the purpose of income taxation, stipends, housing supplements from employers, bonuses, alimony, sickness benefits, unemployment benefits, income from abroad and pensions. Net profit from entrepreneurial activity is included if it is greater than zero and its contribution to the income for the purpose of testing eligibility for social benefits cannot be lower than 50 % of average wage in previous year. On the other hand, general net household income does not include any debts.

A family is defined for the purpose of state social support (except housing benefit for which all persons of the same domicile address are considered in the same unit of assessment) as a person, dependent children, parents of dependent children, spouses or partners, dependent children of dependent children (if they are not married, widowed or divorced) if they live with the person in the same household and meet the cost of living together. If a dependent child is under 18, the condition of meeting the costs of living together is not required. If a dependent child is over 18 and under 26 and is training for future employment, the condition of meeting the costs together

is not required if the child has the same domicile address as her parents. A spouse is considered to be a unit member.

A dependent child for the purpose of state social support is classified as a child that has not yet finished compulsory schooling and until 26 if he or she is training for future employment (i.e., is in education); or, alternatively, if the child cannot train for future employment because of injury, long-term illness or if the child is not able to work. A child between the end of compulsory schooling and 18 is also dependent if registered at a district labour office and not receiving unemployment benefit. A child receiving a full invalidity pension is not considered a dependent child.

### **2.3.2.1 Child Allowance**

Child allowance is targeted at families with children if their net household income is less than  $3 \times \text{MLS}$  of the family. The net household income which is tested for the purpose of child allowance is the general net household income plus foster care benefit and parental allowance. The relevant period for the income test is the calendar year prior to the year when the income is tested.

The allowance is provided per each dependent child in the following amount:

$$\text{ChildAllowance} = A \times \text{Child'sMLS}$$

where

A = 0.36 if the net household income is lower than 1.5 x MLS,

A = 0.31 if the net household income is between 1.5 x MLS and 2.4 x MLS,

A = 0.16 if the net household income is between 2.4 x MLS and 4 x MLS.

- ***Changes in 2008***

Child allowance is a benefit provided to families with dependent children with an income of less than 2.4 times the family's living minimum.

The allowance, per child, is provided on three levels, depending on the age of the child:

<b>Age of the dependent child</b>	<b>Amount of monthly child allowance per child in CZK</b>
Up to 6 years of age	500
From 6 – 15 years	610
From 15 – 26 years	700

- ***Changes in 2009***

No changes.

- ***Changes in 2010***

No changes.

### 2.3.2.2 Social Allowance

A social allowance is available to families with at least one dependent child if their net income was less than  $2.2 \times MLS$  in the previous quarter. (The 2.2 is the parameter A). Net household income for the purpose of the income test is the net household income relevant for a child allowance test plus the child allowance. The relevant time span for the income test is the previous calendar quarter.

The amount of the allowance is determined as

$$SocialAllowance = \sum Children'sMLS - \frac{\sum Children'sMLS \times \max\{NetIncome, TotalMLS\}}{TotalMLS \times 2.2}$$

The children's part of MLS may be increased by multiplying the allowance by 2.7 if the child is disabled, 2.4 if the child is partially disabled, 1.2 if the child is persistently ill and 1.1 if children are born within three years. The household part of MLS can be multiplied by 1.4 if both or just one parent are disabled, 1.1 if one of the parents is disabled, and by 1.05 for a single parent (who does not need to be disabled). If several conditions are fulfilled, the social allowance is then the sum of the basic allowance and the sum of allowances calculated as allowances with particular conditions, minus the basic allowance.

- *Changes in 2008*

Parameter A in the formula for social supplement was decreased to 2.0.

- *Changes in 2009*

No changes.

- *Changes in 2010*

No changes.

### 2.3.2.3 Housing Benefit

The household is entitled to this benefit if its housing costs are higher than 30% (35% in Prague) of the net household income, while the housing costs are at most the normative costs. The normative costs are declared by the Ministry of Labour and Social Affairs, reflecting the number of persons in the household, the number of inhabitants in the municipality, and the type of housing (rental and other). The amount of the housing benefit is equal to the difference between the normative costs and 30% (35% in Prague) of the net household income. If the net household income is lower than the MLS, the household is entitled to the benefit if its housing costs are higher than 30% (35% in Prague) of the MLS. The amount of the benefit is 30% (35% in Prague) of the MLS.

## Monthly normative costs (CZK)

### Normative costs of housing in rental housing (CZK)

Number of persons in family	Number of inhabitants in the municipality				
	Prague	Above 100,000	50,000 – 99,999	10,000 – 49,999	below 10,000
1	3,339	2,893	2,659	2,518	2,460
2	4,926	4,233	3,913	3,721	3,640
3	6,764	5,858	5,440	5,188	5,083
4 and more	8,545	7,453	6,948	6,644	6,517

### Normative costs of co-operative housing and owner housing

Number of persons in family	Number of inhabitants in the municipality				
	Prague	Above 100,000	50,000 – 99,999	10,000 – 49,999	below 10,000
1	2,236	2,236	2,236	2,236	2,236
2	3,362	3,362	3,362	3,362	3,362
3	4,730	4,730	4,730	4,730	4,730
4 and more	5,978	5,978	5,978	5,978	5,978

- *Changes in 2008*

### New monthly normative costs (in CZK)

#### Normative costs of housing in rental housing (CZK / month)

Number of persons in family	Number of persons in family				
	Prague	Above 100,000	50,000 – 99,999	10,000 – 49,999	below 10,000
1	4,182	3,383	3,155	2,895	2,747
2	6,091	4,998	4,686	4,331	4,128
3	8,401	6,971	6,563	6,099	5,834
4 and more	10,549	8,824	8,332	7,772	7,453

#### Normative costs of co-operative housing and owner housing

Number of persons in family	Number of inhabitants in the municipality				
	Prague	Above 100,000	50,000 – 99,999	10,000 – 49,999	below 10,000
1	2,653	2,653	2,653	2,653	2,653
2	4,055	4,055	4,055	4,055	4,055
3	5,763	5,763	5,763	5,763	5,763
4 and more	7,385	7,385	7,385	7,385	7,385

- *Changes in 2009*

### New monthly normative costs (in CZK)

Normative costs of housing in rental housing (CZK / month)					
Number of persons in family	Number of persons in family				
	Prague	Above 100,000	50,000 – 99,999	10,000 – 49,999	below 10,000
1	5,877	4,816	4,597	4,309	4,016
2	8,499	7,037	6,738	6,344	5,943
3	11,638	9,739	9,348	8,832	8,309
4 and more	14,597	12,307	11,835	11,213	10,582

Normative costs of co-operative housing and owner housing					
Number of persons in family	Number of inhabitants in the municipality				
	Prague	Above 100,000	50,000 – 99,999	10,000 – 49,999	below 10,000
1	3,356	3,356	3,356	3,356	3,356
2	5,062	5,062	5,062	5,062	5,062
3	7,124	7,124	7,124	7,124	7,124
4 and more	9,078	9,078	9,078	9,078	9,078

- *Changes in 2010*

No changes.

#### 2.3.2.4 Parental Allowance

Parental allowance is available for a parent who cares in person and on a daily basis for a child up to four years old (or up to seven years old when the child is disabled). If the person receives maternity benefit or sickness benefit associated with childbearing, the amount of these benefits is subtracted from the parental allowance. It is non-tested benefit.

Note: due to lack of information in the data about parents who care in person for children, EUROMOD simulations take eligibility from the data (i.e., only those reporting parental allowance in the data are eligible for this benefit).

The amount of the parental allowance is 40% of the average wage in the non-profit sector two years before. In 2007 it is equal to 7,582 CZK.

- *Changes in 2008*

The parent can select the period of support and also the amount of the allowance, as follows:

- faster draw-down of parental allowance – after maternity benefit (hereinafter referred to as MB) at the increased rate (11,400 ) until the child is 24 months old; only parents who are entitled to MB of at least 380 per calendar day may request this form of draw down;
- standard draw-down – after MB at the basic rate (7,600 ) until the child is 36 months old; only parents who are entitled to MB may request this form of draw down;
- slower draw-down – after MB or from the birth of the child (if the parent is not entitled to MB) at the basic rate (7,600 ) until the child is 21 months old and after it at the reduced rate (3,800 ) until the child is 48 months old.

In the case of disabled children, the parent is entitled to parental allowance at the basic rate (7,600 ) until the child is 7 years of age, from the day on which the child is diagnosed as a child suffering from a long-term disability or a severe long-term disability, regardless of the form of draw-down that had been previously selected (prior to the diagnosis of the child's state of health). If the child draws care allowance (according to Act on Social Services), the parent is entitled to half-pay parental allowance. If the child diagnosed as a child suffering from a long-term disability or a severe long-term disability does not draw care allowance, the parent is entitled to parental allowance at the lower rate (3,000 ) from 7 to 10 years of the child's age.

A parent is entitled to parental allowance provided:

- a child under the age of 3 years attends a creche or other facility for pre-school children for a maximum of 5 calendar days in a month;
- a child over the age of 3 years attends a kindergarten or similar facility for pre-school children for no more than 4 hours a day or a maximum of 5 calendar days in a month;
- the child attends a remedial care centre, creche, kindergarten or similar facility for disabled pre-school children for no more than 4 hours a day;
- a child of a disabled parent attends a creche, kindergarten or similar facility for pre-school children for no more than 4 hours a day;
- a child diagnosed as a child suffering from a long-term disability or a severe long-term disability attends a creche, kindergarten or similar facility for pre-school children for no more than 6 hours a day or performs compulsory education.

The parent's income is not tested; the parent may carry out an occupational activity without losing their entitlement to parental allowance. However, during the period of this occupational activity, the parent must ensure that the child is in the care of another adult.

Note: due to lack of information in the data about the parents choices of period of support and amount of the allowance, EUROMOD simulations assume that all parents opt for the "standard draw-down" allowance.

- *Changes in 2009*

No changes.

- *Changes in 2010*

No changes.

### **2.3.2.5 Birth Grant**

A birth grant is available to any mother who gives birth to one or more children. The birth grant may be paid to the father if the mother died during birth or to a foster parent when the child (or children) is under one.

The amount is 17,760 CZK. If twins are born, the amount is 53,120 CZK. If three children are born, the amount is 79,680 CZK.

- *Changes in 2008*

New amount – 13,000 per one child.

- *Changes in 2009*

No changes.

- *Changes in 2010*

No changes.

### 2.3.3 Social Assistance

#### 2.3.3.1 Social Assistance Benefits (Benefits of Material Needs)

Social necessity benefit serves as a last resort. A family and a dependent child are defined in the same way as for state social support, with the exception of housing benefit. The condition that the household must meet the costs of living together is always tested here. A temporary period spent outside the household for the purposes of work or training for future employment is allowed.

The net household income for the purpose of testing eligibility for the benefits is defined as 70% of work and other taxable income (net income) + 80 % of unemployment benefits and sickness benefits + 100 % of other income (e.g. pensions) but without tax bonus and housing benefit.

New benefits of social assistance are:

- Allowance for Living
- Supplement for Housing
- Extraordinary Immediate Assistance

#### **Allowance for Living**

Persons or families are entitled to an allowance for living if the income of these persons or families is less than the amount of living when “reasonable” housing costs have been deducted. Amount of living is equal (in ”standard“ situation) to the sum of MLS.

The amount of the allowance for living is set as the difference between the amount of living of a person or family and the income of that person or family, less reasonable housing costs. (Reasonable housing costs are the cost of housing to a maximum of 30%, in Prague 35%, of the income of the person or family).

#### **Supplement for Housing**

It is targeted at households whose net household income, including housing benefit and social assistance benefit and after paying housing costs (at most the normative costs), is still lower than the MLS. Their income is then topped up to the MLS on the assumption that the individual actively seeks a job.

#### **Extraordinary immediate assistance**

This is provided to persons who find themselves in situations that have to be resolved immediately. The Act addresses five situations that justify this benefit:

1. Where persons do not meet the conditions of material need but, due to a lack of funds, suffer from a serious threat to their health. The benefit tops up a person’s income so that it is level with the existence minimum (or the subsistence minimum in cases of dependent children).

2. Where persons are victims of a serious extraordinary event (a natural disaster, storms and gales, ecological disaster, fire, etc.) The maximum amount of the benefit is fifteen times the individual's subsistence minimum, i.e. up to 46,890 .
3. Where persons do not have enough resources to cover essential one-off expenditure connected, in particular, with the payment of an administrative fee for duplicate copies of personal documents or in cases of monetary loss. The maximum amount of the benefit is the amount of this one-off expenditure.
4. Where persons do not have enough resources to acquire or repair basic furniture or durables or to cover justified costs relating to the education or special interests of dependent children. The amount of the benefit may be a maximum of the specific expense, but the sum of benefits granted must not exceed ten times the individual's subsistence minimum in one calendar year, i.e. to an amount of 31,260 .
5. Where persons are at risk of social exclusion. This concerns, for example, the situation of persons who have been released from custody or from prison, who have left an orphanage or foster care on reaching adulthood, or who have completed treatment for an addiction. A benefit of up to 1,000 may be granted. The benefit may be awarded repeatedly, but the sum of benefits granted in one calendar year may not exceed four times the individual's subsistence minimum, i.e. the amount of 12,504 .

Note: due to lack of information in the data about this type of circumstances, EUROMOD simulations don't include Extraordinary immediate assistance.

- *Changes in 2008*

No changes.

- *Changes in 2009*

New element was added to calculation of Total minimum living standard for social assistance. If an adult person is without work more than 6 months, the minimum living standard for social assistance is just subsistence minimum and not Subsistence minimum + 0.5\*(minimum living standard - Subsistence minimum). It is not relevant for pensioners, sick persons and people, who are participating on the public work.

- *Changes in 2010*

No changes.

### 2.3.3.2 Contribution on social services

Social care benefits are one-off allowances usually paid to disabled people for specific purposes, which was implemented in 2007. For example, these benefits may include specific amounts for homecare services, spa services, increased cost of diabetic food, wheelchair purchase, increased cost for blind or otherwise disabled persons, for reconstruction of houses needed for disabled access, etc.

The person, who is depending on care of other person, can obtain this benefit. Its amount depends on the age and degree of dependence.

Contribution on social services per month

Degree of dependence	Age 18 and younger	Older than 18
Light	3,000	2,000
Medium	5,000	4,000
Heavy	9,000	8,000
Full	12,000	12,000

Note: due to lack of information in the data about this type of expenditures, EUROMOD simulations don't include this benefit.

- *Changes in 2008*

No changes.

- *Changes in 2009*

No changes.

- *Changes in 2010*

No changes.

## **2.4 Social contributions**

The social contributions in the Czech Republic can be divided into two parts:

Social insurance and state employment policy contributions consist of pension insurance, contributions for the state employment policy and sickness insurance.

Contributions for public health insurance

### **2.4.1 Employee social contributions**

#### **Social insurance and state employment policy contributions**

The contributory base for employee is the gross wage plus any bonuses, standby-duty remuneration, etc. of the employee, but not income which is not subject to income taxation, income from occasional work, compensations, rewards for increased productivity, etc.

#### **Contributions for Public Health Insurance**

The contributory base is the same as in Social insurance and state employment policy contributions. But there is a minimum contributory base, which is equal to minimum wage (It is not applied, if the person uses the minimum contributory base as self employed).

- *Changes in 2008*

A maximum contributory base was introduced (1 034 880 CZK per year).

- *Changes in 2009*

A maximum contributory base was introduced (1 130 640 CZK per year) and rates were changed (see table in section 2.4.3.).

- *Changes in 2010*

A maximum contributory base was introduced (1 707 048 CZK per year).

## 2.4.2 Employer social contributions

### Social insurance and state employment policy contributions

Contributory base is the same as in the case of employee.

#### Contributions for Public Health Insurance

Contributory base is the same as in the case of employee.

- *Changes in 2008*

A maximum contributory base was introduced (1 034 880 CZK per year).

- *Changes in 2009*

A maximum contributory base was introduced (1 130 640 CZK per year) and rates were changed (see table in section 2.4.3.)

- *Changes in 2010*

A maximum contributory base was introduced (1 707 048 CZK per year).

## 2.4.3 Self-employed social contributions

### Social insurance and state employment policy contributions

Entrepreneurs pay pension insurance and contributions for the state employment policy, while sickness insurance is paid on a voluntary basis. For entrepreneurs it is important, if the business activity is the main source of income or not. The business activity is the main source of income, if the year income from wages and salaries is lower than 12\*minimum wage. Income from business activity is minor source of income as well, if the person is student (and the age is lower or equal to 26) or pensioner.

a) Income from business activity is the main source of income

For entrepreneurs, the base is 50 % of net income (gross income minus costs) in the last year, but not more than 486,000. There is a year minimum contribution base of 60,420.

b) Income from business activity is the minor source of income

If the year gross income minus costs is lower than 48,334, there is no obligation to pay social insurance. In other cases the participation in the social insurance is compulsory and the contribution base is 50% of net income in the last year, but not more than 486,000.

#### Contributions for public health insurance

For entrepreneurs, the base is 50% of net income in the last year, but not more than 486,000. If the income from business activity is the main source of income, the year contribution base cannot be lower than 120,834 .

The contribution rates described in this subsection may be summarized as follows:

	Employee	Employer (per employee)	Entrepreneur
Social Insurance	8.0%	26.0%	34.0%
Of which: Pension	6.5%	21.5%	28.0%
Employment	0.4%	1.2%	1.6%
Sickness	1.1%	3.3%	4.4%*
Health Insurance	4.5%	9.0%	13.5%

<b>Total</b>	<b>12.5%</b>	<b>35.0%</b>	<b>47.5%</b>
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Note: \* paid on a voluntary basis.

- *Changes in 2008*

Social insurance and state employment policy contributions

1. New year minimum contribution base is equal to 64,680 CZK. If the income from business is not the main source of income and if the year gross income minus costs is lower than 51,744 CZK , there is no obligation to pay social insurance.
2. The maximum contribution base is valid for employee as well. It is 1 034 880 CZK per year. If the person has both types of income (job and business), the contribution bases are summed.

Contributions for public health insurance

3. If the income from business activity is the main source of income, the year contribution base cannot be lower than 129,360 CZK .
4. The maximum contribution base is valid for employee as well. It is 1 034 880 CZK per year. If the person has both types of income (job and business), the contribution bases are summed.

- *Changes in 2009*

Social insurance and state employment policy contributions

New year minimum contribution base is equal to 70 668CZK. If the income from business is not the main source of income and if the year gross income minus costs is lower than 56 532CZK, there is not obligation to pay social insurance.

The maximum contribution base is valid for employee as well. It is 1 130 640 CZK per year. If the person has both types of income (job and business), the contribution bases are summed.

Contributions for public health insurance

If the income from business activity is the main source of income, the year contribution base cannot be lower than 141 330 CZK.

The maximum contribution base is valid for employee as well. It is 1 130 640 CZK per year. If the person has both types of income (job and business), the contribution bases are summed.

New rates

	<b>Employee</b>	<b>Employer (per employee)</b>	<b>Entrepreneur</b>
Social Insurance	6.5%	25.0%	29,2%
Of which: Pension	6.5%	21.5%	28.0%
Employment	0.0%	1.2%	1.2%
Sickness	0.0%	2.3%	1.4%*
Health Insurance	4.5%	9.0%	13.5%
<b>Total</b>	<b>11.0%</b>	<b>34.0%</b>	<b>44.1%</b>

Note: \* paid on a voluntary basis.

- *Changes in 2010*

## Social insurance and state employment policy contributions

New year minimum contribution base is equal to 71,136 CZK. If the income from business is not the main source of income and if the year gross income minus costs is lower than 56,901 CZK, there is not obligation to pay social insurance.

The maximum contribution base is valid for employee as well. It is 1 707 048 CZK per year. If the person has both types of income (job and business), the contribution bases are summed.

## Contributions for public health insurance

If the income from business activity is the main source of income, the year contribution base cannot be lower than 142,254 CZK. .

The maximum contribution base is 1 707 048 CZK per year. If the person has both types of income (job and business), the contribution bases are summed.

## 2.5 Personal income tax

### 2.5.1 Tax unit

Personal income tax is paid by any person who has residence or lives in the Czech Republic for at least 183 days in a year. Taxable income includes all income earned in the Czech Republic and abroad. If a person lives in the Czech Republic for the purpose of study or recuperation or less than 183 days in a year, the taxable income is only the income from the Czech Republic.

The income tax system is an individual system; however married couples with at least one child all living in the same household may choose to fill out a joint tax return (see more in 2.5.5).

- *Changes in 2008*

Option for joint taxation is eliminated.

- *Changes in 2009*

No changes

- *Changes in 2010*

No changes

### 2.5.2 Exemptions

The tax base does not include income from selling one's own house or flat if a person has lived there for at least two years before the transfer, and if the house or flat was not used for business purposes, or if the time between buying and selling the house or flat was more than five years<sup>3</sup>. Nor does it include loans and drafts, income from property insurance, sickness benefits, state social support, social assistance, unemployment benefit, income from public health insurance, the amount of pensions lower than 198,000 per year, maintenance paid to soldiers, stipends, donations from the state budget, tax bonuses, benefactions, alimony, travel expenses paid by employers, meals or beverages provided by employers, social insurance contributions paid by

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<sup>3</sup>Furthermore, the tax base does not include income from selling chattels with the exception of personal vehicles, ships and aeroplanes, provided that the time between buying and selling these items was less than one year.

employers, complementary pension insurance with the state support paid by employers up to 5% of the gross wage, interest income from savings for building purposes or purchase of a house for which state support is provided, gift income not exceeding 500 , winnings in state lotteries, income from appreciation of currency, and income taxed according to a separate tax scheme.

- ***Changes in 2008***

No change

- ***Changes in 2009***

No change

- ***Changes in 2010***

No change

### 2.5.3 Tax allowances

Taxpayers may deduct the following allowances from their tax base:

- *Gifts to charitable organisations* may be deducted if the amount of the gift is at least 2% of the tax base or 1,000, and if the charity is recognised by the state. The taxpayer may deduct at most 10% of the tax base.
- *Interest* used for mortgage repayments.
- *Complementary pension insurance with state support*. The total deductible amount is the sum of all payments to complementary pension funds less 6,000. The amount deducted may not exceed 12,000.
- *Private life insurance*. The maximum total deductible amount is 12,000. The taxpayer must be insured for at least five years, and must be under 60. The minimum amount of insurance premium is 40,000 if the duration of insurance is between 5 and 15 years, and 70,000 if the duration is more than 15 years.
- *Labour union fees*. The taxpayer may deduct fees paid to labour unions. The maximum amount is either 1.5% of the taxable income or 3,000.

The taxpayer deducts 1/12 of the amount for each month during which the conditions listed above are met. In the case of personal exemption, the taxpayer deducts the whole amount if the conditions are met at least on the last day of the year.

- ***Changes in 2008***

No changes

- ***Changes in 2009***

No changes

- ***Changes in 2010***

No changes

#### 2.5.4 Tax base

The tax base for personal income tax is divided into five partial tax bases:

1. wages and salaries;
2. income from business activities including income from agriculture, forestry and fishery; income from copyright;
3. capital income including dividends, interest, revenues from expiration of contract of complementary pension insurance with state support; income from life insurance (minus premium paid); income from options and forwards;
4. rental income;
5. and other income.

#### **Wages and Salaries**

Gross wages and salaries reduced by social and health insurance contributions paid by the employee. If the amount of wages and salaries is less than 5,000 per month and the character of the job is occasional, it is taxed by a separate tax rate (15 %).

Note: due to lack of information in the data about occasional jobs, EUROMOD simulations don't include this special rate for low wages and salaries.

#### **Income from business activities**

Entrepreneurs may account for losses in order to reduce their profit, but only in the case of the same activity. For entrepreneurs, taxable income is also net of costs (the amount of costs include the social and health insurance contribution). Instead of deducting the amount of actual costs, a taxpayer may replace it by 50% of revenues from agriculture, forestry and fishery, 30% of revenues of copyright or 20% of rental revenues. In this case it is possible to reduce the tax base by the amount of social and health insurance contribution as well.

If the entrepreneur's spouse helps the entrepreneur with his or her business, the taxable income from this partnership is divided such that the partner may have taxable income of at most 50% or 540,000 per year (or 45,000 for each month of the business partnership) of the total taxable income of the married couple. If more persons live with an entrepreneur in the same household and help him or her with his business, the taxable income is then divided so that the entrepreneur's partners may have at most 30% or 180,000 per year (or 15,000 per month) of total taxable income. If a child in the household is a business partner, the parents are not eligible for a tax allowance per child or for a tax bonus per child. Children in compulsory schooling may not be made partners.

There is a minimum tax base for entrepreneurs who had income of more than 15,000 in a year, which is set at 50% of the general personal base (to be defined for pensions in subsection 2.2.1.) for the previous two years (120,800 CZK). The minimum tax base is not compulsory for entrepreneurs paying lump-sum income tax, entrepreneurs who started their activity in the current or previous year, or ended business activity this year, entrepreneurs receiving parental allowance from state social support, old-age pensions, invalidity pensions, part invalidity pension for at least one month in the year, benefit for treatment of a family member, and students under 26.

Lump-sum tax is paid by entrepreneurs with no employees with a yearly taxable income of less than 1,000,000 in the last three years, and is designed to help them reduce costs for book-keeping and accounting. The minimum lump-sum tax is 600 per year, and the amount depends on forecasted income as agreed with the tax authority. Tax rates are the same as in the case of income taxation. The only difference is that lump-sum tax is paid in advance, and the taxpayer

may use basic accounting procedures. Lump-sum tax may only be applied in the case of specific entrepreneurial activities.

Honorariums of less than 3,000 per month are taxed at a separate tax rate (10 %) (described below).

**Note:** due to lack of information in the data we taxed this type of income as a part of the tax base that is taxed at a progressive rate.

### Capital income

Almost all incomes are taxes by the separate tax rate (15 %).

### Rental income

The taxable income is net of costs.

### Other income

Other income includes income from occasional activities exceeding 20,000 per year, income from the transfer of own real estate (with exemptions described below), nourishments, pensions exceeding 198,000 per year, winnings in lotteries exceeding 10,000 .

The total tax base is the sum of the five partial tax bases mentioned above. The total tax base cannot be lower than the partial tax base "wages and salaries".

- *Changes in 2008*

There is no minimum taxable income for income from business.

Social and health insurance contribution is not tax deductible item. Moreover, the social and health insurance contribution paid by employer is a part of the partial tax base of "Wages and salaries".

- *Changes in 2009*

No changes.

- *Changes in 2010*

No changes.

## 2.5.5 Tax schedule

The income tax is paid from the net tax base which is the tax base minus social and health insurance contributions and other tax exemptions, according to the following scheme:

Net Tax Base		Tax		
Over	But not over	Tax	+(%)	On amount over
0	121,200	0	12	0
121,200	218,400	14,544	19	121,200
218,400	331,200	33,012	25	218,400
331,200	...	61,212	32	331,200

Married couples with at least one child all living in the same household may choose to fill out a joint tax return. They may do so if they are eligible at least on the last day of the year. The tax base of the couple is the sum of their personal tax bases (which are reduced by all possible

exemptions). The base is split evenly for both taxpayers, and the tax is determined separately for each. The aim of joint taxation is to reduce the tax duty caused by progressive taxation, primarily for families with children if there is a large income difference between spouses. In particular, joint taxation reduces their tax duty, because the income of the spouse with higher earnings is taxed at a lower marginal tax rate as his or her income falls into a lower tax bracket. Joint taxation may not be applied if either person is bound by the minimum tax base or pays lump-sum personal income tax.

The following income is not included in the regular tax base but taxed under *separate tax schemes*. These taxes are paid the following.

#### **10% tax rate**

- Income of authors publishing in newspapers or other media if this income is less than 3,000 per month.

#### **15% tax rate**

- Dividends from bonds and drafts.
- Interest from current personal accounts.
- Income from complementary pension insurance with state support (state support is not taxed) and income from life insurance (except income when the contract is terminated; in that case, the income is taxed using the regular tax scheme).
- Income from occasional work totalling less than 5,000 per month.
- Income from the liquidation of company.

#### **20% tax rate**

- Winnings in lotteries (with the exception of state lotteries).

- *Changes in 2007*

No changes.

- *Changes in 2008*

Joint taxation is eliminated

Just one rate – 15 %.

- *Changes in 2009*

No changes.

- *Changes in 2010*

No changes.

## 2.5.6 Tax credits

### 2.5.6.1 Refundable child tax credit

Persons with children whose taxable income is at least six times the minimum wage (7185 in 2005) may deduct from their income tax a tax credit per child. A child or children must live in the same household as the parents (or may alternatively be temporarily placed in institutions for the purpose of study or preparation for future work). Persons are eligible for an allowance for each month in which the conditions are met. The amount of the tax credit is 6,000 per child, up to a maximum of five children. If the tax duty is lower than the tax credit, the difference is called a tax bonus and is paid to the taxpayer, while the taxpayer's tax duty is then zero. The tax bonus is paid just in the case that the taxable income of the person is higher than 6 times the minimum wage. If the tax duty is higher than the tax credit, the taxpayer pays the difference between the two.

A dependent child for the purposes of tax allowance or bonuses is defined as an own child, adopted child, child in foster care, children of one's spouse and grandchildren if they are younger than 18, or younger than 26 if not receiving full invalidity pension and currently preparing for future employment. A child who cannot prepare for future employment because of injury, long-term illness or disability that prevents work is also considered a dependent. If a parent, grandparent or spouse of a parent does not have his or her own taxable income so that a tax bonus cannot be paid to him or her, then the bonus is paid to another person who lives in the same household with the child and has taxable income.

Next "standard" tax credits:

- *Personal tax credit* for each taxpayer (7,200). If the taxpayer was collecting an old-age pension throughout the year, he or she may not apply this tax credit if his/her yearly pension was higher than 38,040 . If the pension is lower than 38,040, the taxpayer can use whole tax credit (7,200).
- *Spouse tax credit* (4,200 ) applies if a spouse lives with the taxpayer in the same household and does not have a yearly income higher than 38,040 . The income of the spouse tested for this purpose is generally in gross terms. It does not include disability pension, state social support, social care benefits, state support for complementary pension insurance, state support for savings for building purposes, or stipends. The tax credit doubles (8,400) if the spouse is disabled.
- *Disability tax credit* (1,500) if the taxpayer receives a part-invalidity pension. If the taxpayer receives a full invalidity pension, he or she may deduct 3,000. If the taxpayer is *heavily disabled*, the tax credit is 9,600 .
- *Student tax credit* (2,400) may be applied if the taxpayer is less than 26 and is an undergraduate student, or when he/she is a graduate student and is less than 28.
- In the case of other allowances, the system is the same as in 2005.

Minimum wage in 2006 = 7,955

- *Changes in 2007*

Minimum wage in 2007 = 8,000

- *Changes in 2008*

The "standard" tax credits were changed:

- *Personal tax credit* for each taxpayer (24,840).
- *Spouse tax credit* (24,840) applies if a spouse lives with the taxpayer in the same household and does not have a yearly income higher than 68,000 . The income of the

spouse tested for this purpose is generally in gross terms. It does not include disability pension, state social support, social care benefits, state support for complementary pension insurance, state support for savings for building purposes, or stipends. The tax credit doubles (49,680 ) if the spouse is disabled.

- *Disability tax credit* (2,520) if the taxpayer receives a part-invalidity pension. If the taxpayer receives a full invalidity pension, he or she may deduct 5,040.
- *Student tax credit* (4,020) may be applied if the taxpayer is less than 26 and is an undergraduate student, or when he/she is a graduate student and is less than 28.
- Persons with children may deduct from their income tax a tax *credit* per child (10,680). A child or children must live in the same household as the parents (or may alternatively be temporarily placed in institutions for the purpose of study or preparation for future work). Persons are eligible for an allowance for each month in which the conditions are met. If the tax duty is lower than the tax allowance, the difference is called a tax bonus and is paid to the taxpayer, while the taxpayer's tax duty is then 0. If the tax duty is higher than the tax allowance, the taxpayer pays the difference between the two. But it is (tax bonus) possible just in the case, that the gross tax base of the person is at least six times the minimum wage. The maximum amount of tax bonus is 52,200 per year.

Minimum wage in 2008 = 8,000

- *Changes in 2009*

No changes.

- *Changes in 2010*

New amount of refundable child tax credit 11 604 CZK per year.

Disability tax credit was divided into 3 levels:

- Disability 1st level – tax credit 2,510 CZK per year
- Disability 2nd level – tax credit 2,510 CZK per year
- Disability 3rd level tax credit 5,040 CZK per year

### 3. DATA

#### 3.1 General description

##### EUROMOD database description

EUROMOD database	CZ_2008_a_CZ
Original name	EU-SILC and Životní podmínky (SILC) 2008
Provider	Eurostat and Czech Statistical office
Year of collection	2008
Period of collection	Feb 23 – Apr 27, 2008
Income reference period	Year 2007
Sampling	Two stage random sampling
Unit of assessment	HH[1]
Coverage	Private households[2]
Sample size	26,884 IND 11,294 HH
Response rate	83,1%

Notes:

[1] One person living alone or a group of people living at the same apartment (address) **and** sharing expenditures (housekeeping concept). If more than one household was found in a dwelling unit, all hh in selected dwellings were included as eligible for the survey.

[2] households living at private residential addresses

SILC survey is a survey introduced in the Czech Republic following Eurostat guidelines and it added to already existing surveys, namely quarterly rotating panel of Labour Force Survey (VŠPS) and annual Household Budget Surveys. First survey was done in 2006 (SILC 2005).

The SILC survey is regarded as a multipurpose source. Data have been used for several official and unofficial income distribution analyses and for tax/benefit modelling. SILC is the only suitable survey available for EUROMOD purposes thanks to its annual frequency and information on both labour statuses and incomes.

The CZ database is a sample of household created by two stage random sampling. The 2008 sample includes households from 4 waves. In the first wave all persons with usual residence in that dwelling (their only or main place of residence) were included in the survey. This also includes foreign nationals and sub-tenants living in the selected dwelling. As far as the other waves (2nd to 4th) are considered, only those households are surveyed which have as their members sample persons (those who were enlisted in the first wave). As a rule, sample persons who moved from the original first-wave household were to be tracked down and their new address found. Data was collected by interviews and interviewers filled in the answers into paper or electronic questionnaires (PAPI/CAPI data collection).

As in the previous years, the survey was carried out on the whole territory of the Czech Republic. As a part of gradual transition from paper (PAPI) to electronic (CAPI) form of questioning, the CZSO utilized, when surveying the first wave (4249) households, an electronic BLAISE questionnaire. For households of the second to fourth waves (entered the survey in 2005 to 2007) paper questionnaires were used. The sample was obtained by utilizing two-stage probability sampling scheme independently for each of the 14 administrative regions (NUTS3 regions). The total number of dwellings selected in each region was chosen to be proportional to the region's size. At the first sampling stage small geographical areas (CEU's - census enumeration units or districts) were selected by probability sampling. These CEU's served as a basis for the second-stage selection (a sample of 10 dwellings was drawn from each CEU).

The sample was obtained by utilizing two-stage probability sampling scheme independently for each of the 14 administrative regions (NUTS3 regions). The total number of dwellings selected in each region was chosen to be proportional to the region's size. At the first sampling stage small geographical areas (CEU's - census enumeration units or districts) were selected by probability sampling. These CEU's served as a basis for the second-stage selection (a sample of 10 dwellings was drawn from each CEU).

Before selecting the sample of dwellings, the sampling frame had to be adjusted to enable incorporation of small census enumeration units into the sampling process to reach the required full geographical coverage of the national territory. Small CEUs (with less than 20 inhabited dwellings) were merged with adjacent CEUs and the resulting larger CEUs entered the first stage of sampling. Consequently, in some cases, the 10 dwellings sampled in the second stage belong to two, in exceptional cases even more, real administrative CEUs.

The CZSO's regional fieldwork units (each covering one of the 14 NUTS3 administrative regions) received the list of selected dwellings (address + identification number of the flat in apartment buildings). Before the actual fieldwork, the regional fieldwork units' staff carried out identification of the selected dwellings and filled in the contact names on the list of selected dwellings for interviewers.

The primary database used for the Euromod is the Eurostat UDB SILC for the Czech Republic. Since some variables are needed in greater disaggregation, these are added from the SILC database provided directly by the CSO (it contains variables defined differently from the Eurostat UDB). In particular, following variables are being used from the Czech SILC database (Czech acronyms in brackets)<sup>4</sup>:

- dmp (vel) – population size of residential unit to account for different housing allowance;
- bch00 (pbydl) – Housing Allowance (příspěvek na bydlení) – child allowances;
- bchmt (socp) – Social Allowance (sociální příplatek + zaopatřovací příspěvek till 2004) reported at household level;
- bfapl (rodp) - Parental Allowances (rodičovský příspěvek);
- bfafp (pestp) - Foster Care Benefits (dávky péčovské péče);
- bfaot (ostdav) - Other Social Benefits including Birth and Funeral Grant (ostatní dávky SSP = porodné a pohřebné);
- tin (dan) – Income Tax at personal level (daň z příjmů fyzických osob);
- tsc (pojis) - Health and social insurance contribution of employee at individual level (zdravotní a sociální pojistné odvody zaměstnance);
- cz\_pensiontype (dduch) - Czech system types of pensions (druh důchodu);
- cz\_pension (duch) - Total amount received in pension benefits according to Czech types in cz\_pensiontype (důchod).

Size of the household - number of household members on the date of the interview, including persons temporarily away if the period of actual or foreseen absence is shorter than 6 months and the person has no other private address. For persons studying away from home, the period of absence may be longer than 6 months, provided that the person has no private address and retains financial ties to other household members. Persons with a period of absence longer than 6 months, persons without financial ties to the household and persons temporarily present at the time of the interview who have their private address elsewhere are excluded.

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<sup>4</sup> Variables are reported at household level if not stated otherwise.

## 3.2 Sample quality and weights

### 3.2.1 Non-response

The fieldwork revealed that among the total of 14 134 dwellings in the sample there were 683 dwellings (4,8 %) unoccupied, unlocated or ineligible because the households had moved. Since there was no substitution for these ineligible units, the survey was conducted in 13 451 dwellings and 13 591 households (in some of the dwellings there is more than 1 household). The overview of the survey response can be summarised by the following table:

	Households			Response (%)		
	Total	1st wave	2nd-4th wave	Total	1st wave	2nd-4th wave
Response, total	11294	2072	9222	83,1	53,1	95,2
Non-response, total	2297	1830	467	100,0	100,0	100,0
Refusals (unwillingness to give information)	1638	1294	344	71,3	70,7	73,7
household not contacted, temporarily absent	454	361	93	19,8	19,7	19,9
household unable to respond (health limitation)	155	126	29	6,74	6,9	6,2
Other reasons (linguistic etc.)	50	49	1	2,2	2,7	0,2

Refusals also include situations when the household did not refuse the survey as such, but did not accept to provide the information on income to the extent, which would qualify the household as successfully interviewed. The definition of successfully interviewed household allowed missing income data for only one person provided that the person is not the head of the household.

Non-contacts, temporarily absent category cover situations when the interviewer did not establish contact with the selected household, despite having made the prescribed minimum number of attempts at personal contact.

Participation in this survey is voluntary, there is no duty imposed on households to provide the required information, like it is for example in the population census. The household must be informed about the content of the survey and that its participation is voluntary and left to its decision. The main reasons for refusal reported from the field are privacy reasons (objections against giving personal information and fear of abuse of the personal data), fear of contact with interviewers as strangers. There is a considerable group of persons, who as a matter of principle strictly refuse to give any information.

### 3.2.2 Weights

When compared with data from other statistics and registers, selected characteristics of our sample showed that a phenomenon typical of household surveys had occurred - high level of non-response (influenced with a rotational panel by prior response) had biased the proportions in the final data file from which results are obtained.

The deformation of demographic characteristics and social structure of the sample did not allow us to use simple techniques of grossing up (post-stratification). Sufficient level of bias elimination is a necessary pre-condition for obtaining good estimates. In practice, standard methods of arriving at optimum grossed-up results are used - in our case, iteration method of weight calibration was utilized minimizing the difference between the known and the grossed up values of selected characteristics.

Because of the fact that results are required for both households and individual persons, the only satisfactory solution is the system of integrated weights, i.e. a single set of grossing-up coefficients used for both types of output (households/individuals). Although Living Condition (hereafter LC) is a panel survey comprising data coming from as many as four separate samples (1st - 4th wave), a simple calibration method was applied dealing with all the data the same as if they came from one wave only. Last year this method proved efficient and yielded the best results.

As the basis for calculations the following traditional calibration variables were used:

- Number of inhabited dwellings in each NUTS3 region, subdivided into family houses (detached and semi-detached houses) and apartments, based on the 2001 Census continuously updated from administrative sources of construction authorities
- Population characteristics:
  - Population totals in each NUTS 3 region (from demographic statistics)
  - Economic activity characteristics in each NUTS3 region:
    - Number of pensioners (excl. pensions for orphans), based on the administrative data from social security administration
    - Number of unemployed (registered unemployed from the administrative source of the Ministry of Labour and Social Affairs, corrected for unregistered unemployment using the Labour Force Survey data)
    - Number of self-employed (estimate based on the Labour Force Survey)
  - Number of children aged 0-15 (from demographic statistics)
- Demographic characteristics at the national level (based on the demographic statistics):
  - Age groups (0-15, 16-24, 25-34, 35-44, 45-54, 55-64, 65+)
  - Sex
- Municipality size (below 2 000 inhabitants, 2 000 - 9 999, 10 000-49 999, 50 000+ inhabitants)

Since the target population of the survey were persons living in private households, the data from demographic statistics were adjusted by subtracting institutionalised population (from social security administrative data) and persons in prisons. Additionally, because of high levels of immigration in 2007 (most of the immigrants live in lodging houses), an estimated number of those immigrants was subtracted who do not live in flats. As the sampling unit is the dwelling, all weight coefficients were calculated for dwellings and only subsequently assigned to all persons and households in them.

The method described above deals with non-response successfully, i.e. it corrects the bias due to similar composition of households that failed to respond. First of all, it improves demographic and social structure but, as a by-product, it also eliminates deformation of income indicators related to these structures.

### Descriptive Statistics of the Grossing-up weight

Number	2005	2007	2008
Mean	569.94	442.07	379.86
Median	520.55	396.13	337.54
Maximum	2600	3475	2875
Minimum	100	100	100
Max/Min	26.00	347.5	287.5
Decile 1	312.38	243.51	204.16
Decile 9	874.80	683.29	599.44
Dec 9 / Dec1	2.80	2.81	2.94

#### 3.2.3 Item non-response and under-reporting

Another source of bias, which needs to be taken into account, stems from the interviewing. Data on income obtained during interviews with household members have the tendency to underestimate certain income sources or data on some income components can be altogether missing (item non-response). So as not to reduce the size of the processed dataset pointlessly the missing income was imputed using correct statistical methods.

In LC 2008 the number of cases in which the interviewer obtained most of the demographic characteristics but failed to receive a person's income data was very low. The missing income of such individuals was conjectured by the simple hot-deck method, i.e. it was replaced with income of another, randomly selected person with the same characteristics.

Underestimation of income is a natural consequence of the fact that respondents either tends to give lower than actual values or simply do not recall having had certain irregular or small incomes at all. It is, more or less, a non-sampling error, affected substantially by the incomes themselves and by their source. The possibilities to eliminate this underestimation of the survey data are limited. In the presented survey, only such adjustments were made where there was sufficiently reliable external statistical source or where the conjectures could be based on legislation.

Data on gross income from employment were compared with corresponding data from wage statistics broken into sectors of activity and, for those revisited in 2007 who stayed in their former job positions, with the data obtained in 2006. This analysis revealed that the underestimation level was almost 3 per cent on average, the bias being bipolar (some of the incomes actually obtained in the survey were overestimated). This measurement error was caused by reporting a certain income as net whilst gross income should have been reported. In all clear cases, therefore, appropriate corrections were applied. In the case of income from private enterprise, there was no need for corrections.

In the case of social benefits for which there is legal entitlement (parental leave benefit, child birth benefit, death grant provided to families of the deceased, to some extent also maternity leave benefit), a check on their receipt by eligible households was applied and amounts provided were corrected according to the amounts set by the legislation. With old age benefits (pensions from the social security system) the tendency to underestimation is negligible but provided there were falls in this kind of income without any outward reason, the amounts were corrected by the last year's values.

Amounts declared by the unemployed as unemployment benefits were again overestimated. Unemployed respondents tend to report their income from the social security system as unemployment benefits and do not distinguish them from the minimum income support benefits (claimed on the basis of legal minimum subsistence amounts). In cases where the duration of

unemployment and the reported amounts did not match the rules of the unemployment benefits provision, the reported amounts were re-classified as minimum income support benefits or other social benefits.

It was not possible to correct the underestimation of sickness benefits (where omissions related to short-term illnesses could not be identified on the existing data), means-tested social benefits whose claims depend on the previous income (prior to the income reference period), capital income, and non-monetary income generated by own-consumption.

Comparison of the aggregated income from this survey with the household sector aggregates of the national accounts (even after their modification taking into account the items, which are not covered by household income surveys) is relatively difficult. Concerning its aggregated value the income obtained by direct questioning in the households will always be lower. The more important fact for evaluation of their credibility is that the trend in development of household income is in line with the trends in the national accounts. From this viewpoint, the presented results of LC 2008 are reliable and, as to their time series, consistent.

### **3.3 Data adjustment**

See above

### **3.4 Imputations and assumptions**

#### **3.4.1 Time period**

The household definition is based on the sharing of expenditures concept, in line with the definition of Paragraph 115 of the Civil Code - based on the declaration of the persons in sampled dwelling unit that they permanently live together and finance together expenditures to cover their needs. As the 16-year olds such persons were regarded who had reached this age by 31 December 2007.

Reference periods:

- Age: December 31<sup>st</sup>, 2007
- Other demographic variables - marital status, education, housing, financial situation: on the date of the interview
- Work activity of those who changed their job or economic status was collected for each individual month of 2007. If the work activity stayed the same all the year round, one (yearly) value was entered. Work activity figures are gathered by self-definition of the respondent (respondents themselves choose among different types of activity the one that fits their case the most). Its value depends primarily on the respondent's main occupation and on the time spent in it. Subsequently, other data was collected related to the respondent's work activity (status in employment, profession). At the same time, and also pertaining to individual months or as a year value, parallel activities were surveyed (second job, study) together with data on receipt of pensions and social benefits.
- Economic activity was not collected but derived from the monthly/yearly data (if monthly data was the basis, the activity with the highest incidence was coded as the yearly value). For those who completed their education in 2007 the latter half of the year was considered.
- Current employment variables (current employment status, occupation): on the date of the interview
- Income data (both monetary and in kind): calendar year 2007
- Subjective questions focused on housing and financial problems: on the date of the interview. Health problems: last twelve months.

- Housing, consumer durables, financial and social situation of household: on the date of the interview, unless the question specifically refers to some other period

### 3.4.2 Gross incomes

Incomes related to household as a whole were collected at the household level: social benefits targeted at households, rental income and value of goods produced directly by the household through either a private or a professional activity (e.g. own production of food from farming).

Collected at individual level: income from employment (main job, secondary jobs), sickness benefits, old-age benefits, unemployment benefits, social benefits attributable at individual level (such as parental leave benefit or disability benefits) and other incomes (capital income, sales of property, insurance claims).

Income from employment (both main job and possible secondary jobs) was collected both either gross of tax and social insurance or net, incomes from non-employment contracted work only gross. Self-employed persons could choose from several ways to record the result of their enterprise. They could state the gross profit/loss according to their tax declaration, they could give the sum which served as the yearly basis for calculating their monthly health and social security contributions or could make their own estimate of their gross or net profit/loss. With family members co-operating in private enterprise run by another member of the family only proportionate part of the income from the business was entered. Rental income was collected either gross or net, based on what information respondents were able to provide. All other kinds of income were collected net and subsequently appropriate rules of the tax system were applied to estimate the gross amounts. In addition, the information was collected on claimed tax deductibles to enable calculation of taxes and social insurance contributions. Sum of individual net incomes then forms the main national indicator – net monetary income of household.

Besides this national indicator of household income, it was necessary to construct internationally comparable household income indicator, which is based on Eurostat methodology for EU-SILC surveys. This indicator is named “disposable household income”. The difference between these two definitions of household income is in inclusion/exclusion of certain components of income (received lump sum and irregular inter-household transfers, non-cash employment income, income from life insurance, regular taxes on immovables).

Household income in kind consists of consumption of food, products and services originating from the household's own productive activity and of perquisites provided by employers (company car and company-paid or co-financed meals). The CZK value of own-production in kinds was calculated from reported amounts using the average price of the given commodity (from the HBS). The value of a company car was arrived at by applying the rules of income tax system (the minimum monthly amount of CZK 1000 was entered). The contribution of the employer to the employee's meals was calculated using the number of meals, their actual price and the (lower) price that the employee paid for them. Because these contributions form an important part of employees' income, they are also tabulated under a separate heading (Tab 1a).

Detailed income components are presented in table 1. Many of the income components values are quite low. Therefore, the breakdowns in other tables are less detailed. Somewhat more detailed breakdowns are provided for gross income.

Selected income components:

- **Income from employment:** defined in line with the national tax law. Includes income from employment contract or similar arrangement between employer and employee. Also includes incomes of owners of the incorporated business from work for their company, income of members of statutory boards and other governing bodies of corporations, remuneration based on holding of elected public posts, income of apprentices in vocational schooling for their work undertaken as part of their practical training and income from flexible short-term contracts under special regime set in the Labour Code.

- Income from self-employment: includes also income from farming activities, if these are the professional activity, income from independent professional practices (lawyers, doctors) and income from intangible assets (copyrights).  
Income from main employment: includes income of employees from their main job. In case of multiple coincident jobs, the declaration of the main job was left to the respondent.
- Income from secondary employment: includes salaries from secondary jobs, conducted besides the main job or self-employment activity of the respondent and income from flexible short-term contracts under special regime set in the Labour Code.  
Income from secondary self-employment activity: analogous to the secondary employment income. It includes income from secondary self-employment activity undertaken in addition to the main job of the respondent (where respondent declared employment contract as his/her main job).
- Social income: is in principle net. Gross amounts were included only for rare cases of pensions above the tax-exempt limit. In these cases, tax was applied to the amount above this limit (CZK 198 thousand).  
Sickness benefits item includes all sorts of benefits from the social sickness insurance, i.e. also maternity leave benefit, reduced employment income compensation in pregnancy and motherhood, income support for persons caring for household member in the need of short-term care (mostly care for children during their illness).
- Other social support benefits include social benefits for foster parents taking care of adopted children, birth grants, death grants, and CZK 1000 grant for books and other equipment of children entering primary education.
- Other social benefits include certain benefits connected to the termination of employment in selected professions, various other social benefits like benefit for persons providing long-term homecare for their relative in need, support for care in spas and other social benefits for families with children, old and disabled citizens, which are mostly administered by the municipal authorities.
- Material indigence benefits include regular and lump sum monetary benefits that help the household pay their food and housing bills or contribute to satisfying their basic needs.  
Income from capital contains interest from savings, bonds and various forms of deposits, dividends from shares, profits from incorporated businesses, income from investments abroad.
- Other income includes income from occasional property rentals, life and material insurance, sale of own-produced goods, income from organisations not elsewhere classified (scholarships and pocket money of apprentices, grants from charity and non-governmental organisations), lottery winnings, prizes, pay for occasional not contracted jobs, regular inter-household transfers (alimonies and the like).

### 3.5 Updating

#### Updating factors

<i>variable</i>	<i>name</i>	<i>2006 to 2007</i>	<i>2007 to 2008</i>	<i>2008 to 2009</i>	<i>Index Source</i>
def_fact		1.029	1.094	1.101	Eurostat / Harmonized Indices of Consumer Prices (HICP)
bch00	Child Allowances	0.977	1.119	1.106	Ministry of Labour and Social Affairs;
Xhc	Total housing costs	1.025	1.081	1.103	Czech statistical office, Household budget surveys, ite
Yds	Disposable income of a household	1.029	1.094	1.101	Eurostat / Harmonized Indices of Consumer Prices (HICP)

Yiy	Returns to investments	1.029	1.094	1.101	Eurostat / Harmonized Indices of Consumer Prices (HICP)
yot	Income received by people aged under 16	1.029	1.094	1.101	Eurostat / Harmonized Indices of Consumer Prices (HICP)
ypp	Private pensions	1.029	1.094	1.101	Eurostat / Harmonized Indices of Consumer Prices (HICP)
ypr	Income from rental of property and land	1.029	1.094	1.101	Eurostat / Harmonized Indices of Consumer Prices (HICP)
yprrt	Rent income	1.029	1.094	1.101	Eurostat / Harmonized Indices of Consumer Prices (HICP)
ypt	Regular interhousehold cash transfers received	1.029	1.094	1.101	Eurostat / Harmonized Indices of Consumer Prices (HICP)
yse	Cash benefits and losses from self-employment	1.029	1.094	1.101	Eurostat / Harmonized Indices of Consumer Prices (HICP)
bed	Education related allowances	1.029	1.094	1.101	Eurostat / Harmonized Indices of Consumer Prices (HICP)
bfa	Family benefits	1.029	1.094	1.101	Eurostat / Harmonized Indices of Consumer Prices (HICP)
bhl	Sickness benefits	1.029	1.094	1.101	Eurostat / Harmonized Indices of Consumer Prices (HICP)
bsa	Social assistance benefits	1.029	1.094	1.101	Eurostat / Harmonized Indices of Consumer Prices (HICP)
kfb	Fringe benefits of employees	1.029	1.094	1.101	Eurostat / Harmonized Indices of Consumer Prices (HICP)
kivho	Imputed rent	1.029	1.094	1.101	Eurostat / Harmonized Indices of Consumer Prices (HICP)
tpr	Property tax	1.029	1.094	1.101	Eurostat / Harmonized Indices of Consumer Prices (HICP)
tscse	Social Insurance Contribution of self-employed	1.029	1.094	1.101	Eurostat / Harmonized Indices of Consumer Prices (HICP)
xhcmomi	Mortgage Interest	1.029	1.094	1.101	Eurostat / Harmonized Indices of Consumer Prices (HICP)
xhcot	Other housing costs	1.029	1.094	1.101	Eurostat / Harmonized Indices of Consumer Prices (HICP)
xmp	Maintenance payments	1.029	1.094	1.101	Eurostat / Harmonized Indices of Consumer Prices (HICP)
xpp	Voluntary private pension expenditures	1.029	1.094	1.101	Eurostat / Harmonized Indices of Consumer Prices (HICP)
afc	Financial capital	1.029	1.094	1.101	Eurostat / Harmonized Indices of Consumer Prices (HICP)
pdi	Disability pension .	1.07	1.17	1.24	Ministry of Labour and Social Affairs;
poa	Old age pension	1.07	1.18	1.2	Ministry of Labour and Social Affairs;
psu	Survivors pension	1.07	1.17	1.24	Ministry of Labour and Social Affairs;
yem	Income from employment	1.073	1.162	1.165	Eurostat / Labour market / Labour costs-Labour cost
tin	Income tax [Dan z příjmu]	1.073	1.162	1.165	Eurostat / Labour market / Labour costs
tis	Tax on income and social contributions of the household	1.073	1.162	1.165	Eurostat / Labour market / Labour costs
tscee	Social Insurance Contribution of employee	1.073	1.162	1.165	Eurostat / Labour market / Labour costs
tscer	Social Insurance Contribution of employer	1.073	1.162	1.165	Eurostat / Labour market / Labour costs
bun	Unemployment benefit	1.08	1.17	1.23	Ministry of Labour and Social Affairs - Employment Serv
xhcrt	Rent for housing	1.099	1.235	1.401	Czech statistical office, Household budget surveys, ite
bfaot	Other Social Benefits	1.112	0.96	0.941	Ministry of Labour and Social Affairs; average of indic
bfafp	Foster Care Benefits	1.168	1.18	1.187	Ministry of Labour and Social Affairs; note that this b
bchmt	Social Allowance	1.291	1.29	1.361	Ministry of Labour and Social Affairs; note that this b
bho	Housing benefit	1.39	1.94	2.48	Ministry of Labour and Social Affairs;
bfapl	Parental Allowances	1.92	1.8	1.79	Ministry of Labour and Social Affairs; note that this b

## **4. VALIDATION**

### **4.1 Aggregate validation**

#### **4.1.1 Original income**

Tables below show, respectively, the number of recipients and the total amount of different sources or original income available in EUROMOD's input data. These incomes are used by the model but are not simulated.

Due to rounding differences the average amount of income sources in EUROMOD's input database are slightly different from those in the original EU-SILC. This is the case, for example, of employment and self-employment income. The number of recipients is different in case of those income sources that are reported in the EU-SILC at the household level and which were assigned to particular individuals in the EUROMOD input data, such as investment and property income.

#### **Simulation of years 2007-2010**

As commented in section 3, EUROMOD input data are adjusted for each policy year by updating factors that take into account average changes of each income source. Therefore, the number of recipients/payers of each income/benefit/tax is held constant in the EUROMOD input data.

**Table 18: Original income by sources: number of recipients (in thousands)**

	<b>EUROMOD Simulation</b>				<b>External statistics</b>				<b>Ratio</b>				<b>EU-SILC</b>	
	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2007</b>	<b>Ratio</b>
<b>Original income</b>	5,517	5,517	5,517	5,517	4,922	5,033	4,934	4,885	112%	110%	112%	113%	5,39	102%
Employment	4,259	4,259	4,259	4,259	4,125	4,196	4,107	4,019	103%	102%	104%	106%	4,259	100%
Self-employment	872	872	872	872	797	807	827	866	109%	108%	105%	101%	872	100%
Investment	1,003	1,003	1,003	1,003									600	0%
Property	285	285	285	285									164	174%
Private pension	41	41	41	41									41	100%
Private transfers	349	349	349	349									349	100%
Other	0	0	0	0									0	
Severance payments	0	0	0	0									0	
Paid private transfers	316	316	316	316									316	100%
	0	0	0	0									0	
<b>In-kind income</b>	0	0	0	0									0	
Fringe benefits	2,453	2,453	2,453	2,453									2,453	100%
<b>Imputed housing</b>	6,086	6,086	6,086	6,086									3,857	158%

Notes:

(s) stands for simulated tax or benefit.

\* red numbers stand for significant over or under estimation of EUROMOD results in comparison to external statistics.

Sources: EUROMOD results based on simulations, own calculations using EU-SILC 2008 and official statistics from section 1.

**Table 19: Original income by sources: overall amount (in millions of CZK)**

	<b>EUROMOD Simulation</b>				<b>External statistics</b>				<b>Ratio</b>				<b>EU-SILC</b>	
	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2007</b>	<b>Ratio</b>
<b>Original income</b>	1,208,383	1,298,598	1,334,219	1,357,849		0	0	0					1,241,030	
Employment	942,645	1,016,171	1,050,012	1,070,373	1,139,498	1,212,42	1,192,496	1,195,121	83%	84%	88%	90%	974,965	97%
Self-employment	230,633	245,117	246,662	249,499	77,667	88,310	86,512	83,854	297%	278%	285%	298%	238,541	97%
Investment	14,689	15,612	15,71	15,891	0	0	0	0					15,193	97%
Property	8,827	9,381	9,44	9,549	0	0	0	0					9,129	97%
Private pension	1,223	1,300	1,308	1,323	0	0	0	0					1,265	97%
Private transfers	10,366	11,017	11,087	11,214	0	0	0	0					10,722	97%
Other	0	0	0	0	0	0	0	0					0	
Severance payments	0	0	0	0	0	0	0	0					0	
Paid private transfers	8,493	9,027	9,084	9,188	0	0	0	0					8,784	97%
	0	0	0	0	0	0	0	0					0	
<b>In-kind income</b>	0	0	0	0	0	0	0	0					0	
Fringe benefits	18,059	19,193	19,314	19,536	0	0	0	0					18,678	97%
<b>Imputed housing</b>	26,506	28,170	28,348	28,674	0	0	0	0					27,415	97%

Notes:

(s) stands for simulated tax or benefit.

\* red numbers stand for significant over or under estimation of EUROMOD results in comparison to external statistics.

Sources: EUROMOD results based on simulations, own calculations using EU-SILC 2008 and official statistics from section 1.

## 4.1.2 Pensions and benefits

### 4.1.2.1 Disability, old-age, survivor and sickness benefits

Tables below show the number of recipients and total amount of pensions and benefits that are not simulated by EUROMOD but are used for the calculation of disposable income as they are reported in the input database.

- Pensions: in aggregate terms, pensions seem to be well represented in the EU-SILC and EUROMOD input data. Significant difference appears in the number of disability and especially of survivor's pensioners. The reason is that in case of external statistics, the disability or survivor's pensioner is the person having income only from disability or survivor's pension. If the person has also other type of income, the person is not considered as disabled or survivor's pensioner by external statistic. Contrary to this, Euromod considers all persons having nonzero income as disability or survivor's benefits as disabled or survivor's retirees.

In terms of pension amounts, there is only one problem with survivor's pensions which are clearly underestimated.

- Sickness benefits: sickness benefits depend on previous wages of the employee and they appear in the total monthly pay-check sum and are not well recognised and not remembered by employees. It explains why the amount of sickness benefits is largely underreported in the SILC data.

**Table 20: Disability, old-age, survivor and sickness benefits: number of recipients (in thousands)**

	EUROMOD Simulation				External statistics				Ratio				EU-SILC	
	2007	2008	2009	2010	2007	2008	2009	2010	2007	2008	2009	2010	2007	Ratio
<b>Pensions</b>	2,757	2,757	2,757	2,757	2,719	2,754	2,789	2,819	101%	100%	99%	98%	2,757	100%
<b>Old-age</b>	2,106	2,106	2,106	2,106	2,028	2,065	2,107	2,260	104%	102%	100%	93%	2,106	100%
Old-age pension														
<b>Disability</b>	655	655	655	655	586	588	586	466	112%	111%	112%	141%	655	100%
Disability pension														
<b>Survivor's</b>	646	646	646	646	103	99	96	93	627%	653%	673%	695%	646	100%
Survivor's pension														
Funeral grant														
<b>Pre-retirement</b>														
<b>Sickness</b>	684	684	684	684	2,727	2,222	1,442	1,325	25%	31%	47%	52%	684	100%

Notes:

(s) stands for simulated tax or benefit.

\* red numbers stand for significant over or under estimation of EUROMOD results in comparison to external statistics.

Sources: EUROMOD results based on simulations, own calculations using EU-SILC 2008 and official statistics from section 1.

**Table 21: Disability, old-age, survivor and sickness benefits: overall amount (in millions of CZK)**

	EUROMOD Simulation				External statistics				Ratio				EU-SILC	
	2007	2008	2009	2010	2007	2008	2009	2010	2007	2008	2009	2010	2007	Ratio
<b>Pensions</b>	288,027	317,526	324,859	338,981	282,876	305,536	331,705	340,162	102%	104%	98%	100%	297,902	97%
<b>Old-age</b>	216,852	238,949	243,048	258,726	203,933	222,105	243,636	268,985	106%	108%	100%	96%	224,287	97%
Old-age pension	0	0	0	0									0	
<b>Disability</b>	53,841	59,171	62,434	60,857	53,674	57,398	60,989	47,682	100%	103%	102%	128%	55,687	97%
Disability pension	0	0	0	0									0	
<b>Survivor's</b>	17,333	19,405	19,377	19,398	25,270	26,033	27,080	26,495	69%	75%	72%	73%	17,928	97%
Survivor's pension	0	0	0	0	0	0	0	0	0%	0%	0%	0%	0	
Funeral grant	0	0	0	0	0	0	0	0	0%	0%	0%	0%	0	
<b>Pre-retirement</b>	0	0	0	0	0	0	0	0	0%	0%	0%	0%	0	
<b>Sickness</b>	14,019	14,900	14,994	15,166	34,671	31,882	26,033	22,789	40%	47%	58%	67%	14,500	97%

Notes:

(s) stands for simulated tax or benefit.

\* red numbers stand for significant over or under estimation of EUROMOD results in comparison to external statistics.

Sources: EUROMOD results based on simulations, own calculations using EU-SILC 2008 and official statistics from section 1.

#### 4.1.2.2 Unemployment, Family, Housing and Social assistance benefits

Tables 22 and 23 show the number of recipients and amount of social benefits simulated by the EUROMOD:

- Unemployment benefit: methods counting the number of recipients in EUROMOD and in external statistics are not strictly comparable. However, the comparison of total expenditures shows that aggregate results for these simulated benefits are very close to official statistics with the exception of 2009 and 2010. These years, the numbers from EUROMOD are underestimated, because there was huge increase in unemployment rate (5.44 % in 2008, 7.98 % in 2009 and 9.01 % in 2010) due to the economic recession.
- Child and social allowance: again, the number of recipients in EUROMOD is not strictly comparable to the external sources as units of analysis are different. However, the comparison of the total expenditure (which is not sensitive to the unit of analysis) shows that aggregate results for these simulated benefits are close to official statistics in 2007-2009. Values in 2010, however, are overestimated. The reason may be that the calculation of benefit is based on the previous year income.
- Parental allowances: results are stable and slightly overestimated.
- Birth grant: the number of recipients and overall amount is underestimated in comparison to the external statistics. This is universal benefit for newborn children and the number of newborns is underestimated in SILC data (e.g. compare 85 th. benefits paid in 2006 while the number of newborn reported by the CSO was 106 th.).
- Social assistance: simulation doesn't capture the fall in the number of recipients in 2008 observed in external statistics. The overestimation in 2008 is probably due to the big change in unemployment rate between 2006 and 2008. In 2007 there were almost 371 th. of unemployed people (7,1 %) and in 2008 only 230 th. (4,4 %). This big change significantly affected the income situation of households, and of course, the volume of social transfers. The estimations for 2009 and 2010 are better, because there was an increase in unemployment rate.
- Housing benefit: receipt is overestimated as the simulation does not account for benefit non-take-up, a similar problem has been found using the Czech national tax-benefit microsimulation model<sup>5</sup>. The overestimation of the number of recipients and expenditures worsens in 2008 as EUROMOD doesn't capture its important fall. The problem probably lies in the big change in the unemployment rate between 2006 and 2008. .

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<sup>5</sup> It is the micro-simulation model which has been prepared by the University of Economics, Prague for Ministry of Labour and Social Affairs.

**Table 22: Unemployment, Family, Housing and Social assistance benefits: number of recipients (in thousands)**

	EUROMOD Simulation				External statistics						Ratio		EU-SILC	Ratio
	2007	2008	2009	2010	2007	2008	2009	2010	2007	2008	2009	2010	2007	Ratio
(s) <b>Unemployment</b>	242	242	242	242	103	104	188	163	235%	233%	129%	148%	242	100%
Unemployment benefit	0	0	0										0	
Unemployment social benefit	0	0	0		0	0	0						0	
Other Unemployment benefits	0	0	0		0	0	0						0	
<b>Family</b>	1,336	1,056	1,035	1,024									1,078	124%
(s) Child Allowance	992	505	483	474	1,670	888	682	530	59%	57%	71%	89%	0	
(s) Social Allowance	360	268	256	251	241	166	146	148	149%	161%	175%	169%	0	
Foster Care benefits	4	4	4	4	0	0	0						0	
(s) Parental Allowance	371	371	371	371	339	358	362	337	109%	104%	102%	110%	0	
(s) Birth Grant	94	94	94	94	114	119	118	118	82%	79%	80%	80%	0	
<b>Social assistance</b>	127	123	120	118	72	66	72	90	176%	186%	167%	131%	120	106%
(s) Regular Social Assistance Benefits	118	114	108	106	72	66	72	90	164%	173%	150%	118%	0	
Other Social Incomes	0	0	0	0	5	5	8	9					0	
(s) Supplement for Housing	74	67	64	63	25	21	19	23	296%	319%	337%	274%	0	
<b>Housing Benefit</b>	187	210	368	347	115	86	94	119	163%	244%	391%	291%		

Notes:

(s) stands for simulated tax or benefit.

\* red numbers stand for significant over or under estimation of EUROMOD results in comparison to external statistics.

Sources: EUROMOD results based on simulations, own calculations using EU-SILC 2009 and official statistics from section 1.

**Table 23: Unemployment, Family, Housing and Social assistance benefits: overall amount (in millions of CZK)**

	EUROMOD Simulation				External statistics						Ratio		EU-SILC	
	2007	2008	2009	2010	2007	2008	2009	2010	2007	2008	2009	2010	2007	Ratio
(s) <b>Unemployment</b>	6,866	7,051	8,871	8,734	7,016	7,115	15,078	13,356	98%	99%	59%	65%	5,560	123%
Unemployment benefit	0	0	0						0%	0%	0%	0%	0	0%
Unemployment social benefit	0	0	0		0	0	0		0%	0%	0%	0%	0	0%
Other Unemployment benefits	0	0	0		0	0	0		0%	0%	0%	0%	0	0%
<b>Family</b>	48,550	44,262	43,764	43,623	46,904	40,258	38,882	37,254	104%	110%	113%	117%	44,344	109%
(s) Child Allowance	8,693	5,769	5,442	5,346	10,236	6,232	4,736	3,862	85%	93%	115%	138%	0	0%
(s) Social Allowance	4,33	3,188	3,018	2,974	4,607	3,174	2,962	3,100	94%	100%	102%	96%	0	0%
Foster Care benefits	14	14	14	14	765	840	921	1,005	2%	2%	2%	1%	0	0%
(s) Parental Allowance	33,713	33,794	33,794	33,794	28,690	28,294	28,585	27,722	118%	119%	118%	122%	0	0%
(s) Birth Grant	1,725	1,432	1,432	1,432	2,606	1,718	1,678	1,565	66%	83%	85%	92%	0	0%
<b>Social assistance</b>	3,739	3,674	3,515	3,494	3,287	2,795	3,089	3,881	114%	131%	114%	90%	3,972	94%
Regular Social Assistance Benefits	2,92	2,861	2,743	2,736	2,593	2,176	2,328	2,862	113%	131%	118%	96%	0	0%
(s) Other Social Incomes	0	0	0	0	170	146	249	333	0%	0%	0%	0%	0	0%
Supplement for Housing	819	813	772	758	524	473	512	686	156%	172%	151%	110%	0	0%
(s) <b>Housing Benefit</b>	2,429	3,311	6,385	6,383	1,565	1,619	2,280	3,521	155%	205%	280%	181%		

Notes:

(s) stands for simulated tax or benefit.

\* red numbers stand for significant over or under estimation of EUROMOD results in comparison to external statistics.

Sources: EUROMOD results based on simulations, own calculations using EU-SILC 2009 and official statistics from section 1.

### **4.1.3 Taxes and Social insurance contributions**

EUROMOD under-estimates the total amount of taxes and contributions in 2007 – 2008 compared with external statistics. The problem is probably due to substantial decrease in unemployment rate implying that more people paying taxes. In 2009 and 2010, the estimates are closer due to changing situation in labour market.

#### **4.1.3.1 Social insurance contributions**

Next tables (24 and 25) show the number of contributions and amounts of social insurance contributions simulated by EUROMOD:

- Employee and employer contributions: according to results, the number of contributions simulated by EUROMOD is about right and the amounts since 2009 as well .
- Self-employed contributions: the number and amounts of contributions simulated by EUROMOD are higher than official statistics. This may be due to some self-employee hide part of their income before taxes.

#### **4.1.3.2 Taxes**

Tables 24 and 25 show the number of taxpayers and amount of taxes.

Income tax: results suggest that EUROMOD captures correctly the number of taxpayers for 2007. Since 2008 the results are below the official statistics. The amount of simulated taxes in 2007 and 2008 is lower than that reported in the EU-SILC and official statistics. Our interpretation is that individuals underreport their incomes and properly report paid taxes in the SILC. Moreover, some time inconsistency may be present since self-employed pay monthly tax advances based on previous years tax obligations and accounts are rendered year later. An important role is played here by changes in the labour market.

Better results for 2009 and 2010 are probably due to the increase of the unemployment rate because as a consequence of the economic recession.

Table 24: Taxes and social insurance contributions: number of payments (in thousands)

		EUROMOD Simulation				External statistics				Ratio				EU-SILC	
		2007	2008	2009	2010	2007	2008	2009	2010	2007	2008	2009	2010	2007	Ratio
(s)	Income tax + contributions	5,64	5,351	5,351	5,351	4,922	5,002	4,934	4,885	115%	107%	108%	110%	2,956	191%
	Social contributions	0	0	0	0	0	0	0						0	0%
(s)	Employer	4,259	4,259	4,259	4,259	4,125	4,196	4,107	4,019	103%	102%	104%	106%	0	0%
(s)	Employees	4,259	4,259	4,259	4,259	4,125	4,196	4,107	4,019	103%	102%	104%	106%	0	0%
(s)	Self-employed	872	872	872	872	797	807	827	866	109%	108%	105%	101%	0	0%
(s)	Income tax	5,044	4,133	4,169	4,178	4,922	5,002	4,934	4,885	102%	83%	84%	86%	0	0%
(s)	Taxable income	5,121	5,142	5,147	5,158	4,922	5,002	4,934	4,885	104%	103%	104%	106%	0	0%
	Property tax	2,452	2,452	2,452	2,452	0	0	0	3,899				63%	2,452	100%

Notes:

(s) stands for simulated tax or benefit.

\* red numbers stand for significant over or under estimation of EUROMOD results in comparison to external statistics.

Sources: EUROMOD results based on simulations, own calculations using EU-SILC 2009 and official statistics from section 1.

Table 25: Taxes and social insurance contributions: overall amount (in millions of CZK)

		EUROMOD Simulation				External statistics				Ratio				EU-SILC	
		2007	2008	2009	2010	2007	2008	2009	2010	2007	2008	2009	2010	2007	Ratio
(s)	<b>Income tax + contributions</b>	295,063	293,37	284,295	291,475	314,060	314,900	269,481	272,096	94%	93%	105%	107%	273,685	108%
	<b>Social contributions</b>														
(s)	<b>Employer</b>	329,926	353,299	355,075	363,667	359,493	375,4	338,456	349,228	92%	94%	105%	104%	0	0%
(s)	<b>Employees</b>	118,472	126,72	115,381	118,138	127,661	133,3	113,628	116,932	93%	95%	102%	101%	0	0%
(s)	<b>Self-employed</b>	52,14	58,702	55,937	57,256	33,025	32,8	39,246	35,335	158%	179%	143%	162%	0	0%
(s)	<b>Income tax</b>	124,451	107,948	112,978	116,081	153,374	148,8	116,607	119,829	81%	73%	97%	97%	0	0%
(s)	Taxable income	1,024,823	1,625,833	1,663,478	1,695,591	0	0	0						0	0%
	Property tax	1,197	1,272	1,28	1,295	0	0	0	8,673					1,238	97%

Notes:

(s) stands for simulated tax or benefit.

\* red numbers stand for significant over or under estimation of EUROMOD results in comparison to external statistics.

Sources: EUROMOD results based on simulations, own calculations using EU-SILC 2009 and official statistics from section 1.

## 4.2 Disposable income and income distribution

### 4.2.1 Income distribution and inequality

Graph 1 compares the distribution of disposable income between EU-SILC and EUROMOD data. Larger differentials appear in case of very-low and very-high income households. In the former case, it is probably due to misreporting of some social transfers in the EU-SILC and not accounting for non-take-up in EUROMOD (housing allowance, etc.). In the later case, underestimation is probably due to incomplete reflection of all possible tax base deductions due to lack of necessary information in the SILC data.

Table 26 provides the following indicators of income distribution: mean and median equivalised income<sup>6</sup> by gender, income quintile ratio and Gini coefficient. Results are presented for three different “sources”: own calculations using EUROMOD baseline output, own calculations based on the original EU-SILC microdata, and statistics published by Eurostat based on the EU-SILC data.

According to results, the mean and median equivalised disposable income in EUROMOD are slightly larger than in the original EU-SILC data show among men and lower among women. There are three reasons possibly explaining the difference: a) inclusion of different sources in the definition of household disposable income (see Table 26 below), b) changes in the sample and in the weighting of observations, and c) changes in the amounts of some income sources (particularly taxes and benefits) due to its simulation in EUROMOD.

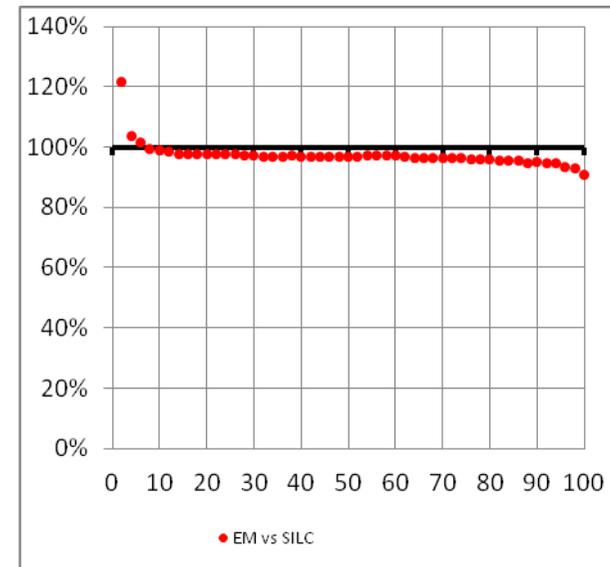
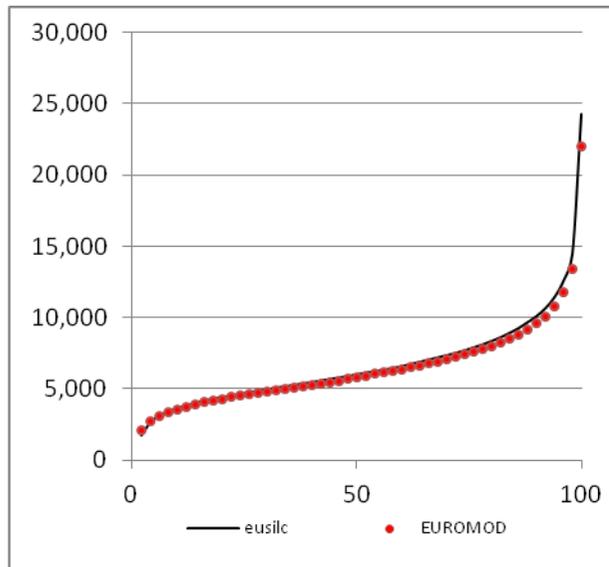
However, what it is more surprising is the difference between the mean and median equivalised disposable income reported in Eurostat’s website and computed using the EU-SILC data. In principle, these figures are based on exactly the same data. Further analysis and contacts to Eurostat are to be carried out to find out the cause of such difference.

Income inequality is slightly lower in EUROMOD when measured by the income quintile ratio and the Gini coefficient. This is consistent with results obtained in other countries. In the case of the Czech Republic, the larger number of recipients of housing benefit (which is basically concentrated among lower income families) is likely to be one of the factors reducing income inequality.

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<sup>6</sup> Using the OECD modified equivalence scale.

Graph 1. Distribution of equivalised disposable income: EUROMOD and EU-SILC 2008



Distribution of equivalised disposable income in EUROMOD and EU-SILC by percentile

Distribution of difference between EUROMOD and EU-SILC equivalised disposable income by percentile

Sources: EUROMOD results based on simulations and on own calculations using EU-SILC 2008.

Table 26: Income inequality

	EUROMOD D Simulation 2007	2008	2009	2010	External statistics 2007	2008	2009	2010	Ratio 2007	2008	2009	2010	EU-SILC 2007	Ratio
<b>Mean income (equivalised)</b>														
total population	6,528	8,622	8,419	8,511	6,810	8,262	7,981		96%	104%	105%		6,798	96%
males	6,678	8,821	8,617	8,705	6,975	8,432	8,159		96%	105%	106%		6,641	101%
females	6,386	8,432	8,230	8,325	6,652	8,100	7,810		96%	104%	105%		6,962	92%
									0%					0%
<b>Median income (equivalised)</b>									0%					0%
total population	5,862	7,717	7,520	7,628	6,068	7,295	7,058		97%	106%	107%		6,047	97%
males	6,025	7,931	7,727	7,843	6,215	7,478	7,220		97%	106%	107%		5,886	102%
females	5,688	7,496	7,299	7,421	5,892	7,114	6,900		97%	105%	106%		6,207	92%
									0%					0%
<b>Income quintile ratio (S80/S20)</b>	3.21	3.22	3.23	3.19	3.40	3.50	3.50		94%	92%	92%		3.41	94%
									0%					0%
<b>Gini Coefficient</b>	23.54	23.67	23.78	23.47	24.7	25.1	24.9		95%	94%	96%		24.71	95%

Notes:

Sources: EUROMOD results are based on simulations. Own calculations are using EU-SILC 2008 and official statistics from Eurostat's website [http://epp.eurostat.ec.europa.eu/portal/page/portal/income\\_social\\_inclusion\\_living\\_conditions/data/database](http://epp.eurostat.ec.europa.eu/portal/page/portal/income_social_inclusion_living_conditions/data/database)

#### 4.2.2 At-risk-of-poverty rates

Table 27 provides at-risk-of-poverty rates using poverty lines based on 40, 50, 60 and 70% of the median equivalised disposable income<sup>7</sup>. As in case of income inequality indicators, results are presented for three different “sources”: (i) own calculations using EUROMOD baseline output, (ii) own calculations based on the original EU-SILC microdata, and (iii) statistics published by Eurostat based on the EU-SILC data.

According to results, at-risk-of-poverty rates are lower in EUROMOD, particularly when using lower poverty lines (40 and 50% of the median). As already suggested above, it is possible that the overestimation of housing benefits contributes to this difference.

Table 27 shows the at-risk-of-poverty rates (using 60% of the median equivalised disposable income as poverty line) by age groups as well. In line with previous results, at-risk-of-poverty rates calculated using EUROMOD are lower than using the original data from the EU-SILC with one exemption: 50-64 years . Rate is particularly low among children.

#### **Validation of 2007-2010 simulations: at-risk-of-poverty rates**

As already commented above, EUROMOD underestimates the at-risk-of-poverty rates when using poverty lines of 40% of median equivalised income. Table 27 suggests that the problem is the worst in 2009. Moreover, while external statistics indicate the change in declining trend (using 40, 50 and 60% of the median) in 2009, EUROMOD a year later.

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<sup>7</sup> Using the OECD modified equivalence scale.

**Table 27: At-risk-of-poverty rates: using different poverty lines**

	EUROMOD Simulation 2007	2008	2009	2010	External statistics 2007	2008	2009	2010	Ratio 2007	2008	2009	2010	EU-SILC 2007	Ratio
<b>40% median HDI</b>														
Total	1.6	1.6	1.5	1.6	2.3	2.2	2.9		68%	72%	50%		2.2	71%
Males	1.8	1.7	1.6	1.7	2.4	2.2	2.7		73%	79%	59%		2.4	73%
Females	1.4	1.4	1.3	1.5	2.2	2.2	3.0		64%	65%	45%		2.0	69%
<b>50% median HDI</b>														
Total	4.0	3.8	3.8	4.0	4.7	4.6	5.2		84%	83%	73%		4.7	85%
Males	4.1	3.9	4.0	4.2	4.8	4.4	5.1		85%	89%	77%		4.7	86%
Females	3.9	3.7	3.7	3.9	4.7	4.7	5.4		82%	80%	68%		4.6	83%
<b>60% median HDI</b>														
Total	8.2	8.3	7.7	7.9	9.0	8.6	9.0		91%	97%	86%		9.0	91%
Males	7.4	7.5	7.1	7.3	8.0	7.5	8.0		93%	100%	89%		8.0	94%
Females	9.0	9.1	8.4	8.5	10.1	9.5	10		89%	96%	84%		10.0	90%
<b>70% median HDI</b>														
Total	15.8	14.9	15.0	14.9	16.5	16.1	15.5		96%	92%	97%		16.2	98%
Males	13.6	12.8	12.8	12.9	14.0	14.1	13.6		97%	90%	94%		13.7	99%
Females	17.8	16.8	17.2	16.8	18.8	18.1	17.3		95%	93%	99%		18.4	97%
<b>60% median HDI</b>														
0-17 years	10.9	11.3	10.8	11.1	13.2	13.3	13.6		82%	85%	79%		13.2	82%
18-24 years	10.2	10.5	9.5	10.5	11.6	11.0	11.2		88%	95%	84%		11.6	88%
25-49 years	7.5	7.7	7.1	7.4	8.3	7.1	8		91%	109%	89%		8.4	90%
50-64 years	7.2	7.0	6.4	6.6	6.8	6.9	6.8		105%	102%	93%		6.7	107%
65+ years	7.0	6.6	6.6	5.4	7.4	7.2	6.8		95%	92%	97%		7.2	98%

\* Using as poverty line 60% of equivalised disposable income (EDI)

Sources: EUROMOD results are based on input data. Own calculations are using EU-SILC 2008 and official statistics from Eurostat's website

[http://epp.eurostat.ec.europa.eu/portal/page/portal/income\\_social\\_inclusion\\_living\\_conditions/data/database](http://epp.eurostat.ec.europa.eu/portal/page/portal/income_social_inclusion_living_conditions/data/database)



### 4.3 Summary of “health warnings”

This final section summarises the main findings concerning special aspects of the Czech part of EUROMOD or its database that should be borne in mind when planning appropriate uses of the model and when interpreting results.

The SILC sample is relatively small. Care should be taken in interpreting results for small population sub-groups.

The weights do not control for differential non-response according to any dimension.

There is underreporting by people with higher incomes and those with higher share of self-employment income and incomes from investment. Incomes of self-employed are in principle not very reliable figures since some portion of accounting expenditure made by self-employed effectively covers common living expenditures.

Sickness insurance benefits are substantially underreported in the SILC since people do not recognize them easily in their pay-checks. Information in the SILC does not allow for well informed simulations of these benefits.

Some segments of the population are not sufficiently represented in the SILC sample (minorities, foreigners, home-less).

Some values of some observations are imputed already by the Statistical Office and cannot be disentangled from released data.

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